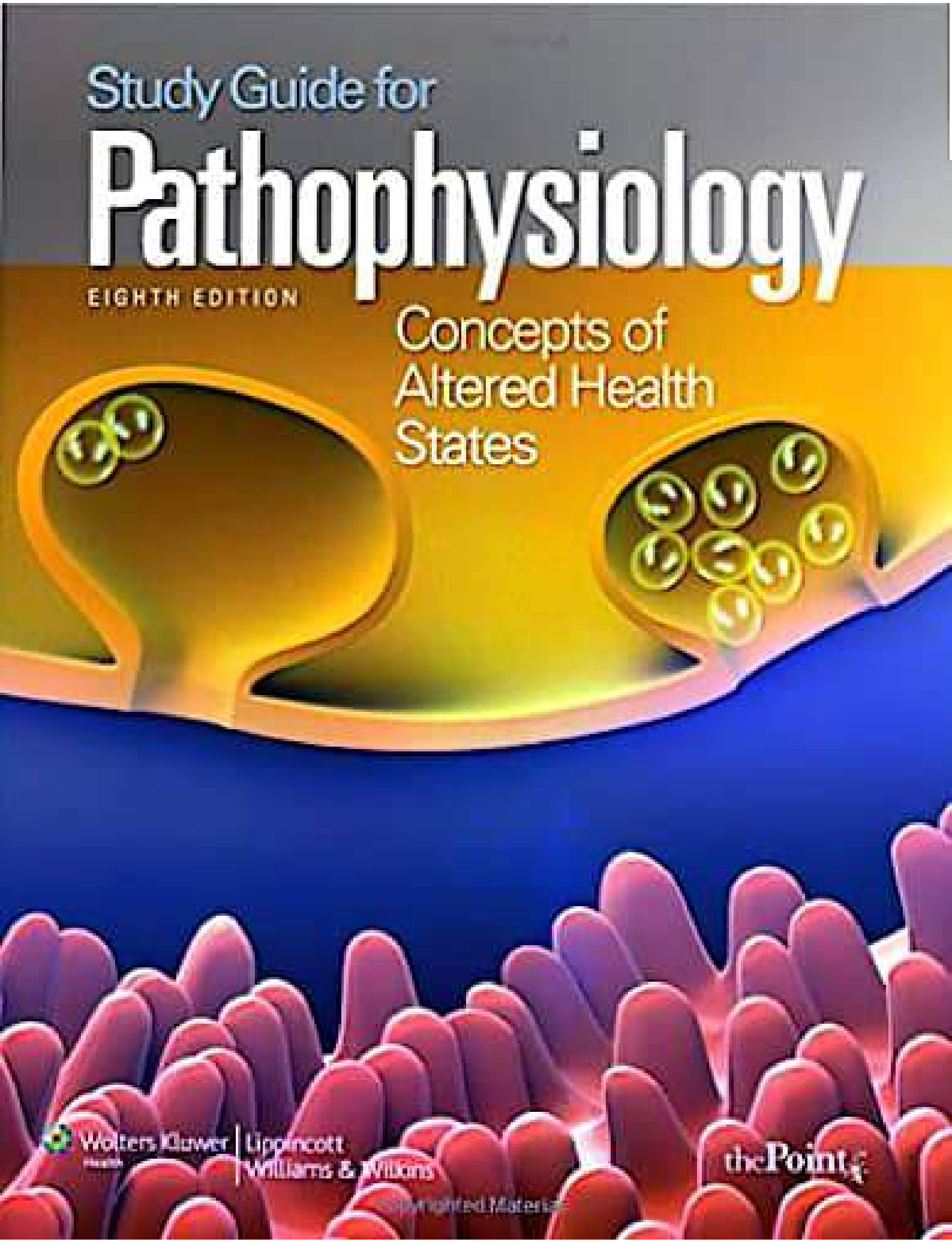
# Study Guide for Pathophysiology

EIGHTH EDITION

## Concepts of Altered Health States



Wolters Kluwer | Lippincott Williams & Wilkins

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2. One member of the group asks, "The nurse who takes care of my mother said that she uses 'evidence-based guidelines' when she cares for her patients. What does that mean?" How would the nurse answer this question?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. A disease agent can affect more than one organ of the body, and more than one disease agent can affect the same organ of the body. Therefore, the majority of diseases
   a. are multifactorial in origin.
   b. are complicated and hard to diagnose.
   c. are simple and easy to diagnose.
   d. have a single cause.

2. Which science is called on to study the risk factors in multifactorial diseases?
   a. Scientology
   b. Morphology
   c. Histology
   d. Epidemiology

3. What do morbidity and mortality statistics refer to?
   a. Long-term consequences and recovery rates of a disease
   b. Cause of death and impact on the family because of a disease
   c. Functional effects and death-producing characteristics of a disease
   d. Effects a disease has on a person's life and treatment

4. Which of the following statements accurately describes clinical practice guidelines, or evidence-based practice guidelines? Mark all that apply.
   a. They are intended to inform practitioners and clients in making decisions about health care for specific clinical circumstances.
   b. They should review various outcomes; weigh various outcomes, both positive and negative; and make recommendations.
   c. They can take the form of algorithms, which are step-by-step methods for solving a problem; written directives for care; or a combination thereof.
   d. They take the place of both written orders by the doctor and the nursing care plan.

5. There are three fundamental types of prevention used in health care: primary, secondary, and tertiary. Which of the following statements accurately describes secondary prevention?
   a. Secondary prevention detects disease early, and most is done in clinical settings.
   b. Secondary prevention goes beyond treating the problem with which the person presents.
   c. Secondary prevention is often accomplished outside the health care system at the community level.
   d. Secondary prevention takes place within health care systems and involves the services of a number of different types of health care professionals.

6. Why are some diseases termed *syndromes?*
   a. They have complications.
   b. They leave sequelae such as lesions as residual effects.
   c. They are a compilation of signs and symptoms characteristic of a specific disease state.
   d. They are a group of disease states that has the same etiology.

7. Which of the following is the term given to the progression and projected outcome of a disease without medical intervention?
   a. Prognosis
   b. Morbidity
   c. Natural history
   d. Risk factors

8. *Pathogenesis* is the term used to describe the sequence of cellular and tissue events that occurs from the time of first contact with an etiologic agent until the disease becomes evident. What is another way of defining pathogenesis?
   a. What sets the disease process in motion
   b. Multiple factors that predispose to a particular disease
   c. The causes of disease
   d. How the disease process evolves

9. *Signs and symptoms* describe the structural and functional changes that accompany a disease. Symptoms are what the patient describes to the caregiver. Signs are what the caregiver observes. Which of the following would not be considered signs and symptoms?
   a. Headache and dizziness
   b. Elevated white cell count and fever of 101.5°F
   c. Pain and difficulty swallowing
   d. Black eye and green thumb

10. Diagnostic tests are used to gain information about the patient that is pertinent to the presenting signs and symptoms. Diagnostic tests are judged for their validity, reliability, sensitivity, specificity, and predictive value. In the field of clinical laboratory measurements, standardization is aimed at increasing the trueness and reliability of measured values. Standardization relies on which of the following? Mark all that apply.
   a. In vitro laboratory equipment
   b. Reference measurement procedures
   c. Written standards
   d. U.S. Food and Drug Administration approval

CHAPTER 2

# Concepts of Altered Health in Children

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. A mother brings her 2-year-old son in for a well-child check. After weighing and measuring the toddler, the nurse mentions that the child falls within 1 standard deviation of the mean in both height and weight. What does this mean?
   a. The toddler is the same height and weight as 75% of other toddlers that age and weight.
   b. The toddler is the same height and weight as 68% of other toddlers that age and weight.
   c. The toddler is small and underweight for his age.
   d. The toddler is tall and overweight for his age.
2. A nurse is teaching a class on fetal development to a group of pregnant women. The nurse knows to include in her teaching that the embryonic period in fetal development is from the
   a. moment of conception to the 8th week of pregnancy.
   b. moment of implantation to the 6th week of pregnancy
   c. second week after conception to the 12th week of pregnancy.
   d. second week after fertilization to the 8th week after fertilization.
3. A pregnancy lasts 10 lunar months, or 38 weeks from the date of fertilization. When is an infant considered to be "term"?
   a. When it is born between the beginning of the 38th week and the end of the 41st week
   b. When it is born between the beginning of the 36th week and the end of the 40th week
   c. When it weighs between 2500 and 4500 g
   d. When it weighs between 3000 and 4000 g
4. Common concerns of adolescence include conflicts with parents, conflicts with siblings, concerns about school, and concerns about peers and peer relationships. Of major concern to them is the establishment of a personal identity. This is a time when many of their concerns manifest themselves in psychosomatic illnesses. What are the illnesses reported most by adolescents?
   a. Headache, stomachache, and insomnia
   b. Headache, insomnia, and dental caries
   c. Stomachache, dental caries, and leg pain
   d. Insomnia, skeletal pain, and headache
5. Small for gestational age infants are more prone to episodes of hypoglycemia than infants who are considered appropriate for gestational age. What factor is considered to be the most likely cause of these hypoglycemic episodes?
   a. They are too small for their pancreas to produce the insulin their body requires.
   b. They do not have enough brown fat to maintain their body temperature.
   c. They have depleted glycogen stores in their liver.
   d. Their bodies are so small that their pancreas produces too much insulin for their body requirements.
6. Middle to late childhood, ages 6 to 12 years of age, brings with it a more developed immune system. Yet, this is when acute or chronic conditions can appear for the first time. Which of the following diseases often appears in middle to late childhood?
   a. Pneumonia
   b. Nephrotic syndrome

c. Cerebral palsy
d. Asthma

7. The anterior fontanel of an infant is an area of unossified membranous material that is considered "open" when the infant is born. It is the largest of several areas, or fontanels, in an infant's skull. When does the anterior fontanel close, or ossify?
   a. 18 months to 2 years of age
   b. 1 to 2 years of age
   c. 6 to 9 months of age
   d. 2 to 3 years of age

8. Early childhood is the period when the child is from 18 months to 5 years of age. Infectious diseases and injuries are major health problems during this period in a child's life. Which of the following is considered a communicable disease?
   a. Diaper rash
   b. Chickenpox
   c. Urinary tract infection
   d. Croup

9. Bacterial infections in newborns have nonspecific signs and symptoms in the early stages. Often, it is the nurse who notes that something "just isn't right" with the newborn. For optimal outcomes of these infections, it is imperative to have early diagnosis and treatment. Maternal group B streptococcus (GBS) infections are transmitted to the infant during birth. When are GBS infections treated?
   a. During pregnancy to the mother to prevent transmission of the bacteria to the newborn and after birth to the infant prophylactically
   b. During the intrapartal period to the mother to help prevent transmission of the bacteria to the newborn and after birth to the infant prophylactically
   c. During postpartum care to the mother and at discharge to the infant
   d. During the intrapartal period to the mother to help prevent transmission of the bacteria to the newborn and at discharge to the infant as a prophylactic agent

10. Sudden infant death syndrome (SIDS) is defined as the death of an infant younger than 1 year that remains unexplained even after investigation of the death scene, review of the history, and autopsy of the body. SIDS accounts for more infant deaths, after the neonatal period, than any other cause. What are the risk factors for SIDS?
    a. Being Native American and placing the infant on its back to sleep
    b. Being Asian and exposing the infant to environmental cigarette smoke
    c. Mother's use of drugs during pregnancy and placing the infant in the prone position to sleep
    d. Breast-feeding and placing the infant on its back to sleep

11. Macrosomic infants, or those who are large for gestational age, born to diabetic mothers face which of the following risk factors for complications during the neonatal period? Mark all that apply.
    a. Hypoglycemia
    b. Polycythemia
    c. Birth trauma
    d. Birth asphyxia

12. When planning an educational event for a group of women having their first babies, a nurse knows to include which information about intrauterine growth retardation? Mark all that apply.
    a. The terms *small for gestational age* and *intrauterine growth retardation* are used interchangeably, but do not mean the same thing.
    b. Eighty percent of newborns fall between the 10th and the 90th percentile of the Colorado Growth Curve.
    c. Intrauterine growth retardation can occur at any time during the pregnancy.
    d. An infant who is "small for gestational age" weighs less then 80% of all other newborns.

13. During adolescence, the anterior pituitary gland produces gonadotropic hormones that affect target organs, causing the secretion of sex hormones. It is the sex hormones that cause the appearance of both primary and secondary sex characteristics. Sex hormones, including androgens, stimulate the body to do other things, such as conclude _____, growth. They cause epiphyseal closure of bones and discontinuation of skeletal growth.

CHAPTER 3

# Concepts of Altered Health in Older Adults

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## SECTION IV: PRACTICING FOR NCLEX

**Activity E** *Answer the following questions.*

1. With aging, the skin acquires an overall thin and transparent quality while becoming dry and wrinkled. Which of the following skin disorders are common among the older adult population?

   a. Keratoses and skin cancers
   b. Skin cancers and xenobiotic
   c. Dermatitis and xenomas
   d. Xenomas and keratoses

2. There are many factors that determine the effect of aging on cardiac function in normal healthy persons. Which of these statements is *not* true about aging and cardiac function?
   a. There is a decrease in responsiveness to β-adrenergic stimulation and circulating catecholamines.
   b. There is an increase in systemic vascular resistance and left ventricular afterload.
   c. There is a decrease in the maximal heart rate and maximal cardiac output.
   d. There is a decrease in systemic vascular resistance and left ventricular afterload.

3. Hearing loss in the elderly is characterized by a gradual, progressive onset of bilateral and symmetric sensorineural hearing loss of high-frequency tones. This occurs at various rates in different people. Which sign, in the elderly, is indicative of hearing impairment?
   a. Speech discrimination is difficult.
   b. Repetition is more evident.
   c. Speech is slower and softer.
   d. Shouting occurs when it is not necessary.

4. Both the sense of smell and the sense of taste seem to decline in the elderly. However, in many cases, what is perceived as a decline in ability to taste is actually a decline in the ability to smell. With a decline in the sense of taste and smell, the elderly are at risk for which of the following?
   a. Taking the wrong medication
   b. Being unable to smell smoke if there is a fire
   c. Living in unhealthy and unclean conditions
   d. Eating food that is spoiled and not cooked properly

5. A complex and devastating problem in approximately 5% to 10% of the elderly population is dementia. Dementia is a syndrome of acquired, persistent impairment in several domains of intellectual function. Which of the following is *not* affected in a person with dementia?
   a. Ability to interact with others
   b. Visuospatial ability
   c. Physical changes of aging
   d. Problem-solving ability

6. One of the major indexes of kidney function is the serum creatinine level. It is used as an indication of the glomerular filtration rate (GFR), and is often used when prescribing and calculating drug doses for medications that are eliminated through the kidneys. In older adults, why does this have important implications?
   a. Serum creatinine levels progressively increase as a person ages.
   b. GFR increases as a person ages without a corresponding increase in serum creatinine levels.
   c. Both GFR and serum creatinine levels decrease as a person ages.
   d. GFR decreases without an increase in serum creatinine levels as a person ages.

7. As men age, benign prostatic hypertrophy (BPH) becomes common. As the size of the prostate increases, BPH can cause both obstructive and irritative symptoms. All of the following are obstructive symptoms of BPH except for which one?
   a. Urge incontinence
   b. Postvoid dribbling
   c. Hesitancy
   d. Retention

8. In the elderly population, depression is a significant but underestimated health problem. Statistics show that at least 25% of community-dwelling elderly people are believed to have depressive symptoms. Which of the following symptoms are indicative of depression in older people?
   a. Fatigue and loss of energy
   b. Appetite and weight changes
   c. Sleep disturbance and irritable mood
   d. All of the above

9. Although there are many causes contributing to the diagnosis of dementia in the elderly population, it is believed that up to 70% of these cases involve Alzheimer disease. Alzheimer disease is a chronic, progressive, neurologic disorder of unknown etiology. Two changes occur in the brain of Alzheimer patients: plaques that develop between neurons, called senile plaques, and neurofibrillary tangles that develop within the neurons themselves. Which diagnostic test is used to determine specifically if the elderly patient

has Alzheimer disease or another form of dementia?

a. The Mini-Mental State Examination
b. There is no specific test to confirm the diagnosis
c. A complete metabolic panel performed on the patient's blood
d. The auscultation of bruits in the carotid arteries

10. A nurse is preparing an educational event for the elderly population at a local senior center. The nurse knows that it is important to include information on polypharmacy because of which of these factors?

a. Psychotropic drugs administered to older adults with dementia may cause a decrease in any confusion they are experiencing.
b. Polypharmacy increases the risk of drug interactions and adverse drug reactions and has been found to decrease compliance with drug regimens.
c. Nonsteroidal anti-inflammatory medications given to an older adult with hypertension can cause orthostatic hypotension.
d. Beta-blocking agents administered to an individual with chronic obstructive pulmonary disease may reduce the severity of bronchoconstriction.

11. Falls in the elderly are all too common. One of the major causes of falls in the elderly population, although often overlooked, is medication. Match the type of medication with its physiologic result.

| Type of Medication | Physiologic Result |
|---|---|
| ___ 1. Antihypertensive | a. Fatigue |
| ___ 2. Diuretic | b. Electrolyte disturbances |
| ___ 3. Sedative | c. Confusion |
| ___ 4. Hypnotic | d. Impaired alertness |

12. Several factors come into effect when making decisions about medication use in the elderly, not the least of which is preventing harm. Choose the answer that places the following decision-making factors in the correct order.

a. A careful evaluation of the need to medicate
b. The cost of the drug as compared to a generic drug if it is available
c. Timing of the dose
d. Analysis of the current medication regimen and disease state
e. Providing written and verbal education on the medication

A. a, d, e, c, b
B. e, a, d, c, b
C. a, d, c, b, e
D. d, b, c, a, e

13. Atrophic gastritis and decreased secretion of intrinsic factor are more common with aging and can result in a malabsorption of vitamin $B_{12}$. A deficiency of vitamin $B_{12}$ can cause which of these to occur? Mark all that apply.

a. Peripheral neuropathy
b. Lack of intrinsic factor
c. Pernicious anemia
d. Improved coordination

14. Depression can occur as a result of many different physical illnesses. Which of these illnesses can cause depression in the elderly? Mark all that apply.

a. Pancreatic cancer
b. Congestive heart failure
c. Hypocholesteremia
d. Hyperthyroidism

15. Changes in the micturition cycle that accompany the aging process make the older adult prone to urinary incontinence. Urinary incontinence can have many contributing causes, including which of the following? Mark all that apply.

a. Increased ability to inhibit detrusor contractions
b. Impaired mobility and a slower reaction time
c. A decrease in bladder capacity
d. Medications, such as long-acting sedatives and hypnotics

CHAPTER 4

# Cell and Tissue Characteristics

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. There are two forms of endoplasmic reticulum (ER) found in a cell. They are the rough and the smooth ER. What does the rough ER do in a cell?
   a. Produces proteins
   b. Combines protein with other components of the cytoplasm
   c. Exports protein from the cell
   d. Destroys ribosomes

2. The Golgi complex, or Golgi bodies, consists of stacks of thin, flattened vesicles or sacs within the cell. These Golgi bodies are found near the nucleus and function in association with the ER. What is one purpose of the Golgi complex?
   a. To produce bile
   b. To receive proteins and other substances from the cell surface by a retrograde transport mechanism
   c. To produce excretory granules
   d. To produce small carbohydrate molecules

3. In Tay-Sachs disease, an autosomal recessive disorder, hexosaminidase A, which is the lysosomal enzyme needed for degrading the $GM_2$ ganglioside found in nerve cell membranes, is deficient. Although $GM_2$ ganglioside accumulates in many tissues, where does it do the most harm?
   a. Brain and retinas
   b. Retinas and heart
   c. Nervous system and retinas
   d. Nervous system and brain

4. The mitochondria are literally the "power plants" of the cell because they transform organic compounds into energy that is easily accessible to the cell. What do the mitochondria do?
   a. Make energy
   b. Form proteasomes
   c. Need DNA from other sources to replicate
   d. Extract energy from organic compounds

5. The cell membrane is also called what?
   a. Plasma membrane
   b. Nuclear membrane
   c. Receptor membrane
   d. Bilayer membrane

6. Some messengers, such as thyroid hormone and steroid hormones, do not bind to membrane receptors but move directly across the lipid layer of the cell membrane and are carried to the cell nucleus. What do they do at the cell nucleus?
   a. Transiently open or close ion channels
   b. Influence DNA activity
   c. Stabilize cell function
   d. Decrease transcription of mRNA

7. The Krebs cycle provides a common pathway for the metabolism of nutrients by the body. The Krebs cycle forms two pyruvate molecules. Each pyruvate molecule formed in the cytoplasm from one molecule of glucose yields another molecule of what?
   a. FAD
   b. $NADH + H^+$
   c. ATP
   d. $H_2O$

8. When cells use energy to move ions against an electrical or chemical gradient, the process is called what?
   a. Passive transport
   b. Neutral transport
   c. Cotransport
   d. Active transport

9. Groups of cells that are closely associated in structure and have common or similar functions are called tissues. What are the types of tissue in the human body?
   a. Connective and muscle tissue
   b. Binding and connecting tissue
   c. Nerve and exothelial tissue
   d. Exothelial and muscle tissue

10. Endocrine glands are epithelial structures that have had their connection with the surface obliterated during development. How are these glands described?
    a. Ductile and produce secretions
    b. Ductless and produce secretions
    c. Ductile and release their glandular products by exocytosis
    d. Ductless and release their glandular products by exocytosis

11. Each skeletal muscle is a discrete organ made up of hundreds or thousands of muscle fibers. Although muscle fibers predominate, substantial amounts of connective tissue, blood vessels, and nerve fibers are also present. What happens during muscle contraction?
    a. When activated by GTP, the cross-bridges swivel in a fixed arc, much like the oars of a boat, as they become attached to the actin filament.
    b. During contraction, each cross-bridge undergoes its own cycle of movement, forming a bridge attachment and releasing it; the same sequence of movement repeats itself when the cross-bridge reattaches to the same cell.
    c. The thick myosin and thin actin filaments slide over each other, causing shortening of the muscle fiber.
    d. Calcium-calmodulin complexes produce the sliding of the filaments that form cross-bridges with the thin actin filaments.

12. The three main parts of a cell are the nucleus, the _____, and the cell membrane.

13. Bilirubin is a normal major pigment of bile; its excess accumulation within cells is evidenced clinically by a yellowish discoloration of the skin and sclera, a condition called _____.

14. Cells in multicellular organisms need to communicate with one another to coordinate their function and control their growth. The human body has several means of transmitting information between cells, what are they? Mark all that apply.
    a. Direct communication between adjacent cells
    b. Express communication between cells
    c. Autocrine and paracrine signaling
    d. Endocrine or synaptic signaling

15. The human body has nondividing cells that have left the cell cycle and are not capable of mitotic division once an infant is born. What are the nondividing cells? Mark all that apply.
    a. Mucous cells
    b. Neurons
    c. Skeletal muscle cells
    d. Cardiac muscle cells

16. Smooth muscle is often called _____ muscle because it contracts spontaneously or through activity of the autonomic nervous system.

CHAPTER 5

# Cellular Adaptation, Injury, and Death

1. How can chemotherapy drugs injure normal cells?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Many molecular mechanisms mediate cellular adaptation. Some are factors produced by other cells, and some are produced by the cells themselves. These mechanisms depend largely on signals transmitted by chemical messengers that exert their effects by altering the function of a gene. Many adaptive cellular responses alter the expression of "differentiation" genes. What can cells do because of this?
   a. A cell is able to change size or form without compromising its normal function.
   b. A cell incorporates its change in function and passes this change on to other cells like it.
   c. A cell is able to pass its change on to a "housekeeping" cell.
   d. A cell dies once the stimulus to change has been removed.

2. Hypertrophy may occur as the result of normal physiologic or abnormal pathologic conditions. The increase in muscle mass associated with exercise is an example of physiologic hypertrophy. Pathologic hypertrophy occurs as the result of disease conditions and may be adaptive or compensatory. Examples of adaptive hypertrophy are the thickening of the urinary bladder from long-continued obstruction of urinary outflow and the myocardial hypertrophy that results from valvular heart disease or hypertension. What is compensatory hypertrophy?
   a. When the body increases its major organs during times of malnutrition
   b. When one kidney is removed, the remaining kidney enlarges to compensate for the loss
   c. When the body controls myocardial growth by stimulating actin expression to enlarge the heart
   d. When the body stimulates gene expression to begin a progressive decrease in left ventricular muscle mass

3. Metastatic calcification occurs in normal tissues as the result of increased serum calcium levels (hypercalcemia). Anything that increases the serum calcium level can lead to calcification in inappropriate places such as the lung, renal tubules, and blood vessels. What are the major causes of hypercalcemia?
   a. Diabetes mellitus and Paget disease
   b. Hypoparathyroidism and vitamin D intoxication
   c. Hyperparathyroidism and immobilization
   d. Immobilization and hypoparathyroidism

4. Mercury is a toxic substance, and the hazards of mercury-associated occupational and accidental exposures are well known. What is the primary concern for the general public in regard to mercury poisoning today?
   a. Amalgam fillings in the teeth
   b. Mercury from thermometers and blood pressure machines
   c. Mercury found in paint that was made before 1990
   d. Fish such as tuna and swordfish

5. Small amounts of lead accumulate to reach toxic levels in the human body. Lead is found in many places in the environment and is still a major concern in the pediatric population. What would you teach the parents of a child who is being tested for lead poisoning?
   a. Keep your child away from peeling paint.
   b. Keep your child away from anything ceramic.
   c. Do not let your child read newspapers.
   d. Do not let your child tour a mine on a school field trip.

6. In a genetic disorder called xeroderma pigmentosum, an enzyme needed to repair sunlight-induced DNA damage is lacking. This autosomal recessive disorder is characterized by what?
   a. Patches of pink, leathery pigmentation that replace normal skin after a sunburn
   b. Extreme photosensitivity and a greatly increased risk of skin cancer in sun-exposed skin
   c. White, scaly patches of skin that appear on African American people after they have a sunburn

d. Photosensitivity and a decreased risk of skin cancer in sun-exposed skin

7. While presenting a talk to the parents of preschoolers at a local day care center, the nurse is asked about electrical injury to the body. What should she include in her response? Mark all that apply.
   a. In electrical injuries, the body acts as a deflector of the electrical current.
   b. In electrical injuries, the body acts as a conductor of the electrical current.
   c. The most severe damage is caused by lightning and high-voltage wires.
   d. When a person touches an electrical source, the current passes through the body and exits to another receptor.

8. A man presents to the emergency room after being out in below zero weather all night. He asks the nurse why the health care team is concerned about his toes and feet. How would the nurse respond?
   a. Cold causes injury to the cells in the body by injuring the blood vessels, making them leak into the surrounding tissue.
   b. After being out in the cold all night, his toes and feet are frozen, and it will be very painful to warm them again; in addition, the health care team is concerned that he might be a drug addict.
   c. "It is obvious that you are a homeless person, and we were wondering how often this has happened to you before and when it will happen again."
   d. "Your toes and feet are frozen, and there is a concern about the formation of blood clots as we warm them again."

9. Clinical manifestations of radiation injury result from acute cell injury, dose-dependent changes in the blood vessels that supply the irradiated tissues, and fibrotic tissue replacement. What are these clinical manifestations?
   a. Radiation cystitis, dermatitis, and diarrhea from enteritis
   b. Dermatitis, diarrhea from enteritis, and hunger
   c. Diarrhea from enteritis, hunger, and muscle spasms
   d. Radiation cystitis, diarrhea from enteritis, and muscle spasms

10. Biologic agents differ from other injurious agents in that they are able to replicate and can continue to produce their injurious effects. How do gram-negative bacteria cause harm to the cell?
   a. Gram-negative bacilli excrete elaborate exotoxins that interfere with cellular production of ATP.
   b. Gram-negative bacilli release endotoxins that cause cell injury and increased capillary permeability.
   c. Gram-negative bacilli enter the cell and disrupt its ability to replicate.
   d. Gram-negative bacilli cannot cause harm to the cell; only gram-positive bacilli can harm the cell.

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CHAPTER 6

# Genetic Control of Cell Function and Inheritance

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. It is the proteins that the genes encode that make up the majority of cellular structures and perform most life functions. What is the term used to define the complete set of proteins encoded by a genome?
   a. Proteome
   b. Protogene
   c. Nucleotomics
   d. Chromosome

2. Below are the steps in cell replication. Put them in the correct order.
   a. Complementary molecule is duplicated next to each original strand.
   b. Two strands of DNA separate.
   c. Mitosis occurs.
   d. Two strands become four strands.

   A. a, c, b, d
   B. b, a, d, c
   C. b, d, a, c
   D. d, b, c, a

3. Chromosomes contain all the genetic content of the genome. There are 23 pairs of different chromosomes in each somatic cell, half from the mother and half from the father. One of those chromosomes is the sex chromosome. What are the other 22 pairs of chromosomes called?
   a. Ribosomes
   b. Helixes
   c. Autosomes
   d. Haploids

4. On rare occasions, accidental errors in duplication of DNA occur. What are these called?
   a. Codons
   b. Ribosomes
   c. Endonucleases
   d. Mutations

5. Most human traits are determined by multiple pairs of genes, many with alternate codes accounting for some dissimilar forms that occur with certain genetic disorders. What type of inheritance involves multiple genes at different loci, with each gene exerting a small additive effect in determining a trait?
   a. Polygenic inheritance
   b. Multifactorial inheritance
   c. Monofactorial inheritance
   d. Collaborative inheritance

6. Two syndromes exhibit mental retardation as a common feature. Both disorders have the same deletion in chromosome 15. When the deletion is inherited from the mother, the infant presents with one syndrome; when the same deletion is inherited from the father, Prader-Willi syndrome results. What is the syndrome when the deletion is inherited from the mother?
   a. Turner syndrome
   b. Angelman syndrome
   c. Down syndrome
   d. Fragile X syndrome

7. Homozygotes are what people are called in whom the two alleles of a given pair are the same (AA or aa). Heterozygotes are what people who have different alleles (Aa) at a gene locus are called. What kind of trait is expressed only in homozygous pairing?
   a. Dominant trait
   b. Single-gene trait
   c. Recessive trait
   d. Penetrant trait

8. The International HapMap Project was created with two goals. One is the development of methods for applying the technology of these projects to the diagnosis and treatment of disease. The other is to map which of the many closely related single nucleotide polymorphisms in the human genome?
   a. Codons
   b. Triplet code
   c. Alleles
   d. Haplotypes

9. DNA fingerprinting is based in part on recombinant DNA technology and, in part, on those techniques originally used in medical genetics to detect slight variations in the genomes of different individuals. These techniques are used in forensic pathology to compare specimens from the suspect and the

forensic specimen. What is being compared when DNA fingerprinting is used in forensic pathology?

a. Banding pattern
b. Triplet code
c. Haplotypes
d. Chromosomes

10. There are two main approaches used in gene therapy: Transferred genes can replace defective genes, or they can selectively inhibit deleterious genes. What are the compounds usually used in gene therapy?

a. mRNA sequences
b. Cloned DNA sequences
c. Sterically stable liposomes
d. Single nucleotide polymorphisms

11. The human genome sequence is almost exactly (99.9%) the same in all people. What is believed to account for the differences in each human's behaviors, physical traits, and their susceptibility to disease is the small variation (0.01%) in gene sequence. This is termed a _____.

12. Like DNA, RNA is a long string of nucleotides encased in a large molecule. However, there are three aspects of its structure that makes it different from DNA. What are these aspects? Mark all that apply.

a. RNA's double strand is missing one pair of chromosomes.
b. The sugar in each nucleotide of RNA is ribose.
c. RNA is a single-stranded molecule.
d. RNA's thymine base is replaced by uracil.

13. One of the first products to be produced using recombinant DNA technology was human _____.

14. Cytogenetics is the study of the structure and numeric characteristics of the cell's chromosomes. Chromosome studies can be done on any tissue or cell that grows and divides in culture. What are the characteristics of a chromosomal study? Mark all that apply.

a. The completed picture of a chromosomal study is called karyotyping.
b. Human chromosomes are divided into three types according to the position of the centromere.
c. Special laboratory techniques are used to culture body cell. They are then fixed and stained to display identifiable banding patterns.
d. Complementary genes and collaborative genes are easily recognized.

15. Genetics has its own set of definitions. Match the word with its definition.

___ 1. Genotype
___ 2. Phenotype
___ 3. Pharmacogenetics
___ 4. Somatic cell hybridization
___ 5. Penetrance

a. Traits, physical or biochemical, associated with a specific genotype that are recognizable
b. How drugs respond to an individual's inherited characteristics
c. Genetic information contained in the base sequence triplet code
d. Ability of a gene to express its function
e. Fusion of human somatic cells with those of a different species to yield a cell containing the chromosomes of both species

CHAPTER 7

# Genetic and Congenital Disorders

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Chromosomes carry 46 genes, 23 from the mother and 23 from the father. These genes are paired, and if both members of the gene pair are identical, the person is considered homozygous. What is the person considered if both members of the gene pair are not identical?
   a. Heterozygous
   b. Phenotypic
   c. Codominant
   d. Mutant

2. An adolescent presents at the clinic with complaints of pedunculated lesions projecting from the skin on his trunk area. The nurse knows that this is a sign of what?
   a. Marfan syndrome
   b. Neurofibromatosis type 1
   c. Down syndrome
   d. Klinefelter syndrome

3. The parents of an infant boy ask the nurse why their son was born with a cleft lip and palate. The nurse responds that cleft lip and palate are defects that are caused by many factors. The defect may also be caused by teratogens. Which teratogens can cause cleft lip and palate?
   a. Mumps
   b. Pertussis
   c. Rubella
   d. Measles

4. Sometimes an individual that developed from a single zygote is found to have two or more kinds of genetically different cell populations. These individuals are called what?
   a. Mutants
   b. Monosomies
   c. Aneuploidy
   d. Mosaic

5. With increasing age, there is a greater chance of a woman being exposed to damaging environmental agents such as drugs, chemicals, and radiation. These factors may act on the aging oocyte to cause what in a fetus?
   a. Down syndrome
   b. Marfan syndrome
   c. Patau syndrome
   d. Turner syndrome

6. From 15 to 60 days after conception, the embryo is most susceptible to adverse influences. This period is referred to as what?
   a. Period of susceptibility
   b. Period of organogenesis
   c. Period of fetal anomalies
   d. Period of hormonal imbalance

7. Teratogenic substances cause abnormalities during embryonic and fetal development. These substances are divided into three classes. These classes are called what?
   a. Period of organogenesis, third trimester, second month
   b. Outside environmental substances, inside environmental substances, internal environmental substances
   c. Radiation, drugs and chemical substances, infectious agents
   d. Drugs and chemical substances, smoking, bacteria and viruses

8. Infections with the TORCH agents are reported to occur in 1% to 5% of newborn infants in the United States and are among the major causes of neonatal morbidity and mortality. Which of these are clinical and pathologic manifestations of TORCH?
   a. Microcephaly, hydrocephalus, spina bifida
   b. Pneumonitis, myocarditis, macrocephaly
   c. Hydrocephalus, macrocephaly, thrombocytopenia
   d. Microcephaly, hydrocephalus, thrombocytopenia

9. The birth of a child with a defect brings with it two issues that must be resolved quickly. The traumatized parents need emotional support from the nurse and guidance in how to resolve these two issues. What are these issues?
   a. The immediate and future care of the affected child and the possibility of future children in the family having a similar defect
   b. The immediate and future care of the affected child and the possibility of the child's death
   c. The possibility of future children having a similar defect and the possibility of this child's death
   d. The need for financial resources and the possibility of this child's death

10. Genetic counseling and prenatal screening are tools both for the parents of a child with a defect and for those couples who want a child but are at high risk for having a child with a genetic problem. What are the objectives of prenatal screening?
   a. To detect fetal abnormalities and to provide information on where they can have the pregnancy terminated if they so choose
   b. To detect fetal abnormalities and to provide parents with information needed to make an informed choice about having a child with an abnormality
   c. To provide parents with information needed to make an informed choice about having a child with an abnormality and to assure the prospective parents that any defect in their hoped for child can be identified
   d. To allow parents at risk for having a child with a specific defect to begin a pregnancy with the assurance that knowledge about the presence or absence of the disorder in the fetus can be confirmed by testing and to provide information on where they can have the pregnancy terminated if they so choose

11. Match the genetic disorder (Column A) with its kind of disorder (Column B).

| Column A | Column B |
|---|---|
| ___ 1. Marfan syndrome | a. Single-gene disorder |
| ___ 2. Huntington's chorea | b. Autosomal dominant |
| ___ 3. Tay-Sachs disease | c. Autosomal recessive disorders |
| ___ 4. Fragile X syndrome | d. Sex-linked disorders |

12. Although multifactorial traits cannot be predicted with the same degree of accuracy as the Mendelian single-gene mutations, characteristic patterns exist. What are these characteristic patterns? Mark all that apply.
   a. Multifactorial congenital malformations tend to involve a single organ or tissue derived from the same embryonic developmental field.
   b. The risk of recurrence in future pregnancies is for the same or a similar defect.
   c. The risk increases with increasing incidence of the defect among relatives.
   d. Multifactorial congenital malformations are always present at birth.

13. _____ is a rare metabolic disorder that affects approximately 1 in every 15,000 infants in the United States. The disorder is caused by a deficiency of the liver enzyme phenylalanine hydroxylase. Without a special diet, these children will die.

CHAPTER 8

# Neoplasia

chemotherapy. Joe says, "NO! I don't want to be stuck with needles all the time."

1. What would you tell Joe to decrease his anxiety?

2. How would you explain the way chemotherapy works to Joe's parents?

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The nurse has provided an educational session with a 56-year-old man, newly diagnosed with a benign tumor of the colon. The nurse knows that the patient needs further teaching when he makes which remark?
   a. "This tumor I have, will I die from it?"
   b. "Even though benign tumors cannot stop growing, they are not considered to be cancer."
   c. "Benign tumors still produce normal cells different from other cells around them."
   d. "This kind of tumor cannot invade other organs or travel to other places in the body to start new tumors."

2. The nurse on an oncology floor has just admitted a patient with metastatic cancer. The patient asks how cancer moves from one place in the body to another. What would the nurse answer?
   a. "Cancer cells are not able to float around the original tumor in body fluids."
   b. "Cancer cells enter the body's lymph system and thereby spread to other parts of the body."
   c. "Cancer cells are moved from one place in the body to another by transporter cells."
   d. "Cancer cells replicate and form a chain that spreads from the original tumor site to the site of the metastatic lesion."

3. It is well known that cancer is not a single disease. Thus, it follows that cancer does not have a single cause. It seems more likely that the occurrence of cancer is triggered by the interactions of multiple risk factors. What are identified risk factors for cancer?
   a. Body type, age, hereditary
   b. Radiation, cancer-causing viruses, color of skin
   c. Hormonal factors, chemicals, immunologic mechanisms
   d. Immunologic mechanisms, cancer-causing viruses, color of skin

4. Several cancers have been identified as inheritable through an autosomal dominant gene. Generally, people who inherit these genes are only at increased risk for developing the cancer. There is one type of cancer, however, that is almost certain to develop in someone who inherits the dominant gene. Which cancer carries the highest risk of developing in someone who carries the gene?
   a. Retinoblastoma
   b. Osteosarcoma
   c. Acute lymphocytic leukemia
   d. Colon cancer

5. One group of chemical carcinogens is called indirect-reacting agents. Another term for these agents is procarcinogens, which become active only after metabolic conversion. One of the most potent procarcinogens is a group of dietary carcinogens called
   a. Polycyclic aromatic hydrocarbons.
   b. Aflatoxins.
   c. Initiators.
   d. Diethylstilbestrol.

6. In some cancers, the presenting factor is an effusion, or fluid, in the pleural, pericardial, or peritoneal space. Research has found that almost 50% of undiagnosed effusions in people not known to have cancer turn out to be malignant. Which cancers are often found because of effusions?
   a. Colon and rectal cancers
   b. Lung and ovarian cancers
   c. Breast and colon cancers
   d. Ovarian and rectal cancers

7. Tumor markers are used for screening, establishing prognosis, monitoring treatment, and detecting recurrent disease. Which serum tumor markers have been proven to be among the most useful in clinical practice?
   a. Prostate-specific antigen and deoxyribonucleic acid
   b. Deoxyribonucleic acid and carcinoembryonic antigen
   c. Alpha-fetoprotein and human chorionic gonadotropin
   d. Chorionic gonadotropin and cyclin-dependent kinases

8. Cranial radiation therapy (CRT) has been used to treat brain tumors, acute lymphocytic leukemia, head and neck soft tissue tumors, and retinoblastoma in children. Childhood cancer survivors who had CRT as therapy for their cancers are prone to growth hormone deficiency. In adults, with what is growth hormone deficiency associated?
   a. Hypocalcemia
   b. Cardiovascular longevity
   c. Hyperinsulinemia
   d. Dyslipidemia

9. A big difference in the treatment of childhood cancer as opposed to adult cancer is that chemotherapy is the most widely used treatment therapy for childhood cancer. What is the reason for this?
   a. Pediatric tumors are more responsive to chemotherapy than adult cancers.
   b. Children do not tolerate other forms of therapy as well as adults do.
   c. Children do not complain about the nausea and vomiting caused by chemotherapy like adults do.
   d. Children think losing their hair is "cool."

10. The inherent properties of a tumor that determine how the tumor responds to radiation is called radiosensitivity. When radiation is combined with cytotoxic drugs, it has been noted that there is a radiosensitizing effect on tumor cells. Which drug is considered a radiosensitizer?
    a. Doxorubicin
    b. Cisplatin
    c. Vincristine
    d. Docetaxel

11. Cancer is a disorder of altered cell differentiation and growth. The term _____ refers to an abnormal mass of tissue in which the growth exceeds and is uncoordinated with that of the normal tissues.

12. A woman diagnosed with breast cancer asks the nurse how a malignant tumor in her breast could spread to other parts of her body. The nurse answers that a malignant neoplasm is comprised of less well-differentiated cells that have which of the following abilities? Mark all that apply.
    a. They break loose.
    b. They reinvade their original site.
    c. They enter the circulatory or lymphatic system.
    d. They are excreted through the alimentary canal.
    e. They form secondary malignant tumors at other sites.

13. Cancer cells differ from normal cells in many ways. They have lost the ability to accurately communicate with other cells, and they do not have to be anchored to other cells to survive. How else are they different from other cells? Mark all that apply.
    a. Cancer cells have an increased tendency to stick together.
    b. Cancer cells have an unlimited life span.
    c. Cancer cells have lost contact inhibition.
    d. Cancer cells need increased amounts of growth factor to proliferate.
    e. Cancer cells are genetically unstable.

14. Match the following types of cancer with their screening tests.

| Type of Cancer | Screening Test |
|---|---|
| ___ 1. Malignant melanoma | a. Mammography |
| ___ 2. Prostatic | b. Self-examination |
| ___ 3. Cervical | c. Pap smear |
| ___ 4. Breast | d. Prostate-specific antigen |

15. Childhood cancers are often diagnosed late in the disease process because the signs and symptoms mimic other childhood diseases. However, with the huge strides in treatment methods, increasingly more children survive childhood cancer. These survivors face the uncertainty that the lifesaving treatment they received during their childhood may produce what late effects? Mark all that apply.

a. Cardiomyopathy and pulmonary fibrosis
b. Cognitive dysfunction and hormonal dysfunction
c. Second malignancies and liver failure
d. Impaired growth and second malignancies

CHAPTER 9

# Stress and Adaptation

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. The control systems of the body act in many ways to maintain homeostasis. These control systems regulate the functions of the cell and integrate the functions of different organ systems. What else do they do?
   a. Control life processes
   b. Feed cells under stress
   c. Act on invading organisms
   d. Shut down the body at death

2. It has long been known that our bodies need a stable internal environment to function optimally. What serves to fulfill this need?
   a. Organ systems
   b. Control systems
   c. Biochemical messenger systems
   d. Neurovascular systems

3. The general adaptation syndrome is what occurs in the body in response to stressors. When the body's defenses are depleted, signs of "wear and tear" or systemic damage appear. Which diseases have been linked to stress and are believed to be encouraged by the body itself when it can no longer adapt to stress in a healthy manner?
   a. Psychotic disorders
   b. Osteogenesis sarcomas
   c. Rheumatic disorders
   d. Infections of the head and neck

4. A number of responses to the release of neurohormones occur when the body encounters stress, including which of the following?
   a. Increase in appetite
   b. Decreased cerebral blood flow
   c. Decrease in awareness
   d. Inhibition of reproductive function

5. Chronic and excessive activation of the stress response has been shown to play a part in the development of long-term health problems. The stress response can also result from chronic illness. Which health problems have been linked to a stress response that is chronic and excessive?
   a. Suicide and immune disorders
   b. Depression and renal disease
   c. Immune disorders and brain tumors
   d. Suicide and thrombosis in the extremities

6. Our body's response to psychologic perceived threats is not regulated to the same degree as our body's response to physiologic perceived threats. The psychologic responses may be
   a. appropriate and limited.
   b. inappropriate and sustained.
   c. regulated by a positive feedback system.
   d. the result of a baroreflex-mediated response.

7. Adaptation implies that an individual has successfully created a new balance between the stressor and the ability to deal with it. The safety margin for adaptation of most body systems is considerably greater than that needed for normal activities. What is the method of adaptation that allows the body to live with only one of a pair of organs (i.e., one lung or one kidney)?
   a. Genetic endowment
   b. Physiologic reserve
   c. Anatomic reserve
   d. Health status

8. Psychosocial factors can impact the body's response to stress either positively or negatively. It has been shown that social networks play a part in the psychosocial and physical integrity of a person. How do social networks affect how the body deals with stress?
   a. By stepping in and making decisions for the person
   b. By reapportioning the finances of the person
   c. By mobilizing the resources of the person
   d. By protecting the person from other internal stressors

9. The acute stress response can be detrimental in people with preexisting physical or mental health problems. In which of these clients could the acute stress response cause further problems?
   a. Client who is post resection of a brain tumor
   b. Client who is schizophrenic and off medication
   c. Client with a broken femur
   d. Client with heart disease

10. Some clients experience chronic activation of the stress response as a result of severe trauma. Which of the following is the disorder that can occur when the stress response is chronically activated?
    a. Post-traumatic stress disorder
    b. Chronic renal insufficiency
    c. Schizophrenia
    d. Post delivery depression

11. In a _____ organism, it is necessary for the composition of the internal environment to be compatible with the survival needs of the individual cells.

12. Selye suggested that stress could have positive influences on the body, and these periods of positive stress are called _____.

13. The first goal of treatment of stress disorders is to aid clients in avoiding those coping mechanisms that cause their health to be at risk. Second, the treatment of stress disorders should engage them in alternative strategies that reduce stress. Which are nonpharmacologic treatments of stress disorders? Mark all that apply.
    a. Lithium therapy
    b. Music therapy
    c. Education therapy
    d. Massage therapy

15. It is believed that there is an interaction between the neuroendocrine system and the immune system. It has been postulated that these interactions play a significant role in autoimmune diseases. These systems have what in common? Mark all that apply.

a. They share common signal pathways.

b. Hormones and neuropeptides can change what immune cells do.

c. Mediators of the immune system can modify neuroendocrine function.

d. They are symbiotic systems and cannot work without each other.

CHAPTER 10

# Alterations in Temperature Regulation

c. Hot and cold
d. Unpleasant and pleasant

2. Fever and hyperthermia describe conditions in which body temperature is higher than the normal range. When does hyperthermia occur?
   a. When the body temperature is 39.5°C
   b. When the body's set-point is unchanged, but the temperature goes up
   c. When the body's set-point changes to a higher set-point
   d. When body temperature is greater than 37.6°C

3. Pyrogens are substances that produce fever in the body. Substances such as bacterial products, bacterial toxins, or whole microorganisms enter the body and stimulate the host cells to produce certain mediators. What are these called?
   a. Exogenous pyrogens
   b. Outer pyrogens
   c. Endogenous pyrogens
   d. Set-point pyrogens

4. Neurogenic fevers begin in the central nervous system. By what characteristics are neurogenic fevers known?
   a. High temperatures that respond quickly to antipyretic therapy
   b. Temperatures that go up and down for no apparent reason
   c. Variable temperatures that are associated with sweating
   d. High temperatures that are not associated with sweating

5. The term *submersion hypothermia* is used when cooling follows acute asphyxia, as occurs in cases of near-drowning. Children have been reported to survive after being submerged from 10 to 40 minutes. This situation is believed to be possible because of the rapid cooling process following a particular reflex. What is the name of that reflex?
   a. Diving reflex
   b. Moro reflex
   c. Bainbridge reflex
   d. Oculocephalic reflex

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. There are two types of stimuli that affect the raising or lowering of body temperature. What are these stimuli?
   a. Innocuous and noxious
   b. Strong and weak

6. Most febrile illnesses are due to common infections and are relatively easy to diagnose. In certain instances, however, it is difficult to establish the cause of a fever. In these instances, the elevation in temperature is referred to as a fever of unknown origin (FUO). What is a common cause of FUO?
   a. Disseminated intravascular coagulation
   b. Malignancies
   c. Pulmonary emboli
   d. Femoral artery emboli

7. Sometimes recurrent fevers occur but do not follow a strictly periodic pattern. Causes of these recurrent fevers include genetic disorders such as familial Mediterranean fever. What are the characteristics of familial Mediterranean fever?
   a. Early age of onset (<20 years) and seizures
   b. Episodic bouts of peritonitis and duration of 1 week
   c. Early age of onset (<20 years) and high fever
   d. Episodic bouts of peritonitis and low fever

8. Antipyretic drugs, such as aspirin, ibuprofen, and acetaminophen, are often used to alleviate the discomforts of fever and protect vulnerable organs, such as the brain, from extreme elevations in body temperature. The use of aspirin is limited in children, however, because it can sometimes cause which of the following diseases?
   a. Münchhausen syndrome
   b. Guillain-Barré syndrome
   c. Angelman syndrome
   d. Reye syndrome

9. Fever in infants and young children is not an uncommon event. Many trips to the pediatrician's office occur because of fever in children ages 1 day to 3 years. Which sign or symptom does not indicate fever in an infant?
   a. Avid feeding
   b. Hypoventilation
   c. Cyanosis
   d. Poor tissue oxygenation

10. The pathophysiology of heat stroke is believed to result from the direct effect of heat on body cells and the release of cytokines (e.g., interleukins, tumor necrosis factor, interferon) from heat-stressed endothelial cells, leukocytes, and epithelial cells that protect against tissue injury. Which of the following conditions cannot be caused by heat stroke?
   a. Disseminated intravascular clotting and acute renal failure
   b. Acute respiratory distress and rhabdomyoma
   c. Rhabdomyolysis and multiorgan failure
   d. Disseminated intravascular clotting and multiorgan failure

11. Drug fever is a fever that can occur with the administration of a specific drug, and then disappear when the drug is discontinued. Which of the following is a way that drugs can induce fever? Mark all that apply.
   a. Drugs can cause heat dissipation.
   b. Drugs can act as direct pyrogens.
   c. Drugs can induce an autoimmune response.
   d. Drugs can injure tissues directly.

12. A sign that the body is losing heat occurs with the contraction of the _____ muscles of the skin. This raises skin hairs and produces goose bumps; it also aids in heat conservation by reducing the surface area available for heat loss.

13. The four successive stages of fever are listed in random order as follows. Choose the answer that places them in correct order.

| | |
|---|---|
| a. Prodromal | A. c,d,a,b |
| b. Defervescence | B. a,b,c,d |
| c. Chill | C. dcab |
| d. Flush | D. a,c,d,b |

14. Diagnosing the primary cause is one of several methods used to treat fever. What are some other methods? Mark all that apply.
    a. Modification of external environment to decrease heat transfer to external environment
    b. Support of hypermetabolic state that accompanies fever
    c. Protection of vulnerable body organs and systems
    d. Modification of internal environment to decrease heat transfer to external environment

15. Malignant hyperthermia is a disorder in which the body's core temperature can rise by 1°C every 5 minutes. Although it is often caused by a halogenated anesthetic agent in combination with succinylcholine, there are also nonoperative precipitating factors. What nonoperative factors can precipitate malignant hyperthermia? Mark all that apply.
    a. Trauma
    b. Exercise
    c. Infection
    d. Environmental heat stress

CHAPTER 11

# Activity Tolerance and Fatigue

## SECTION III: APPLYING YOUR KNOWLEDGE

**Activity D** *Consider the following scenario and answer the questions.*

James Whitlow, a 75-year-old marathon runner, has suffered a fractured hip in a fall. Postoperatively, Mr. Whitlow sustains complications, including a myocardial infarction and a pulmonary embolus. He is on bed rest at this time.

1. What is the recommended approach to this patient's care? What does it include?

2. Because bed rest affects all systems in the body, what are the concerns of Mr. Whitlow's caregiver?

## SECTION IV: PRACTICING FOR NCLEX

**Activity E** *Answer the following questions.*

1. There are two types of muscle fibers in skeletal muscle. Which type of muscle fiber is affected most by prolonged immobility or bed rest?
   a. Long muscle fibers
   b. Fast-twitch muscle fibers
   c. Short muscle fibers
   d. Slow-twitch muscle fibers
2. People with congestive heart failure need to be on a closely monitored exercise regimen. What is the reason for this?
   a. Fast-twitch muscle fibers are used more than slow-twitch muscle fibers.
   b. Decreased fatigability is caused by early dependence on anaerobic metabolism and excessive intramuscular acidification.

c. Anaerobic metabolism, coupled with vasoconstrictor response, can cause an increased afterload on the heart.

d. Anaerobic metabolism inhibits the vasoconstrictor response and decreases afterload on the heart.

3. A treatment plan for people with peripheral vascular disease has been proposed. Which of the following should it include?

a. Weight training to strengthen the vastus lateralis

b. Isometric exercise to increase cardiac endurance

c. Aerobic exercise to decrease respiratory stress

d. Exercise training to increase angiogenesis

4. The sweat produced by both a trained person and a nontrained person normally contains sodium chloride in large amounts. What happens when sweat is produced in a trained person?

a. Sweat production begins before the core temperature rises, and the sweat produced is dilute and conserves sodium chloride.

b. Sweat is produced within 5 to 6 minutes of the start of exercise, and the sweat, being high in sodium chloride, depletes the body of sodium chloride.

c. Sweat is produced within 1 to 2 minutes of the start of exercise, and the sweat, being high in sodium chloride, depletes the body of sodium chloride.

d. Sweat production begins after the core temperature rises, and the sweat, being high in sodium chloride, depletes the body of sodium chloride.

5. Elderly people sometimes have decreased cardiac output. What is believed to be the cause of this condition?

a. Natural decrease in the load the respiratory system can handle as a person ages

b. Natural decrease in the maximal heart rate as a person ages

c. Natural occurrence of increased resistance in the major blood vessels as a person ages

d. Natural destruction in peripheral blood vessels as a person ages

6. Many types of fatigue are reported by clients with a wide variety of disease disorders. What is an identified cause of fatigue in clients with forced immobility, neuromuscular disorders, and wasting syndromes?

a. Insomnia caused by nocturia and pain

b. Interference with the oxygen-carrying capacity of the blood

c. Loss of muscle mass, muscle strength, and endurance

d. Pain related to extended immobility

7. Bed rest causes deconditioning responses to occur that affect all body systems. What is one important factor to remember when dealing with the inactivity of immobility?

a. These responses occur slowly and can be quickly overcome.

b. These responses can be stopped by frequent turning and repositioning.

c. These responses occur rapidly and can be quickly overcome.

d. These responses occur rapidly and take a long time to overcome.

8. Disuse of a muscle and muscle atrophy contribute to the weakening and wasting of muscle tissue. What else do they contribute to?

a. Joint contractures

b. Gastrointestinal hyperactivity

c. Venous hyperresponsiveness

d. Neural decompensation

9. Chronic fatigue syndrome (CFS) is a disease with an unknown etiology and no definitive treatments. Even the diagnosis of CFS is difficult because the diagnostic criteria are many and require concurrent occurrence of specific symptoms. What is a concurrent symptom needed for the clinical diagnosis of CFS?

a. Multijoint pain with swelling or redness

b. Muscle pain

c. Long periods of refreshing sleep

d. Malaise lasting more than 24 hours unrelated to exertion

10. All systems in the body are affected by bed rest or immobility. For the immune system, research has demonstrated that interleukin (IL)-1, IL-6, and tumor necrosis factor-alpha are increased during immobility or bed rest. What are these mediators associated with?
    a. Hyperresponsiveness in the central nervous system
    b. Reduction in inflammatory reactions and bone wasting
    c. Hyperinflammatory reactions and tissue injury
    d. Tissue wasting and decreasing bone density

11. There are two main types of exercise. Aerobic exercise involves rhythmic changes in large muscle groups. Isometric, or _____, exercise involves a sustained muscle contraction against an immovable load.

12. During exercise, the respiratory system increases the rate of exchange of oxygen and carbon dioxide. This is caused by a series of physiologic responses. Listed as follows in random order are the physiologic responses causing the increased rate of exchange of oxygen and carbon dioxide. Choose the answer that puts these responses in order of occurrence.
    a. Larger volume of blood under increased pressure is delivered to the lungs.
    b. Respiratory rate increases four- to fivefold.
    c. Cardiac output increases.
    d. More pulmonary capillary beds open.
    e. Tidal volume increases five- to sevenfold.
    f. Minute ventilation increases 20 to 30 times its resting value.
    g. Better perfusion of the alveoli occur.
    h. Oxygen and carbon dioxide exchange more efficiently.

    A. a, e, f, g, d, c, b, h
    B. g, h, a, b, d, f, e, c
    C. b, e, f, c, a, d, g, h
    D. d, a, g, b, e, f, c, h

13. There are several ways of assessing activity tolerance and fatigue. One of these is a procedure for determining physical performance capacity called _____.

14. What are the major complications of bed rest? Mark all that apply.
    a. Venous stasis with the potential for development of deep venous thrombosis
    b. Redistribution and change in blood volume
    c. Increased cardiac workload
    d. Increased intestinal function and diarrhea
    e. Orthostatic hypotension

15. There is a direct proportional response between bone density and the stress placed on them according to _____ law.

CHAPTER 12

# Blood Cells and the Hematopoietic System

1. Sally asks the nurse why she has to have growth factors in the blood. How does the nurse answer Sally?

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The globulins that make up part of the plasma of the blood have three distinct purposes. What are the gamma globulins?
   a. Antibodies of the immune system
   b. Transporters of iron and copper
   c. Transporters of bilirubin and steroids
   d. Autoantibodies of the immune system
2. What are the biconcave disks in the blood that carry oxygen?
   a. Neutrophils
   b. Erythrocytes
   c. Eosinophils
   d. Leukocytes
3. Pluripotent stem cells for an invaluable source of reserve cells for the entire hematopoietic system. Between these cells and the unipotential cells are several levels of differentiation. What are these unipotential cells called?
   a. Embryonic stem cells
   b. Immature neural cells
   c. Colony-forming units
   d. Blood cell precursors
4. Stem cell transplantation has been shown to provide potential cures for diseases such as aplastic anemia and the leukemias. What are the sources of stem cells used for transplant?
   a. Peripheral blood cells and immature embryonic cells
   b. Bone marrow and immature neural cells
   c. Umbilical cord blood and yellow bone marrow
   d. Peripheral blood and yellow bone marrow
5. Some cytokines stimulate the growth and production of new blood cells. Other cytokines support the proliferation of stem cells in the human body. Which cytokines support the proliferation of stem cells in the human body?
   a. Interleukins, interferons, and tumor necrosis factor
   b. Granulocytes, B-cell growth factor, and interferons
   c. Interleukins, T-cell growth factor, and colony-stimulating factors
   d. Transforming growth factor, interferons, and tumor necrosis factor
6. The erythrocyte sedimentation rate is a commonly performed blood test used for monitoring the clinical course of a disease. It is a measurement of how rapidly red blood cells will aggregate and drop to the bottom of a tube as a sediment in anticoagulated blood. What influences the rate of fall that would give information about the clinical course of a disease?
   a. The rate of fall is faster in the presence of cytokines that are increased in an inflammatory disease.
   b. The rate of fall is faster in the presence of fibrinogen that is increased in an inflammatory disease.
   c. The rate of fall is faster in the presence of macrophages that are increased in an inflammatory disease.
   d. The rate of fall is faster in the presence of growth factors that are increased in an inflammatory disease.
7. Although the usual site for a bone marrow test is the posterior iliac crest, other sites include the anterior iliac crest and the sternum. What are the dangers of using the sternum for a bone marrow test in children?
   a. Potential for hemorrhage
   b. Danger of perforating the lungs
   c. Danger of perforating the mediastinum
   d. Potential for infection in the chest cavity
8. Normally, there is a relatively constant number of each type of circulating blood cell. What regulates the number of each type of blood cell?
   a. Immune system
   b. Hematopoietic system
   c. Pluripotent stem cells
   d. Cytokines

9. To have stem cells for transplantation, clients are given specific agents to increase the quantity and migration of the cells from the bone marrow. What is the agent used to accomplish this?
   a. Cytokine growth factor
   b. Human leukocyte antigen growth factor
   c. Platelet growth factor
   d. Human growth factor

10. The cloning of the genes for most of the hematopoietic growth factors has been accomplished. The recombinant proteins that are produced are used in a wide range of clinical problems. What diseases have these proteins been used to fight?
   a. AIDS and autoimmune disorders
   b. Aplastic anemia and the anemia of kidney failure
   c. Anemia of cancer and Parkinson disease
   d. Aplastic anemia and the anemia of Huntington disease

11. Plasma, because of its water volume, is the vehicle used by the body to distribute _____. This is one of the means by which the body warms and cools itself.

12. For each plasma protein, fill in its purpose and the percent it makes up of plasma.

| Protein | Percent | Purpose |
|---|---|---|
| Albumin | | |
| Globulins | | |
| Fibrinogen | | |

CHAPTER 13

# Disorders of Hemostasis

1. What are the two most important nursing objectives when caring for them?

_____

_____

_____

2. In planning teaching for the client and his family, the nurse knows to include what?

_____

_____

_____

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. Many different proteins, enzymes, and hormones are involved in maintaining hemostasis. Which protein is required for platelet adhesion?
   a. von Willebrand factor
   b. Growth factors
   c. Ionized calcium
   d. Platelet factor 4

2. There are two pathways that can be activated by the coagulation process. One pathway begins when factor XII is activated. The other pathway begins when there is trauma to a blood vessel. What are these pathways?
   a. Clotting and bleeding pathways
   b. Extrinsic and intrinsic pathways
   c. Inner and outer pathways
   d. Factor and trauma pathways

3. Anticoagulant drugs prevent thromboembolic disorders. How does warfarin, one of the anticoagulant drugs, act on the body?
   a. Alters vitamin K, reducing its ability to participate in the coagulation of the blood
   b. Increases prothrombin
   c. Increases vitamin K–dependent factors in the liver
   d. Increases procoagulation factors

4. Heparin is an anticoagulant given by injection to prevent the formation of blood clots. How does heparin work?
   a. Binds to factor X
   b. Promotes the inactivation of clotting factors
   c. Binds to factor Xa
   d. Promotes the inactivation of factor VIII

5. The process of clot retraction squeezes serum from the clot, thereby joining the edges of the broken vessel. Through the action of actin and myosin, filaments in platelets contribute to clot retraction. Failure of clot retraction is indicative of what?
   a. Absence of factor Xa
   b. Low platelet count
   c. Overabundance of factor Xa
   d. High platelet count

6. Thrombocytosis is used to describe elevations in the platelet count above 1,000,000/μL. It is either a primary or a secondary thrombocytosis. Secondary thrombocytosis can occur as a reactive process due to what?
   a. Crohn disease
   b. Lyme disease
   c. Hirschsprung disease
   d. Megacolon

7. A 57-year-old man is diagnosed with thrombocytopenia. The nurse knows that thrombocytopenia refers to a decrease in the number of circulating platelets. The nurse also knows that thrombocytopenia can result from what?
   a. Decreased platelet production
   b. Increased platelet survival
   c. Decreased sequestration of platelets
   d. Increased platelet production

8. A young man has been diagnosed with hemophilia A, and the nurse is planning his discharge teaching. She knows to include what information in her discharge teaching?
   a. Only use NSAIDs for mild pain
   b. Prevent trauma to the body
   c. The client will not be on IV factor VIII therapy at home
   d. It is an X-linked dominant disorder

9. A teenage girl, seen in the clinic, is diagnosed with nonthrombocytopenic purpura. The girl states, "You have taken a lot of blood from me. Which of my tests came back abnormal?" How should the nurse respond?

a. Your complete blood count (CBC) with differential showed a shift to the left.

b. Your CBC with differential showed that you do not have enough iron.

c. Your CBC with differential showed a normal platelet count.

d. Your CBC with differential showed a normal hematocrit.

10. Disseminated intravascular coagulation is a grave coagulopathy resulting from the overstimulation of clotting and anticlotting processes in response to what?

a. Disease or injury

b. Septicemia and acute hypertension

c. Neoplasms and nonpoisonous snakebites

d. Severe trauma and acute hypertension

11. The following five stages of hemostasis are given in random order. Put them into their correct order.

a. Clot dissolution

b. Blood coagulation

c. Vessel spasm

d. Clot retraction

e. Formation of platelet plug

a. c, a, b, e, d

b. a, c, b, d, e

c. c, e, b, d, a

d. e, c, d, b, a

12. The coagulation cascade is the third component of the hemostatic process. It is a stepwise process resulting in the conversion of the soluble plasma protein, fibrinogen, into fibrin. This multistep process ensures that a massive episode of _____ clotting does not occur by chance.

CHAPTER 14

# Disorders of Red Blood Cells

The nurse would also explain to Mrs. McFee that two people always check the donor blood against the recipient information before it is transfused at least two times. Once, when it leaves the laboratory, and, again, before it is infused into the patient. Why is this attention given to checking the blood?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F:** *Answer the following questions.*

1. All cells of the body age and are replaced in a natural order. When red blood cells (RBCs) age, they are destroyed in the spleen. During this process, the iron from their hemoglobin is released into the circulation and returned where?
   a. To the bone marrow for incorporation into new RBCs
   b. To the liver to bind with oxygen
   c. To the lungs to bind with oxygen
   d. To the muscles to be stored for strength
2. Bilirubin is the pigment of bile and is made when red blood cells die. There are two types of bilirubin that can be measured in the blood and reported on by the laboratory. What does the laboratory reports them as?
   a. Conjugated and unconjugated
   b. Soluble and insoluble
   c. Positive and negative
   d. Direct and indirect
3. Neonatal hyperbilirubinemia is an increased level of bilirubin in the infant's blood. It is usually a benign condition characterized by what?
   a. A yellow, jaundiced color
   b. Failure to thrive
   c. Brain damage
   d. A reddish, ruddy complexion
4. Anemia resulting from blood loss can be reversed if the blood loss is not so severe that it results in death. How long does it take for the

red blood cell concentration to return to normal?

a. 8 to 10 days
b. 3 to 4 weeks
c. 10 to 14 days
d. 5 to 6 weeks

5. During chronic blood loss, iron-deficiency anemia occurs. Most patients are asymptomatic until their hemoglobin falls below 8 g/dL. The red blood cells that the body does produce have too little hemoglobin. What is the term for the resulting anemia?

a. Macrocytic hyperchromic
b. Macrocytic hypochromic
c. Microcytic hypochromic
d. Microcytic hyperchromic

6. In hemolytic anemia, the red blood cells are destroyed prematurely. What distinguishes almost all types of hemolytic anemia?

a. Normocytic hypochromic cells
b. Microcytic normochromic cells
c. Macrocytic hyperchromic cells
d. Normocytic normochromic cells

7. When hemolytic anemia has intravascular hemolysis, it can be characterized in different ways. Which of the following is not a characterization of hemolytic anemia with intravascular hemolysis?

a. Hemoglobinemia
b. Jaundice
c. Hemosiderinuria
d. Spherocytosis

8. Aplastic anemia is a serious anemia that is a disorder of the pluripotential bone marrow stem cells and causes all three hematopoietic cell lines to be reduced. What is the treatment for aplastic anemia in the young and severely affected client?

a. No treatment
b. Bone marrow transplant
c. Spleen transplant
d. Liver transplant

9. When a client is in chronic renal failure, he or she almost always has anemia because of a deficiency of erythropoietin. What else contributes to the anemia experienced by clients in chronic renal failure?

a. Uremic toxins and retained nitrogen
b. Bleeding tendencies and lack of fibrinogen in blood
c. Hemodialysis and decreased nitrogen
d. Hemolysis of red blood cells and lack of fibrinogen in blood

10. When an Rh-negative mother gives birth to an Rh-positive infant, the mother usually produces antibodies that will attack any subsequent pregnancies in which the fetus is Rh positive. When subsequent babies are Rh positive, erythroblastosis fetalis occurs. What is another name for erythroblastosis fetalis?

a. Microcytic disease of the newborn
b. Hemolytic iron-deficiency anemia
c. Hemolytic disease of the newborn
d. Macrocytic disease of the newborn

11. Pernicious anemia is believed to be an autoimmune disease that destroys the gastric mucosa. This results in chronic atrophic gastritis and the production of antibodies that interfere with _____ binding to intrinsic factor.

12. Sickle cell disease is an inherited disorder seen in African American people. It is marked by the characteristic sickling of red blood cells. This causes both chronic hemolytic anemia and occlusion of blood vessels. Which are considered to be triggers of an episode of sickling? Mark all that apply.

a. Infection
b. Stress
c. Heat
d. Dehydration
e. Alkalosis

13. The indices of the red blood cell (RBC) are used to differentiate the anemias by size and color of cell. Match the term for a RBC with its definition:

| Term | Definition |
|---|---|
| ___ 1. Mean corpuscular hemoglobin concentration | a. The concentration of hemoglobin in each cell |
| ___ 2. Mean cell hemoglobin | b. The mass of the RBC |
| ___ 3. Mean corpuscular volume | c. The volume or size of the RBCs |

CHAPTER 15

# Disorders of White Blood Cells and Lymphoid Tissues

2. "What kind of treatment will Lucy have?"

## SECTION IV: PRACTICING FOR NCLEX

**Activity E** *Answer the following questions.*

1. Progenitor cells, or parent cells, for myelopoiesis and lymphopoiesis are derived from which of the following?
   a. Pluripotent stem cells
   b. Unipotent cells
   c. Multipotential progenitor cells
   d. Myeloproliferative cells
2. What is the name of the region of the lymph nodes that contains most of the T cells?
   a. Primary follicles
   b. Paracortex
   c. Secondary follicles
   d. Primary cortex
3. Kostmann syndrome is a severe congenital neutropenia. Which of the following is characteristic of this condition?
   a. Bone marrow disorders
   b. Severe viral infections
   c. Autoimmune disorders
   d. Severe bacterial infections
4. Drug-induced neutropenia is a disease that has significantly increased in incidence over the past several decades. What is the attributing factor in the increased incidence of drug-induced neutropenia?
   a. Treatment of cancer by chemotherapeutic drugs
   b. Decrease in the use of street drugs
   c. Destruction of tissue cells by cocaine
   d. New drugs developed to treat autoimmune diseases
5. Infectious mononucleosis is a lymphoproliferative disorder caused by the Epstein-Barr virus that is usually self-limiting and nonlethal. Which of the following complications can arise during this mostly benign disease?
   a. Peripheral nerve palsies
   b. Rupture of the spleen
   c. Rupture of the lymph nodes
   d. Severe bacterial infections
6. You are presenting an educational event to a group of cancer patients. What would you cite as the most commonly occurring hematologic cancer?
   a. Acute lymphocytic leukemia
   b. Hodgkin lymphomas
   c. Non-Hodgkin lymphomas
   d. Mantle cell lymphoma
7. Endemic Burkitt lymphoma occurs in regions of Africa where what other infections are common?
   a. Herpes zoster and Epstein-Barr virus
   b. Herpes zoster and streptococcal
   c. Malaria and streptococcal
   d. Epstein-Barr virus and malaria
8. Acute lymphoblastic leukemia (ALL) and acute myelogenous leukemia (AML) are two distinct disorders with similar presenting clinical features. What clinical feature do ALL and AML share?
   a. Night sweats
   b. Weight gain
   c. High fever
   d. Polycythemia
9. Definitive diagnosis of multiple myeloma includes the triad of bone marrow plasmacytosis, lytic bone lesions, and what?
   a. Oligoclonal bands in the cerebrospinal fluid
   b. Bence-Jones proteins in the urine
   c. Serum M-protein depression
   d. BCR-ABL fusion protein in serum
10. Chronic lymphocytic leukemia (CLL) commonly causes hypogammaglobulinemia. This makes clients with CLL more susceptible to infection. What are the most common infectious organisms that attack clients with CLL?
    a. Acne rosacea
    b. *Pseudomonas aeruginosa*
    c. *Staphylococcus aureus*
    d. *Escherichia coli*

CHAPTER 16

# Mechanisms of Infectious Disease

a. Infectious disease
b. Mutual disease
c. Communicable disease
d. Commensal disease

2. The infectious agents that cause Rocky Mountain spotted fever and epidemic typhus are transmitted to the human body via vectors such as ticks. What are these infectious agents?
a. Viruses
b. *Rickettsiaceae*
c. *Chlamydiaceae*
d. *Anaplasmataceae*

3. Severe acute respiratory syndrome (SARS), a highly transmissible respiratory infection, crossed international borders in the winter of 2002. What terms are used to describe the outbreak of SARS?
a. Pandemic and nosocomial
b. Regional and endemic
c. Epidemic and pandemic
d. Nosocomial and endemic

4. The clinical picture, or presentation of a disease in the body, is called what?
a. Virulence of the disease
b. Source of the disease
c. Diagnosis of the disease
d. Symptomatology of the disease

5. There are two criteria that have to be met in order for a diagnosis of an infectious disease to occur. What are these two criteria?
a. Recovery of probable pathogen and documentation of signs and symptoms compatible with an infectious process
b. Propagation of a microorganism outside the body and testing to see what destroys it
c. Identification by microscopic appearance and Gram stain reaction
d. Serology and an antibody titer specific to the serology

6. Levels A, B, and C are levels assigned to potential agents of bioterrorism. What are these categorical assignments based on?
a. Safety to terrorist
b. Transmissibility
c. Environmental impact
d. Ease of use to terrorist

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. What is the term for parasitic relationships between microorganisms and the human body in which the human body is harmed?

7. Global infectious diseases are now being recognized. These diseases, known as endemic to one part of the world, are now being found in other parts of the world due to international travel and a global marketplace. Which of the following is considered a global infectious disease?
   a. Coxsackie disease
   b. Respiratory syncytial disease
   c. West Nile virus
   d. Hand, foot, and mouth disease

8. Which of the following sequences accurately describes the stages of a disease?
   a. Incubation, prodromal, current, recovery, and resolution
   b. Subacute, prodromal, acute, postacute, and convalescent
   c. Prodromal, subacute, acute, postdromal, and resolution
   d. Incubation, prodromal, acute, convalescent, and resolution

9. Sometimes the host's white blood cells are unable to eliminate the microorganism, but the body is able to contain the dissemination of the pathogen. What is this called?
   a. Abscess
   b. Pimple
   c. Lesion
   d. Acne

10. *Escherichia coli* produces an exotoxin called Shiga toxin that enters the body when you eat undercooked hamburger meat and fruit juices that are not pasteurized. What can *E. coli* infection cause?
   a. Nephritic syndrome
   b. Hemorrhagic colitis
   c. Hemolytic thrombocytopenia
   d. Neuroleptic malignant syndrome

CHAPTER 17

# Innate and Adaptive Immunity

3. Stem cells in the bone marrow produce T lymphocytes or T cells, and release them into the vascular system. The T cells then migrate where to mature?
   a. Spleen
   b. Liver
   c. Thymus
   d. Pancreas

4. Cell-mediated immunity is involved in resistance to infectious diseases caused by bacteria and some viruses. It is also involved in cell-mediated hypersensitivity reactions. Which of these does not cause a cell-mediated hypersensitivity reaction?
   a. Latex
   b. Poison ivy
   c. X-ray dye
   d. Blood transfusion

5. Passive immunity is immunity that is transferred from another source and lasts only weeks to months. What is an example of passive immunity?
   a. An injection of gamma-globulin
   b. An immunization
   c. Exposure to poison ivy
   d. Allergy shots

6. An essential property of the immune system is self-regulation. An immune response that is not adequate can lead to immunodeficiency, whereas an immune response that is excessive can lead to conditions from allergic responses to autoimmune diseases. Which of these is *not* an example of a breakdown of the self-regulation of the immune system?
   a. Multiple sclerosis
   b. Huntington disease
   c. Systemic lupus
   d. Fibromyalgia

7. One of the self-regulatory actions of the immune system is to identify self-antigens and be nonreactive to them. What is this ability of the immune system defined as?
   a. Antigen specificity
   b. Nonreactivity
   c. Tolerance
   d. Antigen diversity

8. The laboratory finds IgA in a sample of cord blood from a newborn infant. This finding is important because it signifies what?
   a. Fetal reaction to an infection acquired at birth
   b. Maternal reaction to an infection in the fetus
   c. Maternal exposure to an infection in a sexual partner
   d. Fetal reaction to exposure to an intrauterine infection

9. The daughter of a 79-year-old woman asks the nurse why her mother gets so many infections. The daughter states, "My mother has always been healthy, but now she has pneumonia. Last month she got cellulitis from a bug bite she scratched. The month before that was some other infection. How come she seems to get sick so often now?" What is the nurses' best response?
   a. "As people get older, their immune system doesn't respond as well as it did when they were younger."
   b. "About the time we are 75 or 76 years old, our immune system quits working."
   c. "Your mother just seems to be prone to infections."
   d. "Your mother gets infections frequently because she wants attention from you."

10. The results of recent research suggest that a key role in the origin of some diseases is played by inflammation. Inflammation has a role in the beginnings of which of these diseases?
    a. Osteoporosis
    b. Rheumatoid arthritis
    c. Osteogenesis imperfecta
    d. Hydronephrosis

11. _____, or immunogens, are substances foreign to the host that can stimulate an immune response.

CHAPTER 18

# Inflammation, Tissue Repair, and Wound Healing

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The cardinal signs of inflammation include swelling, pain, redness, and heat. What is the fifth cardinal sign of inflammation?
   a. Loss of function
   b. Altered level of consciousness
   c. Sepsis
   d. Fever

2. The cells that are associated with allergic disorders and the inflammation associated with immediate hypersensitive reactions are known as what? Mark all that apply.
   a. Macrophages
   b. Eosinophils
   c. Mast cells
   d. Neutrophils
   e. Basophils

3. Inflammation can be either acute or chronic. The immune system is believed to play a role in chronic inflammation and may be one of the reasons chronic inflammation may persist for days to months to years. Why is the risk of scarring and deformity greater in chronic inflammation than it is in acute inflammation?
   a. Chronic inflammation is the persistent destruction of healthy tissue.
   b. Fibroblasts instead of exudates proliferate in chronic inflammation.
   c. Typically, agents that evoke chronic inflammation are infections or irritants that penetrate deeply and spread rapidly.
   d. Chronic inflammation is often the result of allergic reactions.

4. A class of student nurses is hearing a lecture on wound healing. The professor explains about primary and secondary healing. The professor continues to talk about the phases of wound healing and states that in both primary and secondary healing the phases of wound healing occur at different rates. What are the phases of wound healing? Mark all that apply.
   a. Activation phase
   b. Proliferative phase
   c. Nutritional phase
   d. Inflammatory phase
   e. Maturational phase

5. Hyperbaric treatment for wound healing is used for wounds that have problems in healing due to hypoxia or infection. It works by raising the partial pressure of oxygen in plasma. How does hyperbaric oxygen treatment enhance wound healing?
   a. Destruction of anaerobic bacteria
   b. Increased action of eosinophils
   c. Promotion of angiogenesis
   d. Decrease in fibroblast activity

6. As a nurse in the emergency department, you would know that research has shown that the possibility of infection in a bite wound is tied to what caused the bite, the location of the bite, and the type of injury inflicted by the bite. Which bite would have the highest possibility of infection?
   a. Bite inflicted by a child
   b. Wound caused by a cat bite
   c. Bite inflicted by an adult
   d. Wound caused by a dog bite

7. Wound healing is more difficult for persons at both ends of the age spectrum, although the reasons differ. In the elderly, wound healing is impaired or delayed because of structural and functional changes in the skin that occur with aging and the chronicity of wounds in the elderly. Why do neonates and small children have problems with wound healing?
   a. Their bodies are not yet capable of an inflammatory response.
   b. Their skin is fragile.
   c. They do not have the reserves needed.
   d. Their immune systems are hypersensitive to infectious agents.

8. All wounds are considered contaminated at the time they occur. Usually, the natural defenses in our bodies can deal with the invading microorganisms; however, there are times when a wound is badly contaminated and host defenses are overwhelmed. What happens to the healing process when host defenses are overwhelmed by infectious agents?
   a. The inflammatory response is shortened and does not complete destruction of the invading organisms.
   b. Fibroblast production becomes malignant due to hypersensitization by invading organisms.
   c. The formation of granulation tissue is impaired.
   d. Collagen fibers cannot draw tissues together.

9. During the acute inflammatory response, there is a period called the transient phase where there is increased vascular permeability. What is considered the principal mediator of the immediate transient phase?
   a. Histamine
   b. Arachidonic acid
   c. Fibroblasts
   d. Cytokines

10. Inflammation can be either local or systemic. What are the most prominent systemic manifestations of inflammation?
   a. Fever, leukocytosis or leukopenia, and the acute phase response
   b. Fever, leukocytosis or leukopenia, and the transition phase response
   c. Widening pulse pressure, thrombocytopenia, and the recovery phase response
   d. Widening pulse pressure, thrombocytopenia, and the latent phase response

CHAPTER 19

# Disorders of the Immune Response

1. The correct response to this patient about the diagnosis would include information about which test?

_____

_____

_____

2. When planning patient education for this woman, what medications would the nurse tell the patient about?

_____

_____

_____

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. Infants are born with a passive immunity that occurs when immunoglobulin antibodies cross the placenta from the maternal circulation prior to birth. Which immunoglobulin is capable of crossing the placenta?
   a. IgM
   b. IgD
   c. IgG
   d. IgE

2. Drug-induced secondary hypogammaglobulinemia are reversible. Which drugs produce hypogammaglobulinemia? Mark all that apply.
   a. Phenytoin
   b. Corticosteroids
   c. Carbamazepine
   d. Disease-modifying antirheumatic drugs
   e. Interferon-beta 1a drugs

3. Primary cell-mediated disorders of the immune system cause severe problems with infections. Children with these disorders rarely survive beyond childhood without a bone marrow transplant. Which of the following is a disease that involves primary cell-mediated disorders of the immune system?
   a. DiGeorge syndrome
   b. Y-linked hyper-IgM syndrome
   c. X-linked agammaglobulinemia
   d. Y-linked agammaglobulinemia

4. Combined immunodeficiency syndrome is a disorder in which both B and T lymphocytes are affected. This results in defects in both humoral and cell-mediated immunity. What could be the cause of this disorder?
   a. Multiple misplaced genes that influence lymphocyte development and response
   b. A single mutation in any gene that influences major histocompatibility antigens
   c. A single misplaced gene that influences major histocompatibility
   d. Multiple mutations in genes that influence lymphocyte development and response

5. Combined immunodeficiency syndrome (CIDS) is distinguished by low, not absent, T-cell function. These diseases are usually associated with other disorders and arise from diverse genetic causes. Which of the following diseases is considered a CIDS?
   a. Pierre-Robin syndrome
   b. Angelman syndrome
   c. Ataxia-telangiectasia
   d. Adair-Dighton syndrome

6. The immune system typically responds to invaders of all types in our bodies. However, it can also cause tissue injury and disease. What is this effect called?
   a. Hypersensitivity action
   b. Antigen reaction
   c. Mediator response action
   d. Allergen stimulating reaction

7. Some people are so sensitive to certain antigens that they react within minutes by developing itching, hives, and skin erythema, followed shortly thereafter by bronchospasm and respiratory distress. What is this commonly known as?
   a. Antigen reaction
   b. Anaphylactic reaction
   c. Hyposensitive reaction
   d. Arthus reaction

8. A systemic immune complex disorder that is caused by insoluble antigen-antibody complexes being deposited in blood vessels, the joints, the heart, or kidney tissue is called what?
   a. Anti-immune disease
   b. Systemic lupus erythematosus
   c. Serum sickness
   d. Antigen-antibody sickness

9. The incidence of latex allergy is skyrocketing because of diseases such as HIV. It is known that the use of latex examining gloves has played a major role in the increasing incidence of latex allergy. What plays a significant role in the allergic response to latex gloves?
   a. Baking powder used inside the gloves
   b. Airborne pieces of latex
   c. Latex proteins that attach to clothing
   d. Cornstarch powder used inside the gloves

10. A transplant reaction that occurs immediately after transplantation is caused by _____ antibodies.

11. It has been postulated that an autoimmune disease needs a "trigger event" for it to clinically manifest itself in the body. What are these "trigger events" believed to be? Mark all that apply.
   a. A. microorganism or virus
   b. A self-antigen from a previously sequestered body tissue
   c. A breakdown in the antigen-antibody response
   d. A chemical substance
   e. A systemic ability for self-tolerance

CHAPTER 20

# Acquired Immunodeficiency Syndrome

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. You are a school nurse teaching a health class to a group of high school students. You are preparing a lecture on HIV/AIDS. You would know to include what information about the transmission of AIDS in your lecture? Mark all that apply.
   a. AIDS is transmitted through the bite of an insect.
   b. AIDS is transmitted through sexual contact.
   c. AIDS is transmitted through blood-to-blood contact.
   d. AIDS is transmitted from the mother to her unborn baby.
   e. AIDS is transmitted through nonsexual household contact.

2. The HIV virus, once inside the body, replicates through an eight-step process. Take the eight steps that are listed and put them in the correct order.
   a. DNA synthesis
   b. Binding of virus to $CD4^+$ T cell
   c. Cleavage
   d. Assembly and release from $CD4^+$ T cell
   e. Integration
   f. Transcription
   g. Translation
   h. Internalization

3. A new patient presents at the clinic with the following history: a $CD4^+$ cell count of 400 cells/μL, generalized lymphadenopathy, and a positive HIV test 8 years ago. Based on this information, you would know that the patient is in what phase of the HIV infection?
   a. Latent phase
   b. Overt AIDS phase
   c. Primary infection phase
   d. Conversion phase

4. A 21-year-old woman diagnosed with HIV/AIDS 4 years ago now presents with cytomegalovirus. The nurse explains to the woman that this infection is caused by a common organism that normally does not cause infection in someone with a healthy immune system. This type of infection is called what?
   a. HIV infection
   b. Opportunistic infection
   c. Autoimmune infection
   d. Suppression infection

5. In the United States, the most common opportunistic infection in people with HIV/AIDS infections is respiratory infection. When the $CD4^+$ level drops below 200 cells/μL, it is time to start prophylaxis. What is the drug of choice for prophylaxis?
   a. Trimethobenzamide
   b. Triamterene
   c. Trimethoprim-sulfate
   d. Trimipramine

6. Kaposi sarcoma is an opportunistic malignancy that is found on the skin, in the oral cavity, in the gastrointestinal tract, and in the lungs of immunocompromised people. Many people with skin lesions caused by Kaposi sarcoma also have gastrointestinal involvement. What are the presenting symptoms of Kaposi sarcoma in the gastrointestinal tract? Mark all that apply.
   a. Bleeding
   b. Rectal burning
   c. Pain
   d. Diarrhea
   e. Obstruction

7. While doing patient education at a public health clinic, a nurse teaches about sexually transmitted disease prevention. In the education is a segment on HIV/AIDS. Which of the following statements from a client would indicate that more teaching is needed?
   a. "Latex condoms provide protection from HIV/AIDS."
   b. "There is no cure for HIV/AIDS."
   c. "Natural or lambskin condoms are as protective as latex condoms."
   d. "Adopting risk-free or low-risk behavior is the best protection against HIV/AIDS."

8. A 20-year-old male presents at the clinic complaining of severe fatigue, night sweats, and fever. While taking the client's history, he reports having multiple sexual partners and unprotected sex. HIV/AIDS is suspected. What diagnostic test would be ordered to confirm the diagnosis?
   a. Complete metabolic panel
   b. Western blot assay
   c. ALEA
   d. Eastern blot assay

9. The treatment of HIV/AIDS is complicated because different drugs act on different stages of the replication cycle of the virus. Therefore, treatment includes combinations of two, three, or more drugs. What is this treatment called?
   a. DHHS treatment
   b. Anti-AIDS treatment
   c. HAART treatment
   d. HEELP treatment

10. A client presents at the clinic complaining of unplanned weight loss of up to 10% of her body weight. She states that she has had diarrhea, more than twice a day. She goes on to say the she has fever and weakness that "just won't go away." After a complete history and physical, an enzyme-linked immunoabsorbent assay test is ordered. This order is based on what suspected diagnosis?
   a. Wasting syndrome
   b. AIDS syndrome
   c. Beal syndrome
   d. WAGAR syndrome

11. Psychosocial issues are faced by every patient diagnosed with HIV/AIDS and their families. These issues include which of the following? Mark all that apply.
   a. Condemnation of risk behaviors
   b. Helplessness
   c. Lack of control
   d. Decreased strain on relationships with support persons
   e. Acceptance of lifestyle

12. Perinatal transmission of HIV/AIDS from the mother to the baby have dropped drastically with the advent of new treatment methods and drug therapies. What increases the risk of perinatal transmission of the virus?
   a. Low viral load
   b. High $CD4^+$ counts
   c. Breast-feeding
   d. Mother in primary phase of disease

CHAPTER 21

# Structure and Function of the Cardiovascular System

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Blood volume is dictated by age and body weight. Neonates have a higher blood volume per kilogram than does an adult. What is the blood volume range per kilogram in an adult?
   a. 70 to 75 mL/kg
   b. 85 to 90 mL/kg
   c. 60 to 65 mL/kg
   d. 90 to 100 mL/kg

2. Resistance to flow is determined by the blood vessels and the blood vessel itself. An equation has been developed for understanding the relationship between the diameter of the blood vessel, the viscosity of the blood, and resistance. What is the equation called?
   a. Laplace law
   b. Poiseuille law
   c. Laminar law
   d. Pierre law

3. The distensibility of the blood vessel is the major factor in which of the vessels characteristics?
   a. Wall tension
   b. Compliance
   c. Laminar blood flow
   d. Resistance

4. When intracranial pressure (ICP) equals intraarterial pressure, the central nervous system ischemic response is initiated. This response is directed at raising arterial pressure above ICP, thereby reestablishing blood flow to the vasomotor center of the brain. What is this response called?
   a. Cushing law
   b. Cushing response
   c. Cushing reflex
   d. Cushing syndrome



5. The troponin complex is one of a number of important proteins that regulate actin-myosin binding. Troponin works in striated muscle to help regulate calcium-mediated contraction of the muscle. Which of the troponin complexes are diagnostic of a myocardial infarction?
   a. Troponin C and Troponin T
   b. Troponin A and Troponin I
   c. Troponin T and Troponin I
   d. Troponin A and Troponin C

6. The stroke volume is the amount of blood ejected with every contraction of the ventricle. It is broken down into quarters. What is the approximate amount of the stroke volume per quarter?
   a. 25%, 25%, 25%, and 25%
   b. 50%, 30%, 20%, and little blood
   c. 40%, 40%, 10%, and 10%
   d. 60%, 20%, 20%, and little blood

7. Downstream peripheral pulses have a higher pulse pressure because the pressure wave travels faster than the blood itself. What occurs in peripheral arterial disease?
   a. The pulse decreases rather than increases in amplitude.
   b. The reflected wave is transmitted more rapidly through the aorta.
   c. Downstream peripheral pulses are increased even more than normal.
   d. Downstream peripheral pulses are greater than upstream pulses.

8. Cardiac output (CO) is used to measure the efficiency of the heart as a pump. What is the equation used to express CO?
   a. CO = HR × AV
   b. CO = SV × HR
   c. CO = AV × SV
   d. CO = HR × EF

9. As the needs of the body change, the heart's ability to increase output necessarily needs to change. This ability in the heart depends on what factors? Mark all that apply.
   a. Cardiac reserve
   b. Cardiac contractility
   c. Heart rate
   d. Preload
   e. Afterload

10. Nitroglycerin is the drug of choice in treating angina. What does nitroglycerin release into the vascular smooth muscle of the target tissues?
    a. Antithrombin factor
    b. Platelet aggregating factor
    c. Calcium channel blocker
    d. Nitric oxide

11. Colloidal osmotic pressure acts differently than the osmotic effects of the plasma proteins. What is its action?
    a. Pulls fluid back into the capillary
    b. Pushes fluid into the extracellular spaces
    c. Controls the direction of the fluid flow in the large arteries
    d. Pulls fluid into the interstitial spaces

12. The lymph system correlates with the vascular system without actually being part of the vascular system. Among other things, the lymph system is the main route for the absorption of fats from the gastrointestinal system. The lymph system empties into the right and left thoracic ducts, which are the points of juncture with the vascular system. What are these points of juncture?
    a. Bifurcation of the common carotid arteries
    b. Internal and external jugular veins
    c. Junctions of the subclavian and internal jugular veins
    d. Junctions of the subclavian and pulmonary veins

13. The heart and blood vessels receive both sympathetic and parasympathetic innervation from neural control. What controls the parasympathetic-mediated slowing of the heart rate?
    a. Vasomotor center
    b. Cardioinhibitory center
    c. Medullary center
    d. Innervation center

CHAPTER 22

# Disorders of Blood Flow in the Systemic Circulation

2. Where in the body is lipoprotein is synthesized? Mark all that apply.
   a. Small intestine
   b. Large intestine
   c. Pancreas
   d. Liver

3. A 35-year-old man presents to the emergency department complaining of chest pain for the past 2 hours. He describes the pain as crushing, like a huge weight is on his chest. He also states that the pain goes up into his neck and down his left arm. An acute myocardial infarction (MI) is diagnosed. When taking his history, the following things are noted:
   - Hyperlipoproteinemia for past 7 years
   - Family history of early MI
   - Cholesterol deposits along the tendons (diagnosed 1 year ago)
   - Atherosclerosis (diagnosed 6 months ago)
   - Diabetes mellitus (type 1) (diagnosed at age 16 years)

   The nurse suspects which of the following diagnosis will be made?
   a. Familial hypercholesterolemia (type 2A)
   b. Homozygotic cutaneous xanthoma
   c. Adult onset hypercholesterolemia (type 1A)
   d. Secondary hyperlipoproteinemia

4. Atherosclerosis begins in an insidious manner with symptoms becoming apparent as long as 20 to 40 years after the onset of the disease. Although an exact etiology of the disease has not been identified, epidemiologic studies have shown that there are predisposing risk factors to this disease. What is the major risk factor for developing atherosclerosis?
   a. Male sex
   b. Hypercholesterolemia
   c. Familial history of premature coronary heart disease
   d. Increasing age

5. A group of vascular disorders called vasculitides cause inflammatory injury and necrosis of the blood vessel wall (i.e., vasculitis). These disorders are common pathways for tissue and organ involvement in many different disease conditions. What is the most common of the vasculitides?
   a. Polyarteritis nodosa
   b. Raynaud disease
   c. Temporal arteritis
   d. Varicose veins

6. A 69-year-old man is admitted to the floor following a popliteal embolectomy. He asks the nurse why he had to have surgery on his leg. What is the best response by the nurse?
   a. "The doctor wanted to look into your artery to make sure everything was okay."
   b. "Didn't the doctor explain everything to you before your surgery?"
   c. "The artery that runs behind your knee was blocked by a blood clot, and the doctor removed it."
   d. "Your upper leg wasn't getting enough blood, so the doctor had to fix it."

7. A 45-year-old woman with a diagnosis of multiple sclerosis comes to the clinic complaining of coldness and pain in her fingers. She says that her fingers turn blue and then red, and they throb and tingle. The nurse would expect what diagnosis and treatment for this patient? Mark all that apply.
   a. Raynaud disease; protecting the digits from cold
   b. Arterial thrombosis; streptokinase
   c. Peripheral artery disease; aspirin
   d. Raynaud phenomenon; stop smoking

8. Aortic aneurysms take varied forms and can occur anywhere along the aorta. What are the types of aneurysm termed abdominal aortic aneurysms? Mark all that apply.
   a. Berry aneurysms
   b. Dissecting aneurysms
   c. Saccular aneurysms
   d. Fusiform aneurysms
   e. Bifurcating aneurysms

9. A 56-year-old woman presents at the clinic complaining of the unsightliness of her varicose veins and wants to know what can be done about them. The nurse explains that the treatment for varicose veins includes which of the following interventions?
   a. Surgical or fibrotherapy
   b. Sclerotherapy or surgery
   c. Trendelenburg therapy or sclerotherapy
   d. Surgery or Trendelenburg therapy

10. Venous thrombosis most commonly occurs in the lower extremities. Risk factors for venous thrombosis include which of the following?
   a. Stasis of blood, hypercoagulability, inflammation
   b. Hypocoagulability, vessel wall injury, increased pressure on deep veins
   c. Vessel wall injury, hypocoagulability, decreased venous blood flow
   d. Stasis of blood, hypercoagulability, vessel wall injury

CHAPTER 23

# Disorders of Blood Pressure Regulation

are the elderly predisposed to hyperten-
?

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. For people who suffer from hypertension and other diseases that affect blood pressure, important information about the status of their disease is gathered from measurements including systolic and diastolic pressures, pulse pressure, and mean arterial pressure.

What is the mean arterial pressure estimated to be when the blood pressure is 130/85 mm Hg?

a. 90
b. 95
c. 100
d. 105

2. Although the etiology of essential hypertension is mainly unknown, several risk factors have been identified. These risk factors fall under the categories of constitutional risk factors and lifestyle factors. What are the primary risk factors for essential hypertension? Mark all that apply.

a. Race and excessive sodium chloride intake
b. Type 2 diabetes and obesity
c. Age and high intake of potassium
d. Race and smoking
e. Family history and excessive alcohol consumption

3. A 37-year-old woman is admitted to your unit with a differential diagnosis of rule out pheochromocytoma. What are the most common symptoms you would expect this patient to exhibit?

a. Nervousness and periodic severe headache
b. Variability in blood pressure and weight loss
c. Excessive sweating and pallor
d. Periodic severe headache and marked variability in blood pressure

4. The extended, severe exposure of the walls of the blood vessels to the exaggerated pressures that occur in malignant hypertension cause injuries to the walls of the arterioles. Blood vessels in the renal system are particularly vulnerable to this type of damage. Because hypertension is a chronic disease, and it is associated with autoregulatory changes in the blood flow to major organs, what would be the initial treatment goal for malignant hypertension?

a. Partial reduction in blood pressure to less critical values
b. Reduction to normotensive levels of blood pressure
c. Rapid decrease in blood pressure to less critical levels
d. Slow, gradual decrease in blood pressure to normotensive blood pressures

5. A client with malignant hypertension is at risk for a hypertensive crisis, including the cerebral vascular system often causing cerebral edema. As the nurse caring for this patient, what are the signs and symptoms you would assess for?

a. Papilledema and lethargy
b. Headache and confusion
c. Restlessness and nervousness
d. Stupor and hyperreflexia

6. Pregnancy-induced hypertension is a serious condition affecting between 5% and 10% of pregnant women. The most serious classification of hypertension in pregnancy is preeclampsia-eclampsia. It is a pregnancy-specific syndrome that can have both maternal and fetal manifestations. What is a life-threatening manifestation of the preeclampsia-eclampsia classification of pregnancy-induced hypertension?

a. Hepatocellular necrosis
b. Thrombocytopenia
c. HELLP syndrome
d. Decreased renal filtration rate

7. In infants and children, secondary hypertension is the most common form of hypertension. What is the most common cause of hypertension in an infant?

a. Cerebral vascular bleed
b. Coarctation of the aorta
c. Pheochromocytoma
d. Renal artery thrombosis

8. Hypertension in the elderly is a common finding. This is due to the age-related rise in systolic blood pressure. Among the aging processes, what is a contributor to hypertension?

a. Baroreceptor sensitivity
b. Aortic softening
c. Decreased peripheral vascular resistance
d. Increased renal blood flow

9. A 75-year-old male presents at the clinic for a routine physical check-up. He is found to be hypertensive. While taking his blood pressure in the sitting, standing, and lying positions, the nurse notes that the brachial artery is pulseless at a high cuff pressure, but she can still feel it. What condition would the nurse suspect?
   a. Essential hypertension
   b. Pseudohypertension
   c. Orthostatic hypertension
   d. Secondary hypertension

10. The rennin-angiotensin-aldosterone system is a negative feedback system that plays a central role in blood pressure regulation. How does the end result of this feedback loop regulate blood pressure in the body?
   a. Vasodilates blood vessels to decrease blood pressure
   b. Vasoconstricts blood vessels to increase blood pressure
   c. Increases salt and water retention by the kidney
   d. Decreases salt and water retention by the kidney

CHAPTER 24

# Disorders of Cardiac Function

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. Nearly everyone with pericarditis has chest pain. With acute pericarditis, the pain is abrupt in onset and sharp, and radiates to the neck, back, abdomen, or sides. What can be done to ease the pain of acute pericarditis?
   a. Have patient sit up and lean forward
   b. Have patient change positions to unaffected side
   c. Have patient breath deeply
   d. Have patient swallow slowly and frequently

2. Cardiac tamponade is a serious life-threatening condition that can arise from a number of other conditions. What is a key diagnostic finding in cardiac tamponade?
   a. Increase in stroke volume
   b. Pulsus paradoxus
   c. Narrowed pulse pressure
   d. Rise in systolic blood pressure

3. The scar tissue that occurs between the layers of the pericardium becomes rigid and constrictive from scar tissue in constrictive pericarditis. What is a physiologic sign of constrictive pericarditis?
   a. Kussmaul breathing
   b. Pulsus paradoxus
   c. Kussmaul sign
   d. Widening pulse pressure

4. Unstable plaque, a condition of atherosclerotic heart disease, occurs in unstable angina and myocardial infarction. Unstable plaque can rupture, causing platelet aggregation and thrombus formation. What are the major determinants of the vulnerability of plaque to rupture? Mark all that apply.
   a. Size of lipid-rich core
   b. Preponderance of smooth muscle cells
   c. Presence of inflammation
   d. Decrease in blood pressure and coronary blood flow
   e. Thickness of fibrous cap

5. A patient with a suspected myocardial infarction (MI) is brought to the emergency department by ambulance. As the nurse caring for this patient, what lab work would you expect to receive an order for to confirm a diagnosis of MI?
   a. Creatine kinase marker
   b. Complete blood components
   c. Calcium level
   d. Troponin level

6. Unstable angina/non-ST-segment elevation myocardial infarction is a clinical syndrome that ranges in severity between stable angina to myocardial infarction (MI). It is classified according to its risk of causing an acute MI and is diagnosed based on what? Mark all that apply.
   a. Severity of pain and abruptness of onset
   b. Serum biomarkers
   c. Coexisting chronic conditions
   d. ECG pattern
   e. Blood flow angiography

7. When an acute myocardial infarction (MI) occurs, many physiologic changes occur very rapidly. What causes the loss of contractile function of the heart within seconds of the onset of an MI?
   a. Conversion from aerobic to anaerobic metabolism
   b. Overproduction of energy capable of sustaining normal myocardial function
   c. Conversion from anaerobic to aerobic metabolism
   d. Inadequate production of glycogen with mitochondrial shrinkage

8. ST-elevated myocardial infarction (STEMI) is accompanied by severe, crushing pain. Morphine is the drug of choice used to treat the pain of STEMI when the pain cannot be relieved with oxygen and nitrates. Why is morphine considered the drug of choice in STEMI?
   a. Action increases autonomic nervous system activity
   b. Action decreases metabolic demands of the heart
   c. Action increases anxiety, thus increasing metabolic demands of heart
   d. Action relieves pain and gives sense of depression

9. During an acute myocardial infarction (MI), there is ischemic damage to the heart muscle. The location and extent of the ischemic damage is the major predictor of complications, ranging from cardiac insufficiency to death, following an MI. What is the "window of opportunity" in restoring blood flow to the affected area so as to diminish the ischemic damage to the heart and maintain the viability of the cells?
   a. 10 to 20 minutes
   b. 30 to 40 minutes
   c. 20 to 40 minutes
   d. 10 to 30 minutes

10. Angina pectoris is a chronic ischemic coronary artery disease that is characterized by a symptomatic paroxysmal chest pain or pressure sensation associated with transient myocardial ischemia. What precipitates an attack of angina pectoris?
    a. Exposure to heat
    b. Sedentary lifestyle
    c. Abrupt change in position
    d. Emotional stress

11. The diagnosis of chronic stable angina is based on a detailed pain history, the presence of risk factors, invasive and noninvasive studies, and laboratory studies. What test is not used in the diagnosis of angina?
    a. Serum biochemical markers
    b. Cardiac catheterization
    c. Echocardiogram
    d. Nuclear imaging studies

12. Cardiomyopathies are classified as either primary or secondary. The primary cardiomyopathies are further classified as genetic, mixed, or acquired. Identify the following conditions as *genetic, acquired,* or *mixed.*
    Hypertrophic cardiomyopathy
    Left ventricular noncompaction
    Myocarditis
    Dilated cardiomyopathy
    Peripartum cardiomyopathy

13. It is known that more than 100 distinct myocardial diseases can demonstrate clinical features associated with dilated cardiomyopathy (DCM). What is the most common identifiable cause of DCM in the United States?
    a. Hepatic cardiomyopathy
    b. Alcoholic cardiomyopathy
    c. Cardiotoxic cardiomyopathy
    d. Exercise-induced cardiomyopathy

14. In infective endocarditis, vegetative lesions grow on the valves of the heart. These vegetative lesions consist of a collection of infectious organisms and cellular debris enmeshed in the fibrin strands of clotted blood. What are the possible systemic effects of these vegetative lesions?
    a. They can block the heart valves from closing completely.
    b. They can keep the heart valves from opening.
    c. They can fragment and cause cerebral emboli.
    d. They can fragment and make the lesions larger.

15. Antibodies directed against the M protein of certain strains of streptococcal bacteria seem to cross-react with glycoprotein antigens in the heart, joint, and other tissues to produce an autoimmune response resulting in rheumatic fever and rheumatic heart disease. This occurs through what phenomenon?
    a. Aschoff reaction
    b. Sydenham reaction
    c. C-reactive mimicry
    d. Molecular mimicry

16. Mitral valve prolapse occurs frequently in the population at large. Its treatment is aimed at relieving symptoms and preventing complications of the disorder. Which drug is used in the treatment of mitral valve prolapse to relieve symptoms and aid in preventing complications?
    a. β-adrenergic blocking drugs
    b. Calcium channel blocking drugs
    c. Antianxiety drugs
    d. Broad-spectrum antibiotic drugs

17. Heart failure in an infant usually manifests itself as tachypnea or dyspnea, both at rest and on exertion. When does this most commonly occur with an infant?
    a. During bathing
    b. During feeding
    c. During burping
    d. During sleep

18. Tetralogy of Fallot is a congenital condition of the heart that manifests in four distinct anomalies of the infant heart. It is considered a cyanotic heart defect due to the right-to-left shunting of the blood through the ventricular septal defect. A hallmark of this condition is the "tet spells" that occur in these children. What is a tet spell?
    a. A stressful period right after birth that occurs without evidence of cyanosis
    b. A hyperoxygenated period when the infant is at rest
    c. A hypercyanotic attack brought on by periods of stress
    d. A hyperpneic attack in which the infant loses consciousness

CHAPTER 25

# Disorders of Cardiac Conduction and Rhythm

## SECTION III: APPLYING YOUR KNOWLEDGE

**Activity F** *Consider the following scenario and answer the questions.*

A 75-year-old woman is brought to the emergency department by ambulance. She has a 6-month history of atrial fibrillation. She is complaining of palpitations and extreme fatigue. The paramedic reports that she has a wet sounding, nonproductive cough. Her respiratory rate is 35 breaths/minute; her heart rate is variable with a ventricular rate ranging from 80 to 160 beats/minute. Her ECG confirms atrial fibrillation.

1. What medications would the nurse expect this patient to be taking?

_____

_____

_____

2. What treatment is used to convert atrial fibrillation to sinus rhythm, and what are the complications of this treatment?

_____

_____

_____

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. ECG monitoring has been found to be more sensitive than a patient's report of symptoms when identifying transient ongoing myocardial ischemia. Why is this?
   a. Most ECG-detected ischemic events are clinically silent.
   b. The ECG can look at ischemic events from different directions.
   c. ECG monitoring is reliable only when the patient remains still.
   d. Most ECG-detected ischemic events cause a great deal of pain.

2. Respiratory sinus arrhythmi… more optimal rhythm than a … where all RR intervals are equal. In respiratory sinus arrhythmia, what is the variation in cardiac cycles related to?
   a. Intraabdominal pressure changes that occur with respiration
   b. Intrathoracic pressure changes that occur with respiration
   c. Intraabdominal pressure changes due to vagal nerve stimulus
   d. Intrathoracic pressure changes due to inadequate oxygenation

3. In children, what is sick sinus syndrome most commonly associated with?
   a. Congenital heart defects prior to corrective cardiac surgery
   b. Destruction of the sinoatrial node
   c. Congenital heart defects following corrective cardiac surgery
   d. Destruction of the atrioventricular node

4. Atrial fibrillation is the most common chronic arrhythmia whose incidence increases with age. Atrial fibrillation may present as asymptomatic to severe symptomatology. What is the treatment of atrial fibrillation dependent on? Mark all that apply.
   a. Recency of onset
   b. Etiology
   c. Persistence of arrhythmia
   d. Size of pulse deficit
   e. Atrial rate

5. Torsade de pointes is a specific type of polymorphic ventricular tachycardia in which the polarity of the QRS complex swings between positive and negative, often on a beat-to-beat basis. It is the result of the long QT syndrome and can cause sudden cardiac death. Which medication is not linked to torsade de pointes as a causative agent?
   a. Verapamil
   b. Procainamide
   c. Digitalis
   d. Tetracycline

6. In second-degree atrioventricular block, there is a relationship between the P waves and the QRS complex resulting in recurring PR intervals. What does this mean?
   a. The association of P waves and QRS complexes is not random.
   b. The relationship between the P waves and the QRS complexes is a widening PR interval.
   c. The association of P waves and QRS complexes is random.
   d. The relationship between the P waves and the QRS complexes is a narrowing PR interval.

7. Brugada syndrome, an autosomal dominant disorder, manifests in adulthood as ST segment elevation, right bundle branch block, and susceptibility to ventricular tachycardia. In Brugada syndrome, the timing of cardiac events is significant. When do these cardiac events typically occur?
   a. During exercise
   b. When first arising in the morning
   c. Just before bedtime at night
   d. During sleep or rest

8. A Holter monitor is a small ECG recording device used for long-term monitoring of cardiac activity, usually for up to 48 hours. These devices are used in correlation with event markers (on the device itself) and activity logs, or diaries of the person's activities. What cardiac problems is a Holter monitor useful in documenting? Mark all that apply.
   a. Conduction abnormalities
   b. Acquired cardiac deficiencies
   c. Congenital cardiac problems
   d. ST segment changes
   e. PR interval changes

9. An exercise stress test challenges the heart to respond to the increased demands of exercise in a controlled and monitored environment. Not only do exercise stress tests show changes in heart rate, blood pressure, and perceived level of exercise, but they have also been found useful in determining what?
   a. ECG ischemic-type ST segment changes
   b. ECG ischemic-type QRS changes
   c. ECG documented conduction abnormalities
   d. ECG documented hemodynamic hyperreactions

10. Antiarrhythmic drugs are classified into four major groups. The drugs in one may act similarly on cardiac conduction their hemodynamic action may vary significantly. Match the name of the drug to its classification and use in the following chart:

    *Uses:* supraventricular arrhythmias and tachyarrhythmias; slowing the sinoatrial node pacemaker and inhibiting conduction in the atrioventricular node; supraventricular and ventricular arrhythmias; treating ventricular arrhythmias only; treatment of serious ventricular arrhythmias

    *Classifications:* Class IA, Class IB, Class II, Class III, Class IV

| Drug | Use | Class |
|---|---|---|
| Procainamide | | |
| Atenolol | | |
| Amiodarone | | |
| Diltiazem | | |
| Lidocaine | | |

11. When a patient has a recurrent, life-threatening arrhythmia originating either supraventricularly or ventricularly, ablation therapy is an option for treatment. What does ablation therapy do?
    a. Removes hyperexcitable cardiac tissue through open heart surgery
    b. Isolates and destroys arrhythmogenic cardiac tissue
    c. Identifies and excises ischemic cardiac tissue
    d. Uses a catheter technique to reestablish conductivity to mild infarcts

CHAPTER 26

# Heart Failure and Circulatory Shock

e. Increased extraction of $O_2$ from hemoglobin

5. In hypovolemic shock, the main purpose of treatment is correcting or controlling the underlying cause of the hypovolemia and improving the perfusion of the tissues and organs of the body. Which of the following treatments is *not* a primary form of therapy for hypovolemic shock?

   a. Surgery

   b. Administration of IV fluids and blood

   c. Vasoconstrictive drugs

   d. Infusion of blood and blood products

ns & Wilkins. *Study Guide for Pathophysiology: Concepts of Altered Health States*, 8e.

6. Neurogenic shock, or spinal shock, is a phenomenon caused by the inability of the vasomotor center in the brain stem to control blood vessel tone through the sympathetic outflow to the blood vessels. In neurogenic shock, what happens to the heart rate and the skin?
   a. Heart rate slower than normal; skin warm and dry
   b. Heart rate faster than normal; skin cool and moist
   c. Heart rate slower than normal; skin cool and moist
   d. Heart rate slower than normal; skin warm and dry

7. Anaphylactic shock is the most severe form of systemic allergic reaction. Immunologically medicated substances are released into the blood, causing vasodilation and an increase in capillary permeability. What physiologic response often accompanies the vascular response in anaphylaxis?
   a. Uterine smooth muscle relaxation
   b. Laryngeal edema
   c. Bronchodilation
   d. Gastrointestinal relaxation

8. Sepsis is a growing incidence in the United States. Its pathogenesis includes neutrophil activation that kills microorganisms. Neutrophils also injure the endothelium, releasing mediators that increase vascular permeability. What else do neutrophils do in sepsis?
   a. Release nitric oxide
   b. Vasoconstrict the capillary bed
   c. Cause bradycardia
   d. Activate erythropoiesis

9. What is the primary physiologic result of obstructive shock?
   a. Left ventricular hypertrophy
   b. Elevated right heart pressure
   c. Right atrial hypertrophy
   d. Decreased right heart pressure

10. An important factor in the mortality of severe shock is acute renal failure. What is the degree of renal damage related to in shock?
    a. Loss of perfusion and duration of shock
    b. Loss of perfusion and degree of immune-mediated response
    c. Severity and duration of shock
    d. Severity of shock and degree of immune-mediated response

11. The pathogenesis of multiorgan dysfunction syndrome (MODS) is not clearly understood at this time. Supportive management is currently the focus of treatment in this disorder. What is not a major risk factor in MODS?
    a. Advanced age
    b. Alcohol abuse
    c. Respiratory dysfunction
    d. Infarcted bowel

12. What is the primary cause of heart failure in infants and children?
    a. Idiopathic heart disease
    b. Structural heart defects
    c. Hyperkalemia
    d. Reaction to medications

CHAPTER 27

# Structure and Function of the Respiratory System

functions. What are the functions of the lungs? Mark all that apply.

a. To produce heparin
b. To activate vasoactive substances
c. To convert angiotensin I to angiotensin II
d. To activate bradykinin
e. To convert glucose to glycogen

2. Bronchial blood vessels have several functions. They warm and humidify incoming air as well as distribute blood to the conducting airways and the supporting structures of the lung. What is it that makes bronchial blood vessels unique in the body?

a. They can undergo angiogenesis.
b. They drain blood into the bronchiole arteries.
c. They participate in gas exchange.
d. They carry oxygenated blood to the lung tissues.

3. Match the respiratory pressures with their definitions.

| Pressure | Definition |
|---|---|
| ___ 1. Alveolar pressure | a. Pressure in the thoracic cavity |
| ___ 2. Intrapleural pressure | b. Pressure inside the airways and alveoli of the lungs |
| ___ 3. Transpulmonary pressure | c. Difference between the intra-alveoli and intrapleural pressures |
| ___ 4. Intrathoracic pressure | d. Pressure in the pleural cavity |

4. What does the equation $C = \Delta V/\Delta P$ stand for?

a. Surface tension inside the lungs
b. Lung compliance
c. Airway resistance
d. Change in peak expiratory flow

5. An 82-year-old man with chronic obstructive pulmonary disease is at the clinic for a regular check-up. Because of his diagnosis, the nurse would expect his respiratory rate under normal circumstances to be what?

a. Tachypneic
b. ≥18–20 beats/minute
c. ≤18–20 beats/minute
d. Hyperpneic

6. Our ability to oxygenate the tissues and organs of our bodies depends on our ability to ventilate, or exchange gases in our respiratory system. The resultant distribution of ventilation of the areas of the body open to the exchange of gases in our respiratory system depends on what?

a. Effects of gravity intrathoracic pressure
b. Body position and alveolar pressure
c. Effects of gravity and body position
d. Intrathoracic pressure and alveolar pressure

7. Alveolar oxygen levels directly impact the blood vessels in the pulmonary circulation. In a person with lung disease, there is vasoconstriction throughout the lung, causing a generalized hypoxia. What can prolonged hypoxia lead to?

a. Hypertension and increased workload on the left heart
b. Pulmonary hypertension and left ventricular hypertrophy
c. Hypertension and increased workload on the right heart
d. Pulmonary hypertension and increased workload on the right heart

8. When there is a mismatch of ventilation and perfusion within the lung itself, insufficient ventilation occurs. There is a lack of enough oxygen to adequately oxygenate the blood flowing through the alveolar capillaries, thus creating a physiologic shunt. What causes a physiologic right-to-left shunting of blood in the respiratory system?

a. Destructive lung disease or heart failure
b. Obstructive lung disease or heart failure
c. Heart failure or pulmonary hypertension
d. Heart failure or regional hypoxia

9. Blood transports both oxygen and carbon dioxide in a physically dissolved form to the tissues and organs of the body. It is the measurements of the components of the gases in the blood that are used as indicators of the body's status by health care workers. Why is it commonly the blood in the arteries that is measured for its components rather than the blood in the veins?

a. Arterial blood most adequately measures the metabolic demands of the tissues along with the gas exchange function of the lungs.

b. Venous blood measures the metabolic demands of the tissues rather than the gas exchange function of the lungs.

c. Arterial blood only measures the gas exchange function of the lung after it has met the metabolic demands of the tissues.

d. Venous blood only measures the hypoxic reflex of the body, not the gas exchange function of the lungs.

10. Respiration has both automatic and voluntary components that are sent to the respiratory center of the brain from a number of sources. What physiologic forces can exert their influence on respiration through the lower brain centers? Mark all that apply.

a. Fever

b. Cold

c. Pain

d. Endorphins

e. Emotion

11. There are several actions the body makes to initiate a cough. Put these actions into the correct order.

a. Elevation of intrathoracic pressures

b. Rapid opening of glottis

c. Closure of glottis

d. Rapid inspiration of large volume of air

e. Forceful contraction of abdominal and expiratory muscles

12. Dyspnea is defined as an uncomfortable sensation or difficulty in breathing that is subjectively defined by the client. Which of the following disease states is *not* characterized by dyspnea?

a. Pneumonia

b. Emphysema

c. Myasthenia gravis

d. Multiple sclerosis

CHAPTER 28

# Respiratory Tract Infections, Neoplasms, and Childhood Disorders

2. Mr. Jones wants to know how his cancer will be treated. The nurse knows that treatments are available. Which treatments are used for squamous cell cancer (non–small cell lung cancer) of the lung?

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. A 23-year-old woman goes to the drugstore to buy a medication to ease the symptoms of her cold. Her friends have told her to buy a medication with an antihistamine in it to help dry up her runny nose and make it easier to breath. The woman talks with the pharmacist, who has known her for many years. The pharmacist recommends that she does not buy a cold medication with a decongestant in it. Why would he do that?
   a. Client has history of hypothyroidism
   b. Client has history of hypotension
   c. Client has history of type 1 diabetes mellitus
   d. Client has history of juvenile rheumatoid arthritis

2. The early stages of influenza pass by as if the infection were any other viral infection. What is the distinguishing feature of an influenza viral infection that makes it different from other viral infections?
   a. Slow onset of upper respiratory symptoms
   b. Rapid onset of profound malaise
   c. Slow onset of fever and chills
   d. Rapid onset of productive cough

3. Influenza A subtype H5N1 has been documented in poultry in both East and Southeast Asian countries. This form of avian flu (bird flu) is highly contagious from bird to bird, but is rarely passed from human to human. There is a large amount of concern that the H5N1 strain might mutate, making it easier to be passed from human to human, carrying with it a high mortality rate. What is the main concern if the H5N1 strain does mutate?
   a. Epidemic in Southeast Asia
   b. Inability to develop a vaccine for the newly infected poultry
   c. Initiation of a pandemic
   d. Several small pockets of infection so widespread that they will be hard to control

4. Community-acquired pneumonia can be categorized according to several indexes. What are these indexes? Mark all that apply.
   a. Radiologic findings
   b. Serologic findings
   c. Age
   d. Presence of coexisting disease
   e. Need for hospitalization in long-term care facility

5. An immunocompromised host is open to pneumonia from all types of organisms. There is, however, a correlation between specific types of immunologic deficits and specific invading organisms. What organism is most likely to cause pneumonia in an immunocompromised host with neutropenia and impaired granulocyte function?
   a. β-Hemolytic *Streptococcus* gram-positive bacilli
   b. Eosinophilic *Bacillus subtilis*
   c. *Haemophilus* influenza
   d. *Staphylococcus aureus*

6. Elderly people are susceptible to pneumonia in all its varieties. The symptoms the elderly exhibit can be different than those of other age groups who have pneumonia. What signs and symptoms are elderly people with pneumonia less likely to experience than people with pneumonia in other age groups?
   a. Marked elevation in temperature
   b. Loss of appetite
   c. Deterioration in mental status
   d. Pleuritic pain

7. Tuberculosis is a highly destructive disease because the tubercle bacillus activates a tissue hypersensitivity to the tubercular antigens. What does the destructive nature of tuberculosis cause in a previously unexposed immunocompetent person?
   a. Cavitation and rapidly progressing pulmonary lesions
   b. Caseating necrosis and cavitation

c. Rapidly progressing lesions and purulent necrosis

d. Caseating necrosis and purulent pulmonary lesions

8. Coccidioidomycosis is a pulmonary fungal infection resembling tuberculosis. Less severe forms of the infection are treated with oral antifungal medications. For persons with progressive disease, what is the drug of choice?

a. IV fluconazole

b. IV bacillus Calmette-Guérin

c. IV amphotericin B

d. IV rifampin

9. Non-small cell lung cancers mimic small cell lung cancers through their abilities to do what?

a. Synthesize bioactive products and produce panneoplastic syndromes

b. Neutralize bioactive products that produce paraneoplastic syndromes

c. Produce paraneoplastic syndromes and synthesize adrenocorticotropic hormone

d. Synthesize bioactive products and produce paraneoplastic syndromes

10. Premature infants who are treated with mechanical ventilation, mostly for respiratory distress syndrome, are at risk for developing bronchopulmonary dysplasia (BPD), a chronic lung disease. What are the signs and symptoms of BPD?

a. Rapid, shallow breathing and chest retractions

b. Weight loss and barrel chest

c. Tachycardia and slow, shallow breathing

d. Barrel chest and rapid weight gain

11. For each of the following conditions, identify where it occurs in the respiratory tract of children (upper airway or lower airway.)

Epiglottitis

Acute bronchiolitis

Asthma

Spasmodic croup

Laryngotracheobronchitis

12. What is the underlying cause of respiratory failure in a child with bronchiolitis?

a. Obstructive process

b. Impaired gas exchange

c. Hypoxemia and hypercapnia

d. Metabolic acidosis

CHAPTER 29

# Disorders of Ventilation and Gas Exchange

2. When $CO_2$ levels in the blood rise, a state of hypercapnia occurs in the body. What factors contribute to hypercapnia? Mark all that apply.
   a. Alteration in $CO_2$ production
   b. Abnormalities in respiratory function
   c. Disturbance in gas exchange function
   d. Decrease in $CO_2$ production
   e. Changes in neural control of respiration

3. The complications of a hemothorax can affect the total body. Left untreated, what can a moderate or large hemothorax cause?
   a. Calcification of the lung tissue
   b. Fibrothorax
   c. Pleuritis
   d. Atelectasis

4. Talc lung can occur from injected or inhaled talc powder that has been mixed with heroin, methamphetamine, or codeine as filler. What are people with talc lung very susceptible to?
   a. Hemothorax
   b. Chylothorax
   c. Fibrothorax
   d. Pneumothorax

5. Pleuritis, an inflammatory process of the pleura, is common in infectious processes that spread to the pleura. Which are the drugs that may be used for treating pleural pain? Mark all that apply.
   a. Indomethacin
   b. Aspirin
   c. Acetaminophen
   d. Inderal

6. Atelectasis is the term used to designate an incomplete expansion of a portion of the lung. Depending on the size of the collapsed area and the type of atelectasis occurring, you may see a shift of the mediastinum and trachea. Which way does the mediastinum and trachea shift in compression atelectasis?
   a. Toward the affected lung
   b. Toward the mediastinum
   c. Away from the affected lung
   d. Away from the trachea

7. Like adults, infants and small children have asthma and need to be medicated. There are special systems manufactured for the delivery of inhaled medications to children. At what age is it recommended that children begin using a metered-dose inhaler with a spacer?
   a. 3–5 years
   b. 4–6 years
   c. 2–4 years
   d. 5–7 years

8. Chronic obstructive pulmonary disease (COPD) is a combination of disease processes. What disease processes have been identified as being part of COPD?
   a. Emphysema and asthma
   b. Chronic obstructive bronchitis and emphysema
   c. Chronic obstructive bronchitis and asthma
   d. Chronic bronchitis and emphysema

9. Bronchiectasis is considered a secondary chronic obstructive pulmonary disease and, with the advent of antibiotics, it is not a common disease entity. In the past, bronchiectasis often followed specific diseases. Which disease did it not follow?
   a. Necrotizing bacterial pneumonia
   b. Complicated measles
   c. Chickenpox
   d. Influenza

10. Cystic fibrosis (CF) is an autosomal recessive disorder involving the secretion of fluids in specific exocrine glands. The genetic defect in CF inclines a person to chronic respiratory infections from a small group of organisms. Which organisms create chronic infection in a child with cystic fibrosis?
    a. *Pseudomonas aeruginosa* and *Escherichia coli*
    b. *Staphylococcus aureus* and hepatitis C
    c. *Haemophilus influenzae* and influenza A
    d. *Pseudomonas aeruginosa* and *Staphylococcus aureus*

11. What etiologic determinants are important in the development of the pneumoconioses? Mark all that apply.
    a. Chemical nature of the dust particle
    b. Size of dust particle
    c. Density of dust particle
    d. Biologic nature of the dust particle
    e. Ability of particle to incite lung destruction

12. There are cytotoxic drugs used in the treatment of cancer that cause pulmonary damage because of their direct toxicity and because they stimulate an influx of inflammatory cells into the alveoli. Which cardiac drug is known for its toxic effect in the lungs?
    a. Amiodarone
    b. Inderal
    c. Methotrexate
    d. Busulfan

13. A pulmonary embolism occurs when there is an obstruction in the pulmonary artery blood flow. Classic signs and symptoms of a pulmonary embolism include dyspnea, chest pain, and increased respiratory rate. What is a classic sign of pulmonary infarction?
    a. Mediastinal shift to the left
    b. Pleuritic pain
    c. Tracheal shift to the right
    d. Pericardial pain

14. Pulmonary hypertension is usually caused by long-term exposure to hypoxemia. When pulmonary vessels are exposed to hypoxemia, what is their response?
    a. Pulmonary vessels dilate
    b. Pulmonary vessels constrict
    c. Pulmonary vessels spasm
    d. Pulmonary vessels infarct

15. The management of cor pulmonale is directed at the underlying lung disease and heart failure. Why is low-flow oxygen therapy part of the management of cor pulmonale?
    a. It stimulates the body to breathe on its own.
    b. It inhibits the respiratory center of the brain from initiating tachypnea.
    c. It reduces pulmonary hypertension and polycythemia associated with chronic lung disease.
    d. It reduces pulmonary hypertension and formation of pulmonary embolism.

16. Acute lung injury and acute respiratory distress syndrome (ARDS) are distinguishable from each other by the extent of hypoxemia involved. What is the clinical presentation of ARDS? Mark all that apply.
    a. Diffuse bilateral infiltrates of lung tissue without cardiac dysfunction
    b. Rapid onset
    c. Signs of respiratory distress
    d. Increase in respiratory rate
    e. Hypoxemia refractory to treatment

17. Acute respiratory failure is commonly signaled by varying degrees of hypoxemia and hypercapnia. Respiratory acidosis develops manifested by.what?
    a. Decrease in cerebral blood flow
    b. Arterial vasoconstriction
    c. Increase in cardiac contractility
    d. Increase in cerebral spinal fluid pressure

CHAPTER 30

# Structure and Function of the Kidney

1. What tests would the nurse expect to be ordered to either confirm or deny the diagnosis?

2. The girl says, "My father just had a kidney stone removed. Is that what I have?" What noninvasive test should the nurse order to rule out a kidney stone?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Many substances are filtered out of the blood and then reabsorbed into the blood in the kidneys. What is the plasma level at which a specific substance can be found in the urine?
   a. Renal threshold
   b. Renal clearance
   c. Renal filtration rate
   d. Renal transport level

2. You are admitting a 45-year-old female with a presumptive diagnosis of diabetes mellitus to the floor. While taking her history, she mentions that she has been eating a lot of sweets lately. How would you expect this diet to affect her renal system?
   a. Decrease tubular reabsorption
   b. Increase renal blood flow
   c. Decrease renal blood flow
   d. Increase sodium excretion

3. The renal clearance of a substance is measured independently. What are the factors that determine renal clearance of a substance? Mark all that apply.
   a. Ability of the substance to be filtered in the glomeruli
   b. Capacity of the renal tubules to reabsorb or secrete the substance
   c. Normal electrolyte and pH composition of the blood
   d. Rate of renal blood flow
   e. Rate at which sodium is excreted from the body

4. It is known that high levels of uric acid in the blood can cause gout, whereas high levels in the urine can cause kidney stones. What medication competes with uric acid for secretion into the tubular fluid, thereby reducing uric acid secretion?
   a. Ibuprofen
   b. Acetaminophen
   c. Aspirin
   d. Advil

5. Many drugs are eliminated in the urine. These drugs cannot be bound to plasma proteins if the glomerulus is going to filter them out of the blood. In what situation would it be necessary to create either an alkaline or an acid diuresis in a patient?
   a. When there are nontherapeutic drug levels in the patient's blood
   b. If the patient is noncompliant with the medication regimen
   c. In the event that a loading dose of a specific drug must be used and kept in the patient's system for a long time
   d. In the case of a drug overdose

6. The anemia that occurs with end-stage kidney disease is often caused by the kidneys themselves. What inability of the kidneys causes anemia in end-stage kidney disease?
   a. Inability to produce erythropoietin
   b. Inability to produce rennin
   c. Inability to produce angiotensin
   d. Inability to inactivate vitamin D

7. Diuretics can either block the reabsorption of components of the urine, or they can block the reabsorption of water back into the body. What does the increase in urine flow from the body depend on with a patient on diuretics?
   a. Amount of water reabsorption back into the body
   b. Amount of sodium and chloride reabsorption that it blocks
   c. Amount of sodium and chloride that it excretes through the kidney
   d. Amount of water excreted by the body

8. Urine-specific gravity is normally 1.010 to 1.025 with adequate hydration. When there is loss of renal concentrating ability due to impaired renal function, low concentration levels are exhibited. When would the nurse consider low levels of concentration to be significant?
   a. At noon
   b. First void in morning
   c. Last void at night
   d. After a nap

9. An elderly man is brought into the clinic by his daughter who states, "My father hasn't been himself lately. Now I think he looks a little yellow." What test would the nurse expect to have ordered to check this man's creatinine level?
   a. Blood urea nitrogen level
   b. 24-Hour urine test
   c. Urine test—first void in AM
   d. Serum creatinine

10. When the urologist wants to directly visualize the bladder, urethra, and ureteral orifices, what diagnostic test would he use?
   a. Cystoscopy
   b. Ultrasonography
   c. Echocardiogram
   d. Laparoscopy

CHAPTER 31

# Disorders of Fluid and Electrolyte Balance

2. Match the following elements with their actions in the body.

| Element | Action in the body |
|---|---|
| ___ 1. Sodium | a. Increases the absorption of calcium from the intestine |
| ___ 2. Potassium | b. Required for cellular energy metabolism |
| ___ 3. Calcitriol | c. Metabolizes glucose, fat, and protein |
| ___ 4. Phosphorus | d. Regulates the extracellular fluid volume |
| ___ 5. Magnesium | e. Maintains the osmotic integrity of cells |

3. The effective circulating volume is the major regulator of water balance in the body. What else does it regulate?
   a. Sodium
   b. Magnesium
   c. Calcium
   d. Potassium

4. Psychogenic polydipsia is most commonly seen in people with schizophrenia. It is a disease that involves compulsive water drinking without thirst and excessive urine output. It may be worsened by things that cause by excessive antidiuretic hormone (ADH) secretion. What may be reasons that there is excessive ADH secretion in the body?
   a. Excessive sleeping combined with irregular eating
   b. Antipsychotic medications and smoking
   c. Increased need in the aquaporin channel and coffee drinking
   d. Antipsychotic medications and coffee drinking

5. There are two types of diabetes insipidus (DI), neurogenic and nephrogenic. In nephrogenic DI, there is an inability of the kidney to concentrate urine and to conserve free water. Nephrogenic DI can be either genetic or acquired. What are the causes of nephrogenic DI?
   a. Head injury and cranial surgery
   b. Oral antidiabetic drugs and smoking
   c. Lithium and hypokalemia
   d. Hypocalcemia and hypernatremia

6. In a person with fluid volume deficit, there is a dehydration of brain and nerve cells. What can occur if fluid volume deficit is corrected too rapidly?
   a. Nerve cells absorb too much sodium and cease to function
   b. Brain cells shut down to prevent cerebral edema
   c. Fluid volume increases at a rate the body cannot tolerate
   d. Cerebral edema occurs with potentially severe neurologic impairment

7. Potassium is the major cation in the body. It plays many important roles, including the excitability of nerves and muscles. Where is this action particularly important?
   a. Heart
   b. Brain
   c. Lungs
   d. Liver

8. Vitamin D, although officially classified as a vitamin, functions as a hormone in the body. What other hormone is necessary in the body for vitamin D to work?
   a. Thyroid hormone
   b. Parathyroid hormone
   c. Antidiuretic hormone
   d. Angiotensin II

9. The sodium-phosphate cotransporter (*NPT2*) creates the action by which phosphate is reabsorbed from the filtrate in the proximal tubule. *NPT2* is inhibited by phosphatonin. What condition can cause an overproduction of phosphatonin resulting in hypophosphatemia?
   a. Tumor-induced osteomyelitis
   b. Tumor-induced hypopituitarism
   c. Tumor-induced syndrome of antidiuretic hormone
   d. Tumor-induced osteomalacia

10. Magnesium levels are important indicators to a variety of bodily functions. What is severe hypermagnesemia associated with?
    a. Muscle and respiratory paralysis
    b. Cardiac arrest and pulmonary paralysis
    c. Complete heart block and cardiac arrhythmias
    d. Cardiac arrhythmias and respiratory paralysis

CHAPTER 32

# Disorders of Acid-Base Balance

# SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. To calculate the $H_2CO_3$ content of the blood, you need to measure the $PCO_2$ (partial

pressure of $CO_2$) by its solubility coefficient. What is the solubility coefficient of $CO_2$?

a. 0.03
b. 0.3
c. 0.04
d. 0.4

2. The body regulates the pH of its fluids by what mechanism? Mark all that apply.

a. Chemical buffer systems of the body fluids
b. Liver
c. Lungs
d. Cardiovascular system
e. Kidneys

3. By reabsorbing $HCO_3$ from the glomerular filtrate and excreting $H^+$ from the fixed acids that result from lipid and protein metabolism, the kidneys work to return or maintain the pH of the blood to normal or near-normal values. How long can this mechanism function when there is a change in the pH of body fluids?

a. Minutes
b. Hours
c. Days
d. Weeks

4. Laboratory tests give us valuable information about what is happening in the body. What laboratory test is a good indicator of the how the buffer systems in the body are working?

a. Acid-base test
b. Urine acidity test
c. $H^+$ level test
d. Base excess or deficit test

5. There are both metabolic and respiratory effects on the acid-base balance in the body. How do metabolic disorders change the pH of the body?

a. Alter the plasma $HCO_3$
b. Alter urine $H^+$ content
c. Alter $CO_2$ levels in the lungs
d. Alter $O_2$ levels in the major organ systems

6. The body has built-in compensatory mechanisms that take over when correction of pH is not possible or cannot be immediately achieved. What are these compensatory mechanisms considered?

a. Long-term measures that backup first-line correction mechanisms
b. Interim measures that permit survival
c. Short-term measures that depend on first-line correction mechanisms
d. Ways to correct the primary disorder

7. Metabolic acidosis has four main causes. Which laboratory test is used to determine the cause of metabolic acidosis?

a. Acid-base deficit
b. Arterial blood gas
c. Anion gap
d. Serum bicarbonate

8. A change in the pH of the body affects all organ systems. When the pH falls to less than 7.0, what can occur in the cardiovascular system? Mark all that apply.

a. Vascular bed can vasodilate, causing the client to go into shock
b. Vascular bed can vasoconstrict to preserve the primary organs
c. Cardiac contractility can increase, causing cardiac dysrhythmias
d. Cardiac contractility can decrease, causing cardiac dysrhythmias

9. Respiratory acidosis occurs when the plasma pH falls below 7.35 and arterial $PCO_2$ rises above 50 mm Hg. Because $CO_2$ easily crosses the blood-brain barrier, what signs and symptoms of respiratory acidosis might you see? Mark all that apply.

a. Irritability
b. Muscle twitching
c. Psychological disturbances
d. Seizures
e. Psychotic breaks

10. Respiratory alkalosis is caused by hyperventilation, which is recognized as a respiratory rate in excess of that which maintains normal plasma $PCO_2$ levels. What is a common cause of respiratory alkalosis?

a. Hyperventilation syndrome
b. Hypoventilation syndrome
c. Cluster breathing
d. Kussmaul breathing

CHAPTER 33

# Disorders of Renal Function

c. Cysts that are restricted to the corticomedullary border

d. Cysts that develop in the kidney as a consequence of aging, dialysis, or other conditions that affect tubular function

3. A young woman presents with signs and symptoms of a urinary tract infection (UTI). The nurse notes that this is the fifth UTI in as many months. What would this information lead the nurse to believe?

a. There is possible obstruction in the urinary tract.

b. The woman has multiple sexual partners.

c. The woman takes too many bubble baths.

d. The woman does not clean herself properly.

4. Staghorn kidney stones, or struvite stones, are usually located in the renal pelvis. These stones are made from what?

a. Calcium oxalate

b. Magnesium ammonium phosphate

c. Cystine

d. Uric acid

5. What is the most common cause of a lower urinary tract infection?

a. *Staphylococcus saprophyticus*

b. *Pseudomonas aeruginosa*

c. *Escherichia coli*

d. *Staphylococcus aureus*

6. Urinary tract infections (UTIs) in children do not generally present as they do in adults. What are the signs and symptoms of a UTI in a toddler? Mark all that apply.

a. Frequency

b. Diarrhea

c. Abdominal pain

d. Poor growth

e. Burning

7. Acute postinfectious glomerulonephritis, as its name implies, follows an acute infection somewhere else in the body. What is the most common cause of acute postinfectious glomerulonephritis?

a. *Escherichia coli*

b. *Staphylococcus aureus*





c. *Pseudomonas aeruginosa*

d. Group A β-hemolytic streptococci

8. Both type 1 and type 2 diabetes mellitus can cause damage to the glomeruli of the kidneys. What renal disease is diabetic nephropathy associated with?

a. Nephrotic syndrome

b. Acute glomerulonephritis

c. Nephritic syndrome

d. Acute glomerulonephritis

9. Acute pyelonephritis is an infection of the renal parenchyma and renal pelvis. What is the most common cause of acute pyelonephritis?

a. Group A β-hemolytic streptococci

b. *Pseudomonas aeruginosa*

c. *Haemophilus influenza*

d. *Candida albicans*

10. Drug-related nephropathies occur all too often. They involve functional and/or structural changes to the kidney after exposure to a drug. What does the tolerance to drugs depend on?

a. Vesicoureteral reflux

b. Glomerular filtration rate

c. State of hydration

d. Proteinuria

11. Wilms tumor is a tumor of childhood. It is usually an encapsulated mass occurring in any part of the kidney. What are the common presenting signs of a Wilms tumor?

a. Hypotension and a large abdominal mass

b. Vomiting and oliguria

c. Abdominal pain and diarrhea

d. Large asymptomatic abdominal mass and hypertension

CHAPTER 34

# Acute Renal Failure and Chronic Kidney Disease

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Acute renal failure occurs at a high rate in seriously ill people who are in intensive care units. What is the most common indicator of acute renal failure?
   a. Azotemia and a decrease in the glomerular filtration rate
   b. Proteinuria and a decrease in the glomerular filtration rate
   c. Azotemia and an increase in the glomerular filtration rate
   d. Proteinuria and an increase in the glomerular filtration rate

2. Acute tubular necrosis (ATN) is the most common cause of intrinsic renal failure. One of the causes of ATN is ischemia. What are the most common causes of ischemic ATN? Mark all that apply.
   a. Severe hypovolemia
   b. Severe hypertension
   c. Burns
   d. Overwhelming sepsis
   e. Severe hypervolemia

3. The glomerular filtration rate (GFR) is considered the best measure of renal function. What is used to estimate the GFR?
   a. Blood urea nitrogen
   b. Serum creatinine
   c. Albumin level
   d. Serum protein

4. Chronic kidney disease (CKD) affects many systems in the body. What is the number one hematologic disorder caused by CKD?
   a. Polycythemia
   b. Erythrocythemia
   c. Anemia
   d. Leukocytosis

5. Uremic pericarditis is a disorder that accompanies chronic kidney disease. What are its presenting signs and symptoms? Mark all that apply.
   a. Pericardial friction rub
   b. Chest pain with respiratory accentuation
   c. Fever without infection
   d. Shortness of breath
   e. Thromboangiitis

6. Neuromuscular disorders can be triggered by chronic kidney disease. For those clients on dialysis, approximately two-thirds suffer from what peripheral neuropathy?
   a. Raynaud syndrome
   b. Burning hands and feet
   c. Tingling and loss of sensation in lower limbs
   d. Restless leg syndrome

7. People with chronic kidney disease have impaired immune responses to infection due to high levels of urea and metabolic wastes in the blood. What is one thing that is missing in an immune response in people with chronic kidney disease?
   a. Failure to mount a fever with infection
   b. Failure of a phagocytic response with infection
   c. Decrease in granulocyte count
   d. Impaired humoral immunity response with infection

8. Sexual dysfunction in people with chronic kidney disease (CKD) is believed to be multifactorial. What are believed to be causes of sexual dysfunction in people with CKD? Mark all that apply.
   a. Antihypertensive drugs
   b. Psychological factors
   c. Uremic toxins
   d. Inability to vasodilate veins
   e. High incidence of sexually transmitted diseases

9. In hemodialysis, access to the vascular system is most commonly through what?
   a. External arteriovenous shunt
   b. Internal arteriovenous fistula
   c. Internal arteriovenous shunt
   d. External arteriovenous fistula

10. Dietary restrictions placed on people with chronic kidney disease (CKD) include limiting protein in their diet. The recommended sources of protein for people with CKD include what source of protein?
    a. Red meat
    b. Fowl
    c. Milk
    d. Fish

CHAPTER 35

# Disorders of the Bladder and Lower Urinary Tract

2. Children usually achieve bladder control by age 5 years. Girls generally achieve bladder control before boys do. What is the general rule for bladder capacity in a child?

a. Up to the age of 12 to 14 years, the capacity of the bladder is the child's age in years plus 2.

b. Up to the age of 5 years, the capacity of the bladder is the child's age in years plus 3.

c. The capacity of the bladder is equal to the child's age in years.

d. Age has nothing to do with bladder capacity; it has adult capacity from toddlerhood.

3. One of the many tests done during urodynamic studies is the sphincter electromyelogram. What does this test study?

a. Ability of the bladder to store urine

b. Activity of the voluntary muscles of the perineal area

c. Pressure of the bladder during filling and emptying

d. Flow rate during urination

4. Urinary obstruction in the lower urinary tract triggers changes to the urinary system to compensate for the obstruction. What is an early change the system makes in its effort to cope with an obstruction?

a. Ability to suppress urination is increased

b. Stretch receptors in the bladder wall become hypersensitive

c. Bladder begins to shrink

d. Bladder contraction weakens

5. What is a common cause of spastic bladder dysfunction?

a. Central nervous system lesions

b. Constriction of the internal sphincter muscles

c. External sphincter spasticity

d. Vesicoureteral reflux

6. Acute overdistention of the bladder can occur in anyone with a neurogenic bladder that does not empty. How much urine would the nurse empty out of the bladder at one time?

a. Everything in the bladder, no matter how full it is

b. No more than 600 cc of urine at one time

c. No more than 500 cc of urine at one time

d. No more than 1000 cc of urine at one time.

7. In women, stress incontinence is a common problem. The loss of the angle between the urethrovesical junction and the bladder

contributes to stress incontinence. What is the normal angle between the bladder and the urethrovesical junction?

a. 90 to 100 degrees
b. 100 to 110 degrees
c. 80 to 90 degrees
d. 95 to 105 degrees

8. Incontinence can be transient. What are the causes of transient urinary incontinence? Mark all that apply.

a. Spinal cord injury
b. Confusional states
c. Stool impaction
d. Diarrhea
e. Recurrent urinary tract infections

9. Urinary incontinence can be a problem with the elderly. One method of treatment is habit training, or bladder training. When using this treatment with an elderly person, how frequently should they be voiding?

a. Every 1 to 3 hours
b. Every 2 to 4 hours
c. Every 3 to 5 hours
d. Every 4 to 6 hours

10. One of the treatments for bladder cancer in situ is the intervesicular administration of what drug?

a. Adriamycin
b. Mitomycin C
c. Bacillus Calmette-Guérin vaccine
d. Thiotepa

CHAPTER 36

# Structure and Function of the Gastrointestinal System

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. The circular layer of smooth muscle that lies between the stomach and the small intestine is called what?
   a. Pyloric sphincter
   b. Cardiac sphincter
   c. Antrum
   d. Cardiac orifice

2. Where in the gastrointestinal tract is food digested and absorbed?
   a. Colon and ileum
   b. Jejunum and ileum
   c. Stomach and jejunum
   d. Jejunum and colon

3. Some smooth muscle cells in the gastrointestinal tract serve as pacemakers. They display rhythmic spontaneous oscillations in membrane potentials. What are these called?
   a. Peristalsis
   b. Intestinal spasms
   c. Slow waves
   d. Rapid contractility

4. Defecation is controlled by both an internal and an external sphincter. What nerve controls the external sphincter?
   a. Vagus nerve
   b. Femoral nerve
   c. Phrenic nerve
   d. Pudendal nerve

5. The stomach secretes two important hormones in the gastrointestinal tract. One is gastrin. What is the second hormone secreted by the stomach?
   a. Ghrelin
   b. Secretin
   c. Incretin
   d. Cholecystokinin

6. Saliva has more than one function. What are the functions of saliva? Mark all that apply.
   a. Protection
   b. Lubrication
   c. Antibacterial
   d. Initiate digestion of starches
   e. Initiate digestion of protein

7. The colon is home to between 300 and 500 different species of bacteria. What is their main metabolic function?
   a. Digestion of insoluble fiber
   b. Fermentation of undigestible dietary residue
   c. Compaction of metabolic waste prior to leaving the body
   d. Absorption of calcium

8. Absorption is a major function of the gastrointestinal (GI) tract. How is absorption accomplished in the GI tract?
   a. Osmosis and diffusion
   b. Active transport and osmosis
   c. Active transport and diffusion
   d. Diffusion and inactive transport

9. Nausea and vomiting can be side effects of many drugs as well as physiologic disturbances within the body. What is a common cause of nausea?
   a. Distention of the stomach
   b. Distention of the cecum
   c. Distention of the jejunum
   d. Distention of the duodenum

10. Several neurotransmitters have been identified with nausea and vomiting. In this capacity, they act as neuromediators. What neuromediator is believed to be involved in the nausea and vomiting that accompanies chemotherapy?
    a. Serotonin
    b. Dopamine
    c. Acetylcholine receptors
    d. Opioid receptors

CHAPTER 37

# Disorders of Gastrointestinal Function

## SECTION IV: PRACTICING FOR NCLEX

**Activity E** *Answer the following questions.*

1. Esophageal atresia (EA) is the most common congenital anomaly of the esophagus and is incompatible with life. The majority of children born with EA also have tracheoesophageal fistulae. What are the signs and symptoms of EA in a newborn?
   a. Cyanosis and respiratory distress
   b. Poor feeding and tire easily
   c. Episodes of choking and coughing
   d. Poor feeding and low blood sugar
2. Hiatal hernias can cause severe pain if the hernia is large. Gastroesophageal reflux is a common comorbidity of hiatal hernia, and when this occurs, what might the hernia do?
   a. Increase esophageal acid clearance
   b. Retard esophageal acid clearance
   c. Decrease esophageal acid clearance
   d. Accelerate esophageal acid clearance
3. Infants and children commonly have gastroesophageal reflux. Often, it is asymptomatic and resolves on its own. What are the signs and symptoms of gastroesophageal reflux in infants with severe disease?
   a. Consolable crying and early satiety
   b. Delayed satiety and sleeping after feeding
   c. Tilting of the head to one side and arching of the back
   d. Inconsolable crying and delayed satiety
4. The stomach secretes acid to begin the digestive process on the food that we eat. The gastric mucosal barrier works to prevent acids secreted by the stomach from actually damaging the wall of the stomach. What are the factors that make up the gastric mucosal barrier? Mark all that apply.
   a. Impermeable epithelial cell surface covering
   b. Mechanisms for selective transport of bicarbonate and potassium ions
   c. Characteristics of gastric mucus
   d. Cell coverings that act as antacids
   e. Mechanisms for selective transport of hydrogen and bicarbonate ions
5. *Helicobacter pylori* gastritis has a prevalence in more than 50% of American adults older than 50 years and is believed to be caused by a previous infection when the patient was younger. What can chronic gastritis caused by *H. pylori* cause?
   a. Decreased risk of gastric adenocarcinoma
   b. Decreased risk of low-grade B-cell gastric lymphoma
   c. Duodenal ulcer
   d. Gastric atrophy
6. A 39-year-old Caucasian woman presents at the clinic with complaints of epigastric pain that is cramplike, rhythmic, and just below the xiphoid. She states that it wakes her up around 1 AM and that she is not sleeping well because of it. She further states that this is her third painful episode in the past year. The nurse suspects the patient has a peptic ulcer and expects to receive what orders from the physician?
   a. Schedule patient for a complete metabolic panel and a complete blood count
   b. Schedule patient for laparoscopic examination

c. Schedule patient for a swallow study
d. Schedule patient for a lower gastrointestinal study

7. A patient in a nursing home complains to her nurse that she is not feeling well. When asked to describe how she feels, the patient states that she really is not hungry anymore and seems to have indigestion a lot. The nurse checks the patient's chart and finds that her vital signs are normal, but that she has lost weight over the past 2 months. She also notes that there is a history of gastric cancer in the patient's family. The nurse notifies the physician and expects to receive what orders? Mark all that apply.
   a. Schedule a barium x-ray and an endoscopy
   b. Perform a Papanicolaou smear on the patient's gastric secretions
   c. Order cytologic studies to be done during the endoscopy
   d. Schedule a lower gastrointestinal study
   e. Have the tech do an endoscopic ultrasound

8. Irritable bowel syndrome is believed to be present in 10% to 15% of the population in the United States. What is its hallmark symptom?
   a. Nausea and abdominal pain unrelieved by defecation
   b. Abdominal pain relieved by defecation with a change in consistency or frequency of stools
   c. Diarrhea and abdominal pain unrelieved by defection
   d. Abdominal pain relieved by defecation and bowel impaction

9. Crohn disease is a recurrent inflammatory disease that can affect any area of the bowel. The characteristic of this disease is granulomatous lesions that are sharply demarcated from the surrounding tissue. As the nurse caring for a patient with newly diagnosed Crohn disease, you would know to include what in your teaching?
   a. Definition of Crohn disease that indicates that it is a recurrent disease that affects only the large intestine
   b. Information on which nonsteroidal anti-inflammatory drugs to take and how often to take them
   c. Information on sulfasalazine, including dosage, route, frequency, and side effects of the drug
   d. Information on the chemotherapy that will be ordered to cure the disease

10. Rotavirus is a common infection in children younger than 5 years. Like other diseases, rotavirus is most severe in children younger than 24 months. What is a symptom of rotavirus infection?
   a. Mild to moderate fever that gets higher after the second day
   b. Vomiting that lasts for the course of the disease
   c. Fever that disappears after 7 days
   d. Vomiting that disappears around the second day

11. Diverticulitis is the herniation of tissue of the large intestine through the muscularis layer of the colon. It is often asymptomatic and is found in approximately 80% of people older than 85 years. Diverticulitis is often asymptomatic, but when symptoms do occur, what is the patient's most common complaint?
   a. Lower left quadrant pain with nausea and vomiting
   b. Right lower quadrant pain with nausea and vomiting
   c. Midepigastric pain with nausea and vomiting
   d. Right lower quadrant pain with rebound tenderness on the left

12. Diarrhea is described as a change in frequency of stool passage to where it is excessively frequent. Diarrhea can be acute or chronic, inflammatory or noninflammatory. What are the symptoms of noninflammatory diarrhea? Mark all that apply.
   a. Small-volume watery stools
   b. Nonbloody stools
   c. Periumbilical cramps
   d. Nausea and/or vomiting
   e. Large-volume bloody stools

13. Peritonitis is an inflammatory condition of the lining of the abdominal cavity. What is one of the most important signs of peritonitis?
    a. Vomiting of coffee ground–appearing emesis
    b. Translocation of extracellular fluid into the peritoneal cavity
    c. Translocation of intracellular fluid into the peritoneal cavity
    d. Vomiting of bloody emesis

14. Celiac disease commonly presents in infancy as failure to thrive. It is an inappropriate T-cell–mediated immune response, and there is no cure for it. What is the treatment of choice for celiac disease?
    a. Removal of protein from the diet
    b. Removal of fat from the diet
    c. Removal of gluten from the diet
    d. Removal of sugar from the diet

15. One of the accepted methods of screening for colorectal cancer is testing for occult blood in the stool. Because it is possible to get a false-positive result on these tests, you would instruct the patient to do what?
    a. Eat a lot of red meat for 3 or 4 days before the test is done.
    b. Take 1,000 mg of vitamin C in supplement form for 1 week prior to testing.
    c. Eat citrus fruits at least five times a day for 2 days prior to testing.
    d. Avoid nonsteroidal anti-inflammatory drugs for 1 week prior to testing.

CHAPTER 38

# Disorders of Hepatobiliary and Exocrine Pancreas Function

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The liver has many jobs. One of the most important functions of the liver is to cleanse the portal blood of old and defective blood cells, bacteria in the bloodstream, and any foreign material. Which cells in the liver are capable of removing bacteria and foreign material from the portal blood?
   a. Kupffer cells
   b. Langerhans cells
   c. Epstein cells
   d. Davidoff cells

2. Cholestasis is a condition where there is a decrease in bile flow through the intrahepatic canaliculi and a reduction in secretion of water, bilirubin, and bile acids by the hepatocytes. Cholestasis can have more than one cause, but, in all types of cholestasis, there is what?
   a. Accumulation of bile pigment in the gallbladder
   b. Accumulation of bile pigment in the liver
   c. Accumulation of bile pigment in the blood
   d. Accumulation of bile pigment in the portal vein

3. What is considered the normal amount of serum bilirubin found in the blood?
   a. 1–2 mg/dL
   b. 0.01–0.02 mg/dL
   c. 0.1–0.2 mg/dL
   d. 0.001–0.002 mg/dL

4. Many drugs are metabolized and detoxified in the liver. Most drug metabolizing occurs in the central zones of the liver. What condition is caused by these drug-metabolizing actions?
   a. Central cirrhosis
   b. Lobular cirrhosis
   c. Lobular necrosis
   d. Centrilobular necrosis

5. Primary biliary cirrhosis is an autoimmune disease that destroys the small intrahepatic bile ducts causing cholestasis. It is insidious in onset and is a progressive disease. What are the earliest symptoms of the disease?
   a. Unexplained pruritus
   b. Weight gain
   c. Pale urine
   d. Dark stools

6. One of the jobs the liver performs is to export triglyceride. When the liver's capacity to export triglyceride is maximized, excess fatty acids accumulate in the liver. What is the disease these excess fatty acids contribute to?
   a. Biliary cirrhosis
   b. Nonalcoholic fatty liver disease
   c. Cholelithiasis
   d. Alcoholic fatty liver disease

7. Ascites is an accumulation of fluid in the peritoneal cavity that usually occurs in advanced cirrhosis. What is the treatment of choice for ascites?

a. Paracentesis
b. Thoracentesis
c. Diuretics
d. Desmopressin acetate (DDAVP)

8. A client is suspected of having liver cancer. What diagnostic tests would be ordered to confirm the diagnosis?
a. Serum α-fetoprotein
b. Endoscopy
c. Ultrasound of liver
d. MRI of liver

9. Gallstones are made up mostly of cholesterol. What is believed to be a precursor of gallstones?
a. Gallbladder sludge
b. Thinned mucoprotein
c. Pieces of hard food trapped in the gallbladder
d. Thickened bile

10. What laboratory markers are most commonly used to diagnose acute pancreatitis?
a. Amylase and cholesterol
b. Lipase and amylase
c. Lipase and triglycerides
d. Cholesterol and triglycerides

11. All diseases have risk factors. What is the most significant environmental risk factor for pancreatic cancer?
a. Air pollution
b. Water pollution
c. Cigarette smoking
d. Heavy metal toxicity

CHAPTER 39

# Alterations in Nutritional Status

used in the production of energy

d. Chemical intermediates for anabolism and catabolism

e. Phase of metabolic storage and synthesis of cell constituents

2. Adipose tissue is known to be both an endocrine and a paracrine organ because of the factors it secretes. What are these factors? Mark all that apply.

a. Leptin

b. Growth hormone

c. Adipokine

d. Insulin resistance factor

e. Adiponectin

3. When nutritional requirements are needed for a specific group, what dietary requirements are used?

a. Estimated average requirement

b. Adequate intake

c. Recommended dietary allowance

d. Dietary reference intake

4. Fat is a necessary part of the diet. The Food and Nutrition Board has set what percent of fat as necessary in our diet?

a. 10%

b. 20%

c. 30%

d. 40%

5. It is the hypothalamus that tells us when we are hungry or full. Its message is mediated by input from the gastrointestinal tract. There are also centers in the hypothalamus that regulate energy balance and metabolism based on the secretion of what hormones?

a. Cholecystokinin and glucagonlike peptide-1

b. Ghrelin and thyroid

c. Thyroid and adrenocortical hormones

d. Adrenocortical hormones and cholecystokinin

6. Body mass index (BMI) is the measurement used to determine a person's healthy weight. A BMI between 18.5 and 24.9 is considered the lowest health risk in relation to the weight of a person. How is the BMI calculated?
   a. BMI = weight[lb]/height[ft²]
   b. BMI = weight[kg]/height[ft²]
   c. BMI = weight[lb]/height[m²]
   d. BMI = weight[kg]/height[m²]

7. Two types of obesity are recognized: upper body obesity and lower body obesity. How is the type of obesity determined?
   a. Waist/hip circumference
   b. Chest circumference/weight
   c. Chest/hip circumference
   d. Waist circumference/weight

8. Anorexia nervosa, bulimia nervosa, and binge-eating disorder are becoming increasingly common, with assessments for these disorders being made in children as young as 9 years. In the adult population, what means of controlling binge eating is most prevalent in men?
   a. Self-induced vomiting
   b. Compulsive exercise
   c. Laxative use
   d. Compulsive working

9. Childhood obesity is recognized as a major problem in the pediatric population. What diseases are pediatricians now seeing in their clients as a direct result of childhood obesity?
   a. Type 1 diabetes
   b. Dyslipidemia
   c. Hypotension
   d. Psychosocial acceptance

10. Malnutrition is not common in the general population in the United States. However, certain populations are more prone to malnutrition than others are. One of these populations is hospitalized patients. Why is this true?
    a. Appetites are increased by fever and pain.
    b. Special diets can increase appetite.
    c. Pain and medications can decrease appetite.
    d. Only healthy diets are served in hospitals.

CHAPTER 40

# Mechanisms of Endocrine Controls

20-pound weight gain in the past 2 years. She says that she is not as active as she used to be. She also mentions that she has fallen several times and now has a large bruise on her right hip.

1. The nurse knows that this client is at risk for osteoporosis due to her decrease in activity. What test would the nurse expect to be ordered to either confirm or rule out osteoporosis in this patient?

2. With the client's weight gain over the past 2 years and her decrease in activity level, the nurse would expect what test to be ordered to either rule out or confirm type 2 diabetes in this client?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. The endocrine system is closely linked with both the immune system and the nervous system. What neurotransmitter can also act as a hormone?
   a. Epinephrine
   b. Norepinephrine
   c. Dopamine
   d. Succinylcholine

2. When hormones act locally rather than being secreted into the bloodstream, their actions are termed what?
   a. Autocratic and paracratic
   b. Autocrine and paracrine
   c. Localized and influential
   d. Preventers and inhibitors

3. Hormones can be synthesized by both vesicle-mediated pathways and nonvesicle-mediated pathways. What hormones are synthesized by nonvesicle-mediated pathways?
   a. Neurotransmitters that are also hormones
   b. Renin and angiotensin
   c. Androgens and estrogens
   d. Pepsin and ghrelin

4. To prevent the accumulation of hormones in our bodies, the hormones are constantly being metabolized and excreted. Where are adrenal and gonadal steroid hormones excreted?
   a. Feces and urine
   b. Bile and lungs
   c. Cell metabolites and lungs
   d. Bile and urine

5. The hypophysis is a unit formed by the pituitary and the hypothalamus. These two glands are connected by the blood flow in what system?
   a. Hypophyseal portal system
   b. Supraoptic portal system
   c. Paraventricular portal system
   d. Hypothalamic portal system

6. The hormone levels in the body need to be kept within an appropriate range. How is this accomplished for many of the hormones in the body?
   a. Positive feedback loop
   b. Negative feedback loop
   c. Regulated feedback loop
   d. Sensory feedback loop

7. Many hormones are measured for diagnostic reasons by using the plasma levels of the hormones. What is used today to measure plasma hormone levels?
   a. Nucleotide assay methods
   b. Selective binding methods
   c. Radioimmunoassay methods
   d. Radiolabeled hormone-antibody methods

8. Sometimes the measurement of hormones is done through a urine sample. What is an advantage of measuring hormone levels through a urine sample rather than a blood sample?
   a. Urine has more accurate measurements of hormones

b. There are more hormone metabolites in urine than in blood

c. Blood sampling has more pure hormone than urine does

d. Urine samples are easily obtained

9. In an adult with acromegaly, a growth hormone-secreting tumor is suspected. What diagnostic test would be used for this client?

a. A growth hormone suppression test

b. A growth hormone stimulation test

c. A growth hormone serum assay test

d. A growth hormone urine assay test

10. Imaging has proven useful in both the diagnosis and follow-up of endocrine disorders. Two types of imaging studies are useful when dealing with endocrine disorders, isotopic imaging and nonisotopic imaging. What is an example of isotopic imaging?

a. MRI

b. Thyroid scan

c. Renal angiography

d. Positron emission topography scan

CHAPTER 41

# Disorders of Endocrine Control of Growth and Metabolism

1. As the nurse prepares to take the infant's blood, the parents ask what it means if the first test result is not a mistake. The nurse knows the best information to give the parents is what?

_____

_____

_____

2. The parents want to know what will happen to their baby if the thyroid gland is not working correctly. The nurse correctly answers what?

_____

_____

_____

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Advances in technology have made it possible to assess hypothalamic-pituitary function by newly developed imaging and radioimmunoassay methods. When baseline tests are not sufficient, what suppression test gives information about combined hypothalamic-pituitary function?
   a. Growth hormone suppression test
   b. ACTH suppression test
   c. Cortisol suppression test
   d. Prolactin suppression test

2. Growth hormone (GH) is secreted by both adults and children. GH deficiency in children is treated by injections of GH on a daily basis. When teaching a family or child to give injections of GH, what is it important to teach them?
   a. Give the injections in the morning so the peak effect is before noon.
   b. Give the injections at bedtime to produce the greatest effect at night.
   c. Give the injections about 3 PM to produce the greatest effect in the evening.
   d. Give the injections in the early afternoon to produce the greatest effect at dinner time.

3. Growth hormone (GH) exerts its effects on the body in many ways. Which of these are effects of GH? Mark all that apply.
   a. Enhances fatty acid mobilization
   b. Increases insulin levels
   c. Facilitates the rate of protein synthesis
   d. Decreases ACTH production
   e. Decreases use of fatty acids for fuel

4. Acromegaly is a disorder that is caused by the production of excessive growth hormone in the adult. Because the person cannot grow taller, the soft tissues continue to grow, presenting a very distinctive appearance. What is it that is distinctive in a person with acromegaly?
   a. Small hands and feet compared to length of arms and legs
   b. Broad, bulbous nose and a protruding lower jaw
   c. Slanting forehead and a receding lower jaw
   d. Protruding lower jaw and forehead

5. Precocious puberty is a disorder that occurs in both boys and girls. What does precocious puberty cause in adults?
   a. Early menopause in females
   b. Early erectile dysfunction problems in males
   c. Short stature in adults
   d. Gigantism in adults

6. When the assessment of thyroid autoantibodies is performed, what is the suspected diagnosis?
   a. Goiter
   b. Thyroid tumor
   c. Congenital hypothyroidism
   d. Hashimoto thyroiditis

7. An elderly woman is brought to the emergency room by her family. They relate to the nurse that the client has had mental status changes and cannot remember her grandchildren's names. They go on to say that she is intolerant of cold and is lethargic. On physical examination, the nurse notes that the client has a husky voice, her face is puffy around the eyes, and her tongue appears enlarged. What diagnosis would the nurse suspect?
   a. Myxedema
   b. Hashimoto thyroiditis
   c. Hyperthyroidism
   d. Congenital hypothyroidism

8. Hyperthyroidism that is inadequately treated can cause a life-threatening condition known as a thyroid storm. What are the manifestations of a thyroid storm? Mark all that apply.
   a. Tachycardia
   b. Very low fever
   c. Delirium
   d. Bradycardia
   e. Very high fever

9. At times, it is necessary to give medications that suppress the adrenal glands on a long-term basis. When the suppression of the adrenals becomes chronic, the adrenal glands atrophy. What does the abrupt withdrawal of these suppressive drugs cause?
   a. Acute adrenal hyperplasia
   b. Acute adrenal insufficiency
   c. Acute adrenal hypoplasia
   d. Acute adrenal cortical hyperplasia

10. Congenital adrenal hyperplasia is a congenital disorder in which a deficiency exists in any of the enzymes necessary for the synthesis of cortisol. Infants of both genders are affected, although boys are not diagnosed at birth unless of enlarged genitalia. Female infants often have ambiguous genitalia because of the oversecretion of adrenal androgens. What are the manifestations of the ambiguous genitalia caused by congenital adrenal hyperplasia?
   a. Small clitoris, fused labia, and urogenital sinus
   b. Small clitoris, open labia, and urogenital sinus
   c. Enlarged clitoris, fused labia, and urogenital sinus
   d. Enlarged clitoris, open labia, and urogenital sinus

11. In Addison disease, the majority of the adrenal cortex has been destroyed. This causes a lack of mineralocorticoids and glucocorticoids. Therapy consists of oral replacement with what drug?
   a. Cortisol
   b. Aldosterone
   c. Glucocorticoid
   d. Hydrocortisone

12. In an acute adrenal crisis, the onset of symptoms is sudden, and in the case of Addison disease, can be precipitated by exposure to a minor illness or stress. What are the manifestations of acute adrenal crisis? Mark all that apply.
   a. Hypertension
   b. Muscle weakness
   c. Dehydration
   d. Altered mental status
   e. Vascular collapse

13. The hallmark manifestations of Cushing syndrome are a moon face, a "buffalo hump" between the shoulder blades, and a protruding abdomen. What other manifestations of Cushing syndrome occur?
   a. Thin extremities and muscle weakness
   b. Muscle wasting and thickened extremities
   c. Muscle weakness and thickened extremities
   d. Thin extremities and increased strength

CHAPTER 42

# Diabetes Mellitus and the Metabolic Syndrome

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. The pancreas is an endocrine organ that is composed of the acini and the islets of Langerhans. The islets of Langerhans have alpha, beta, and delta cells as well as the PP cell. Which cells secrete insulin?
   a. Alpha cells
   b. Beta cells
   c. Delta cells
   d. PP cells

2. Hormones that counteract insulin's storage function when regulating blood glucose during times when glucose intake is limited or glucose stores are depleted are called counter-regulatory hormones. What are the counter regulatory hormones? Mark all that apply.
   a. Glucocorticoids
   b. Growth hormone
   c. Catecholamines
   d. Mineralocorticoids
   e. Glucagon

3. During periods of fasting and starvation, the glucocorticoid and other corticosteroid hormones are critical for survival because of their stimulation of gluconeogenesis by the liver. When the glucocorticoid hormones remain elevated for extended periods of time what can occur?
   a. Hepatomegaly
   b. Portal hypertension
   c. Hyperglycemia
   d. Adrenal hyperplasia

4. Type 1A diabetes is now considered an autoimmune disorder. What factors are considered necessary for type 1A diabetes to occur?
   a. Genetic predisposition, environmental triggering event, and a T lymphocyte-mediated hypersensitivity reaction against some beta cell antigen
   b. Genetic predisposition, physiologic triggering event, allergic reaction to pancreatic alpha cells
   c. Diabetogenic gene from both parents, physiologic triggering event, and an allergic reaction to pancreatic delta cells
   d. Diabetogenic gene from both parents, environmental triggering event, and a B lymphocyte reaction to alpha cell antigens

5. Type 2 diabetes is caused by metabolic abnormalities in the presence of insulin. What are these metabolic abnormalities? Mark all that apply.
   a. Deranged secretion of insulin
   b. Decreased glucose production by the liver
   c. Insulin resistance
   d. Increased glucose production by the liver
   e. Hypersensitivity to insulin

6. Secondary diabetes occurs because of disorders that produce hyperglycemia by stimulating the hepatic production of glucose or decrease the cellular use of glucose. Which disorders can cause secondary diabetes?
   a. Pheochromocytoma and Cushing syndrome
   b. Pancreatic disease and dwarfism
   c. Acromegaly and pancreatic hyperplasia
   d. Hepatomegaly and pheochromocytoma

7. Gestational diabetes mellitus (GDM) is a disorder of glucose intolerance that occurs during pregnancy. It is associated with increased risk for developing type 2 diabetes and with fetal abnormalities. What fetal abnormalities are associated with GDM?
   a. Microsomia and polycythemia
   b. Macrosomia and hypocalcemia
   c. Hypercalcemia and hyperbilirubinemia
   d. Hypoglycemia and hypercalcemia

8. What are the hallmark signs of diabetes mellitus?
   a. Polyuria, polydipsia, and pheochromocytoma
   b. Polyuria, polyphagia, and polycythemia
   c. Polyuria, polydipsia, and polyphagia
   d. Polycythemia, polydipsia, and pheochromocytoma

9. Match the type of oral antidiabetic agent with the name of a drug in its class.

| Type of Antidiabetic Agent | Drug |
|---|---|
| ___ 1. Insulin secretagogues | a. Exenatide |
| ___ 2. Biguanides | b. Rosiglitazone |
| | c. Metformin |

___ 3. α-Glucosidase inhibitors
___ 4. Thiazolidinediones
___ 5. Dipeptidyl peptidase 4 (DPP-4) enzyme inhibitors
___ 6. Glucagonlike polypeptide 1 agonists

d. Repaglinide
e. Acarbose
f. Alogliptin

10. Diabetic ketoacidosis (DKA) is a condition that mostly occurs in type 1 diabetes. What are the definitive diagnostic criteria for DKA?
a. Blood glucose level >350 mg/dL; bicarbonate <05 mEq/L and pH <7.4
b. Blood glucose level >250 mg/dL; bicarbonate <25 mEq/L and pH <7.3
c. Blood glucose level >350 mg/dL; bicarbonate <05 mEq/L and pH <7.4
d. Blood glucose level >250 mg/dL; bicarbonate <15 mEq/L and pH <7.3

11. A man is brought into the emergency department by paramedics who state that he passed out on the street. The man smells of alcohol and when roused says he has not eaten since yesterday. He is wearing a medic alert bracelet that says he is a diabetic. What diagnosis would you suspect?
a. Hypoglycemia
b. Hyperglycemia
c. Hyponatremia
d. Hypernatremia

12. Hypoglycemia has a sudden onset with a progression of symptoms. What are the signs and symptoms of hypoglycemia?
a. Difficulty problem solving and muscle spasms
b. Altered cerebral function and headache
c. Muscle spasms and headache
d. Altered cerebral function and muscle spasms

13. Research has identified a cycle of insulin-induced posthypoglycemic episodes. What is this phenomenon called?
a. Dawn phenomenon
b. Joslin phenomenon
c. Somogyi effect
d. Sunset effect

14. Peripheral neuropathies occur in people with diabetes mellitus. With the loss of sensation in the lower extremities, diabetics become predisposed to what?
a. Denervation of the large muscles of the foot and bunions
b. Displacement of the submetatarsal fat pad posteriorly and hammer toes
c. Impairment of temperature and touch sensations
d. Clawing of toes and denervation of the small muscles of the foot

15. Diabetics are at higher risk than most of the population for injury to organ systems in the body. Which organs are most at risk?
a. Kidneys and eyes
b. Kidneys and liver
c. Liver and eyes
d. Pancreas and eyes

16. Macrovascular disease includes coronary artery disease, cerebrovascular disease, and peripheral vascular disease. People with both type 1 and type 2 diabetes are at high risk for developing macrovascular disease. What are the risk factors for macrovascular disease in diabetics? Mark all that apply.
a. Elevated fibrinogen levels and hyperinsulinemia
b. Hyperlipidemia and hypotension
c. Hyperglycemia and hypoinsulinemia
d. Decreased fibrinogen levels and systemic inflammation

17. Diabetics are hospitalized for a number of reasons. What is the most common complication of diabetes requiring hospitalization?
a. Diabetic ketoacidosis
b. Foot problems
c. Hypertensive crisis
d. Macrovascular disease

18. Infections are common in people with diabetes. Which infection is thought to be related to a neurogenic bladder?
a. Nephrotic syndrome
b. Urinary retention
c. Pyelonephritis
d. Urinary incontinence

CHAPTER 43

# Structure and Function of the Male Genitourinary System

2. The diagnosis of secondary hypogonadism is confirmed. The patient asks what the treatment will be. What would be your correct response?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Sperm production by the testes is optimal at 2°C to 3°C below body temperature. Two systems of the body maintain the temperature of the testes at a level that allows sperm production. What is the system that assists in maintaining the testes at a temperature that allows sperm production?
   a. Pampiniform plexus
   b. Testicular artery
   c. Cremaster veins
   d. Tunica vaginalis

2. Spermatozoa are produced in the seminiferous tubules of the testes and are moved through the genital ducts to be stored in the ampulla of the vas deferens before ejaculation through the penis. Unlike the female egg, which remains briefly fertile, spermatozoa can remain fertile for up to 42 days. Where are the spermatozoa stored so they maintain their fertility?
   a. Vas deferns
   b. Genital ducts
   c. Ampulla
   d. Epididymis

3. The fluid from both the vas deferens and the vagina are acidic. From where do the alkaline secretions that allow mobilization of sperm come?
   a. Vaginal vault
   b. Genital ducts
   c. Prostate
   d. Urethra

4. The penis is a soft, cylindrical shaft that is outside the body. When sexual stimulation occurs the penis becomes firm and elongated due to blood being trapped in what? Mark all that apply.
   a. Corpus spongiosum
   b. Corpora spongiosum
   c. Corpora cavernosa
   d. Corpus cavernosa
   e. Corpus cavernosum

5. Spermatogenesis, or generation of spermatozoa or sperm, begins at approximately 13 years of age and continues as long as a man remains fertile. It is in the seminiferous tubules that spermatogenesis takes place. Of what is the inner lining of the seminiferous tubules composed?
   a. Epididymal cells
   b. Leydig cells
   c. Cowper cells
   d. Sertoli cells

6. The male reproductive system is controlled by the hypothalamus and the anterior pituitary gonadotropic hormones regulated by a negative feedback loop. What gonadotropic hormones regulate control of the male reproductive system?
   a. Follicle-stimulating hormone and luteinizing hormone
   b. Testosterone and antimüllerian hormone
   c. Gonadotropic hormone and follicle-stimulating hormone
   d. Testosterone and luteinizing hormone

7. The practice among some athletes of taking synthetic androgens to improve their performance in their sport can be physiologically harmful. What are the undesired effects of the androgens taken by athletes in supraphysiologic doses? Mark all that apply.
   a. Gynecomastia
   b. Azoospermia
   c. Increased testicular size
   d. Acne
   e. Hypogonadism

8. Sperm begin their life in the Sertoli cells. What factor functions in releasing mature spermatozoa from the Sertoli cells?
   a. Prostate secretions
   b. Plasminogen activator
   c. Testosterone
   d. Androgen-binding protein

9. What can cause erectile dysfunction?
   a. Dysfunction of the pampiniform plexus
   b. Damage to Leydig cells
   c. Dysfunction of pudendal nerves
   d. Damage to the Cowper gland

10. The male reproductive system undergoes changes as aging occurs. What is the term used to describe a relative or absolute hypogonadism associated with aging?
    a. Male menopause
    b. Testosterone deficiency
    c. Atherogenisis
    d. Andropause

CHAPTER 44

# Disorders of the Male Genitourinary System

a. Penile size
b. Testicular involvement
c. Psychological effects on a child
d. Presence of an abdominal hernia
e. Anesthetic risk

2. A 75-year-old man presents at the clinic complaining of pain during intercourse and an upward bowing of his penis during erection. His history includes an inflammation of the penis that was treated 3 months ago. The physician's physical examination of him notes beads of scar tissue along the dorsal midline of the penile shaft. What would be the suggested diagnosis for this patient?
a. Peyronie disease
b. Cavernosa disease
c. Balanitic disease
d. Paraphimosic disease

3. Priaprism (a prolonged painful erection not associated with sexual excitement) can occur at any age. In boys, ages 5 to 10 years, what are the most common causes of priapism?
a. Neoplasms or hemophilia
b. Sickle cell disease or neoplasms
c. Hemophilia or sickle cell disease
d. Hypospadias or neoplasms

4. Cryptorchidism, left untreated, is a high risk for testicular cancer and infertility. What are the treatment goals for boys with cryptorchidism?
a. Prevention of testicular cancer
b. Prevention of an associated inguinal hernia
c. Easier cancer detection
d. Decreased fertility

5. The mother of a 5-year-old boy brings him into the clinic because of a firm swelling around one of his testes. What diagnosis is suggested?
a. Peyronie disease
b. Cryptorchidism
c. Priapism
d. Hydrocele

6. In the neonatal and pediatric population, there can be many physiologic problems with the male genitourinary system. What is the most common acute scrotal disorder in the pediatric population?
a. Testicular torsion
b. Hypospadias
c. Balanitis
d. Paraphimosis

7. Epididymitis can be sexually transmitted, or it can be caused by a variety of other reasons, including abnormalities in the genitourinary tract. What are the most common causes of epididymitis in young men without underlying genitourinary disease?
a. *Chlamydia trachomatis* and *Candida albicans*
b. *Chlamydia trachomatis* and *Neisseria gonorrhoeae*
c. *Escherichia coli* and *Neisseria gonorrhoeae*
d. *Candida albicans* and *Escherichia coli*

8. Testicular cancer is highly curable if found and treated early. What are signs of metastatic spread of testicular cancer? Mark all that apply.
a. Hemoptysis
b. Back pain
c. Neck mass
d. Chest mass
e. Hoarse voice

9. A 40-year-old man presents at the clinic complaining of painful urination and rectal pain. His vital signs are as follows: temperature 101.7°F; blood pressure 105/74 mm Hg; pulse 98; respiratory rate 22. While taking a history, you note that the patient has had chills, malaise, and myalgia. What would you suspect as a diagnosis?
a. Benign prostatic hyperplasia
b. Epididymitis
c. Acute bacterial prostatitis
d. Orchitis

10. Although the cause of benign prostatic hyperplasia (BPH) is unknown, its incidence increases with age. In which ethnic group is BPH highest?
a. Japanese
b. Caucasian
c. Native American
d. African American

CHAPTER 45

# Structure and Function of the Female Reproductive System

2. The patient asks if HT can reverse the symptoms of aging (e.g., decrease in body hair and subcutaneous fat) in her body? You would know that the best response is what?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. The female external genitalia are made up of several components. What is in the vestibule of the female external genitalia?
   a. Bartholin glands
   b. Skene glands
   c. Cowper glands
   d. Bulbourethral glands
2. Estrogen stimulates the vaginal wall to thicken and increase the secretion of glycogen. What causes the glycogen in the vagina to ferment to lactic acid?
   a. *Escherichia coli*
   b. Döderlein's bacilli
   c. *Candida albicans*
   d. *Staphylococcus aureus*
3. The perimetrium reflects over the bladder wall and forms what?
   a. Opening to fallopian tubes
   b. The external cervical os
   c. The pouch of Douglas
   d. Bartholin's pouch
4. The fallopian tubes are narrow tubes that attach bilaterally to the uterus. Within the fallopian tube, fertilization of the ovum takes place. The end of the fallopian tube nearest the ovary is funnel-like. What are the fringed, fingerlike projections around the funnel-shaped opening of the fallopian tube called?
   a. Fallopian fingers
   b. Oviducts
   c. Cilia
   d. Fimbriae

5. The ovarian follicle becomes luteinized once ovulation has taken place. As the corpus luteum, the now empty follicle produces what?
   a. Estrogen and progesterone
   b. Follicle-stimulating hormone and luteinizing hormone
   c. Testosterone and estrogen
   d. Glycogen and testosterone

6. The ovaries secrete both estrogen and progesterone. What is one function of progesterone in the body?
   a. Causes moderate retention of sodium and water
   b. Increases body temperature at ovulation
   c. Reduces levels or rennin
   d. Enhances the coagulability of blood

7. Follicle-stimulating hormone (FSH) and luteinizing hormone (LH) produce profound effects on the ovaries. What do high levels of estrogen do to FSH and LH?
   a. ↑FSH and ↓LH
   b. ↑LH and ↓estradiol
   c. ↑ LH and ↓ FSH
   d. ↑ FSH and ↓ renin

8. Menopause signals the end of the menstrual cycle. It is caused by the end of ovarian function and the decreased levels of estrogen this brings to the body. What are problems that can arise from the onset of menopause? Mark all that apply.
   a. Nocturia
   b. Urinary stress incontinence
   c. Upper respiratory infection
   d. Vaginitis
   e. Urinary retention

9. What are the small bumps or projections on the areolar surface called?
   a. Cowper cells
   b. Bartholin gland
   c. Climacteric glands
   d. Montgomery tubercles

10. Lactation occurs under the control of the anterior pituitary hormone prolactin. What causes the ejection of milk from the ductile system in the breast?
    a. Oxytocin
    b. Prolactin
    c. Estrogen
    d. Progesterone

CHAPTER 46

# Disorders of the Female Reproductive System

colposcopy and the reason it is being done. How would you correctly respond?

2. The colposcopy shows dysplastic lesions, and the physician wants to do a large loop electrosurgical excision procedure (LEEP) of the transformation zone. The patient gives her consent, but wants to know what this procedure is. How would you explain the procedure to the patient?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Bartholin gland obstruction of the ductal system will cause a cyst. Sometimes the cyst becomes infected and an abscess occurs. What is the surgical procedure to remove a Bartholin cyst or abscess when a wedge of vulvar skin is removed along with the cyst wall?
   a. Marsupialization
   b. Vulvectomy
   c. Bartholectomy
   d. Incision and drainage

2. There are two types of vulvar cancer. One type is found in older women, and one type is found in younger women, generally younger than 40 years of age. The type found in younger women thought to be caused by which of the following?
   a. Multiple sexual partners
   b. Human papillomavirus (HPV)
   c. Nonsquamous cell lesions
   d. Lichen sclerotic lesions

3. Vaginal infections can occur in young girls before menarche. These infections generally have nonspecific causes. What are some of the causes of vaginal infections in premenarchal girls? Mark all that apply.
   a. Presence of foreign bodies
   b. Intestinal parasites
   c. Poor hygiene
   d. Vaginal deodorants
   e. Tampon

4. The endocervix is covered with large-branched mucous secreting glands. During the menstrual cycle, they undergo functional changes, and the amount and properties of the mucus that they secret varies according to the stage of the cycle. When one of these glands gets blocked, what kind of cyst forms within the cervix?
   a. Bartholin cysts
   b. Bulbouretheral cysts
   c. Nabothian cysts
   d. Metaplastic cysts

5. Endometriosis is the condition where endometrial tissue is found growing outside of the uterus in the pelvic cavity. What are risk factors for endometriosis?
   a. Late menarche and regular periods with longer cycles than 27 days
   b. Early menarche and lighter flow
   c. Increased menstrual pain and periods of shorter than 7 days
   d. Periods longer than 7 days and increased menstrual pain

6. Leiomyomas, or intrauterine fibroids, are the most common form of pelvic tumor. Approximately half the time leiomyomas are asymptomatic. What are the symptoms of leiomyomas that are not asymptomatic?
   a. Anemia and urinary frequency
   b. Diarrhea and rectal pressure
   c. Menorrhagia and urinary retention
   d. Abdominal distention and diarrhea

7. An 18-year-old woman presents at the clinic complaining new-onset breakthrough bleeding, even though she is on contraceptives. What contraceptive use, along with new-onset breakthrough bleeding, has been associated with pelvic inflammatory disease.
   a. Intrauterine device
   b. Depo-Provera
   c. Spermicidal foam
   d. Diaphragm

8. Ectopic pregnancies are true gynecologic emergencies and are considered the leading cause of maternal death in the first trimester.

What diagnostic test would you expect to have ordered for a suspected ectopic pregnancy?

a. Transvaginal ultrasound if pregnancy is <5 weeks' gestation
b. Serial β-human chorionic gonadotropin (hCG) with higher than normal hCG production
c. Ultrasonography followed by serial hCG tests
d. Amniocentesis

9. Polycystic ovary syndrome is an endocrine disorder and a common cause of chronic anovulation. In addition to the clinical manifestations of PCOS, long-term health problems, including cardiovascular disease and diabetes, have been linked to PCOS. What drug has emerged as an important part of PCOS treatment?

a. Dehydroepiandrosterone
b. Methotrexate
c. Mineralocorticoids
d. Metformin

10. Ovarian cancer, once thought to be asymptomatic, has now been shown to produce nonspecific symptoms, which makes the diagnosis of ovarian cancer difficult. What symptoms are believed to have a strong association to ovarian cancer? Mark all that apply.

a. Difficulty eating
b. Increased intestinal gas
c. Bloating
d. Increased appetite
e. Abdominal or pelvic pain

11. Uterine prolapse is a disorder of pelvic support and uterine position. It can range in severity from a slight descent of the uterus into the vagina, all the way to the entire uterus protruding through the vaginal opening. In women who want to have children or in older women who are at significant risk if surgery is performed, what device is inserted to hold the uterus in place?

a. A pessary
b. A Colpexin sphere
c. A vesicourethral suspenser
d. A retroversion inducer

12. In primary dysmenorrheal when contraception is not desired, what is the treatment of choice?

a. Aspirin
b. Ibuprofen
c. Acetaminophen
d. Metformic acid

13. Mastitis is an inflammation of the breast that can occur at any time. What is the treatment for mastitis?

a. Opioid analgesics
b. Nonsteroidal anti-inflammatory drugs
c. Application of heat or cold
d. Tylenol 3

14. Fibrocystic changes in the breast are not uncommon. How is the diagnosis of fibrocystic changes made?

a. Physical examination and client history
b. Galactography and biopsy
c. Mammography and galactography
d. Ultrasonography and mammography

15. Cancer of the breast is the most common cancer in women. Many breast cancers are found by women themselves while doing breast self-examination. When should postmenopausal women perform breast self-examination?

a. Any day of the month
b. 2 days following menses
c. On the first day of every month
d. On the 15th of every month

16. The causes of infertility can be in either the male or the female. Male tests for infertility require a specimen of ejaculate that is collected when?

a. Any time
b. After 3 days of abstinence
c. After 3 consecutive days of intercourse
d. After 3 weeks of abstinence

17. Couples who are being treated for infertility often choose to try in vitro fertilization (IVF). When using this technique, the eggs are inseminated with sperm in a culture dish. After a period of time, the ova are evaluated for signs of fertilization. If signs of fertilization are present, when are the fertilized eggs placed in the woman's uterus?

a. 12 to 24 hours after egg retrieval
b. 36 to 48 hours after egg retrieval
c. 48 to 72 hours after egg retrieval
d. 24 to 36 hours after egg retrieval

CHAPTER 47

# Sexually Transmitted Infections

# SECTION IV: PRACTICING FOR NCLEX

**Activity E** *Answer the following questions.*

1. After inoculation with human papilloma virus (HPV), genital warts may begin to grow. They usually manifest as soft, raised fleshy lesions on the external genitalia of either a male or female patient. What is the incubation period for HPV-induced genital warts?

a. 6 weeks to 8 months
b. 6 weeks to 8 weeks
c. 6 months to 8 months
d. 6 days to 8 days

2. Primary genital herpes is a sexually transmitted infection (STI) caused by either the herpes simplex virus type 1 (HSV-1) or the herpes simplex virus type 2 (HSV-2). What are the initial symptoms of primary genital herpes infections? Mark all that apply.
   a. Itching
   b. Chancres
   c. Genital pain
   d. Eczemalike lesions
   e. Small pustules

3. There is no known cure for genital herpes and methods of treatment are often symptomatic. Pharmacologic treatment of genital herpes includes which drugs?
   a. Zidovudine
   b. Famciclovir
   c. Nonsteroidal anti-inflammatory drugs
   d. Topical corticosteroid compounds

4. Chancroid or soft chancre is a highly contagious STI usually found in the Southeast Asian and North African populations. What is the recommended treatment for chancroid?
   a. Tetracycline
   b. Sulfamethoxazole
   c. Erythromycin
   d. Acyclovir

5. A male patient presents at the clinic with flu-like symptoms, weight loss of 10 pounds without trying. On physical examination, he is found to have splenomegaly and large, tender, fluctuant inguinal lymph nodes. While taking the nursing history, it is discovered that the patient prefers male sexual partners, and 2 weeks ago he had small, painless papules. What disease would the nurse suspect the client has?
   a. Genital herpes
   b. Chancroid
   c. Syphilis
   d. *Lymphogranuloma venereum* (LGV)

6. Candidiasis is a leading cause of vaginal infections. Which antifungal agent is not available without prescription to treat candidiasis?
   a. Terconazole
   b. Clotrimazole
   c. Miconazole
   d. Butaconazole

7. Trichomoniasis is an STI that can occur in either sex. Men carry the protozoan in the urethra and prostate and remain asymptomatic. This anerobic protozoan can cause a number of complications. What is a risk factor for trichomoniasis in both men and women?
   a. Atypical pelvic inflammatory disease (PID)
   b. Human immunodeficiency virus (HIV) transmission
   c. Blockage of tubes and ducts
   d. Ovarian and testicular cysts

8. Bacterial vaginosis is the most common vaginal infection seen by health care providers. What is the predominant symptom of bacterial vaginosis?
   a. Thick, cottage cheese-like discharge with a fishy odor
   b. Painless chancres
   c. Grayish white discharge with a fishy odor
   d. Small, painless papules

9. Gonorrhea is an STI that affects both men and women. When diagnosing gonorrhea, specimens should be collected from the appropriate site and inoculated onto the correct medium. From what sites can specimens be collected when diagnosing gonorrhea? Mark all that apply.
   a. Oropharynx
   b. Urethra
   c. Nasal passages
   d. Exocervix
   e. Anal canal

10. Tertiary syphilis is a delayed response of untreated primary syphilis that can occur as long as 20 years after the primary disease. When tertiary syphilis progresses to a symptomatic stage, it can produce localized necrotic lesions. What are these lesions called?
    a. Chancres → primary
    b. Chancroids
    c. Gummies
    d. Gummas

CHAPTER 48

# Organization and Control of Neural Function

2. The patient asks what this defect will mean for her baby. What would be your correct response?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. There are two types of nervous tissue cells. One type is neurons, and the other type is the supporting cells. What is the function of the supporting cells?
   a. Protect nervous system and provide metabolic support for the neurons
   b. Transmit messages between parts of the peripheral nervous system (PNS)
   c. Transmit messages between the central nervous system and the PNS
   d. Provide metabolic support for the neurons and the PNS

2. Ion channels in nervous system cells generate action potentials in the cells. What are the ion channels guarded by?
   a. Schwann cells
   b. Voltage-dependent gates
   c. Ligand-gates
   d. Leyte cells

3. Neurons communicate through the use of synapses. These synapses may link neurons into functional circuits. What is the most common type of synapse?
   a. Electrical synapse
   b. Excitatory synapse
   c. Chemical synapse
   d. Inhibitory synapse

4. Neurotransmitters are small molecules that exert their actions through specific proteins, called receptors, embedded in the postsynaptic membrane. Where are neurotransmitters synthesized?
   a. In the dendrite terminal
   b. In the presynaptic junction
   c. In the postsynaptic junction
   d. In the axon terminal

5. Neuromodulators can produce slower and longer-lasting changes in membrane excitability by acting on postsynaptic receptors. What do neuromodulators do?
   a. Alter the release or response to neurotransmitters
   b. Alter the inhibitory response of postsynaptic electrical receptors
   c. Alter the metabolic function of Schwann cells
   d. Alter the Ligand-gate response to electrical activity

6. The basis for assessing the function of any peripheral nerve lies in what?
   a. Peripheral nerves contain only afferent processes from the cell columns
   b. Peripheral nerves contain processes of more than one of the four afferent and three efferent cell columns
   c. Peripheral nerves contain only efferent processes from the cell columns
   d. Peripheral nerves contain no processes from the seven cell columns

7. The spinal cord does not hang freely within the spinal column. What is it supported by?
   a. The pia mater and the posterior vertebra
   b. The denticulate ligaments and the vertebral blood vessels
   c. The pia mater and the denticulate ligaments
   d. The vertebral blood vessels and the posterior vertebra

8. One of the spinal motor reflexes is the myotatic reflex. What does this reflex do for the body?
   a. Provides information to withdraw the body from noxious stimuli
   b. Provides information about nociceptive stimuli
   c. Provides information about equilibrium
   d. Provides information about proprioception

9. The cerebellum, separated from the cerebral hemispheres by the tentorium cerebelli, lies in the posterior fossa of the cranium. What is one of the functions of the cerebellum?
   a. Coordinates smooth and accurate movements of the body
   b. Conveys the senses of pain, temperature, touch, and proprioception to the superficial and deep regions of the face

c. Contains the pontine nuclei
d. Contains the main motor pathways between the forebrain and the pons.

10. The basal ganglia, part of the cerebral hemispheres, are damaged by diseases such as Parkinson disease and Huntington chorea. What does this result in?
a. Uncontrollable tremors on movement
b. Abnormal movement patterns
c. Explosive, inappropriate speech
d. Inappropriate emotions

11. The blood–brain barrier excludes most highly water-soluble drugs, but allows lipid-soluble drugs to easily cross. What antibiotic is highly lipid soluble and readily enters the brain?
a. Ceftriaxone
b. Penicillin
c. Chloramphenicol
d. Cefadroxil

12. The sympathetic and the parasympathetic nervous systems are continuously at work in our bodies. This continual action gives a basal activity to all parts of the body. What is this basal activity referred to as?
a. Tension
b. Relaxation
c. Tone
d. Strength

13. Dopamine is an intermediate compound made during the synthesis of norepinephrine. It is the principal inhibitory transmitter of the internuncial neurons in the sympathetic ganglia. What other action does it have?
a. Vasoconstricts renal and coronary blood vessels when given intravenously (IV)
b. Acts as a neuromoderator in the hindbrain
c. Acts as a neuromoderator in the forebrain
d. Vasodilates renal and coronary blood vessels when given IV

CHAPTER 49

# Somatosensory Function, Pain, and Headache

sure

3. A neurologic assessment of the somatosensory function of the body is often necessary for diagnostic information. How is this assessment done?
   a. Testing the integrity of spinal segmental nerves
   b. Testing the integrity of cranial nerves
   c. Testing the integrity of peripheral nerves
   d. Testing the integrity of the CNS

4. When testing nociceptive stimuli to elicit a withdrawal reflex in the body, what stimuli are commonly used?
   a. Weak electrical current
   b. Pressure from a sharp object
   c. Skin temperature damp cotton ball
   d. Water heated to 5°C above skin temperature

5. One of the neurotransmitters between the nociceptive neurons and the dorsal horn neurons is a major excitatory neurotransmitter. What is this neurotransmitter?
   a. Norepinephrine
   b. Substance P
   c. Glutamate
   d. Dopamine

6. Which tract in the spinal cord conducts the diffuse, dull, aching sensations that are associated with chronic and visceral pain?
   a. Multisynaptic tract
   b. Neospinothalamic tract
   c. Anterolateral tract
   d. Paleospinothalamic tract

g. Perceived at a site different from its point of origin, but innervated by the same spinal segment

8. It is often necessary to assess a patient's pain. What factors would you assess when assessing pain? Mark all that apply.
   a. Nature and severity of pain
   b. Severity and spinal reflex involvement of pain
   c. Location and radiation of pain
   d. Spinal reflex involvement and nature of pain
   e. Spinal tract involvement and radiation of pain

9. When giving medicine for acute pain, health care workers are reluctant to provide much needed opioid pain medicine. What is your major concern when providing opioid pain relief?
   a. Fear of addiction
   b. Fear of depressed respirations
   c. Fear of over-sedation
   d. Fear of adverse reactions

10. Chronic pain is difficult to treat. Cancer, a common cause of chronic pain, has been especially addressed by the World Health Organization (WHO). What has WHO created to assist clinicians in choosing appropriate analgesics?
    a. An opioid ladder for pain control
    b. An analgesic ladder for pain control
    c. Stepping stones for pain control
    d. A list of nonpharmacologic ways to control pain

11. In describing the ideal analgesic, what factors would be included? Mark all that apply.
    a. Inexpensive
    b. Have minimal adverse effects
    c. Effective
    d. Addictive
    e. Decrease the level of consciousness

12. Using surgery to relieve severe, intractable pain has been successful to a degree. For what can surgery be used when a person is in pain?
    a. Relief of severe peripheral contractures
    b. Cure inoperable cancer
    c. Block transmission of phantom limb pain
    d. Cure severe myalgia

13. When a peripheral nerve is sufficiently irritated, it becomes hypersensitive to the noxious stimuli, which results in increased painfulness or hyperalgesia. Health care professionals recognize both primary and secondary forms of hyperalgesia. What is primary hyperalgesia?
    a. Pain that occurs in the tissue surrounding an injury.
    b. Pain sensitivity that lasts longer than 1 week
    c. Pain sensitivity that occurs in the viscera
    d. Pain sensitivity that occurs directly in damaged tissues

15. Phantom limb pain is a little understood pain that develops after an amputation. Because it is little understood, it is difficult to treat, even though the patient is experiencing severe pain. What are the treatments for phantom limb pain?
    a. Sympathetic blocks and hypnosis
    b. Relaxation training and transcutaneous electrical nerve stimulation (TENS) on the efferents in the area
    c. Narcotic analgesics and relaxation training
    d. Biofeedback and nonsteroidal anti-inflammatory drugs (NSAIDs)

16. Migraine headaches affect millions of people worldwide. What are first-line agents for the treatment of migraine headaches?
    a. Ondansetron and morphine
    b. Naproxen sodium and metoclopramide
    c. Sumatriptan and Tramadol
    d. Caffeine and syrup of ipecac

17. A severe type of headache that occurs more frequently in men than in women and is described as having unrelenting, unilateral pain located most frequently in the orbit is called what?
    a. Migraine headache
    b. Tension headache
    c. Cluster headache
    d. Chronic daily headache

18. When assessing pain in children, it is important to use the correct pain rating scale. What would be the appropriate pain rating scale with children who are 3 to 8 years of age?
    a. COMFORT pain scale
    b. FLACC pain scale
    c. CRIES pain scale
    d. FACES pain scale

19. Children feel pain just as much as adults do. What is the major principle in pain management in the pediatric population?
    a. Treat on individual basis and match analgesic agent with cause and level of pain
    b. Always use nonpharmacologic pain treatment before using pharmacologic pain treatment
    c. Base treatment of pain on gender and age group
    d. Treat pediatric pain the way the parents wish

CHAPTER 50

# Disorders of Motor Function

# SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The spinal cord contains the basic factors necessary to coordinate function when a movement is planned. It is the lowest level of function. What is the highest level of function in planning movement?

   a. Frontal cortex

   b. Cerebral cortex

   c. Pons

   d. Cerebellum

2. Match the neurons with their function/description.

| Neuron | Function/Description |
|---|---|
| ___ 1. Motor neurons | a. Motor neuron and the group of muscle fibers it innervates in a muscle |
| ___ 2. Motor unit | b. Control motor function |
| ___ 3. Lower motor neurons (LMNs) | c. Project from the motor strip in the cerebral cortex to the ventral horn and are fully contained within the central nervous system |
| ___ 4. Upper motor neurons (UMNs) | d. The motor neurons supplying a motor unit are located in the ventral horn of the spinal cord |

3. Reflexes are basically "hard-wired" into the central nervous system. Anatomically, the basis of a reflex is an afferent neuron that synapses directly with an effector neuron that causes muscle movement. Sometimes the afferent neuron synapses with what intermediary between the afferent and effector neurons?
   a. Neurotransmitter
   b. Interneuron
   c. Intersegmental effectors
   d. Suprasegmental effectors

4. The signs and symptoms produced by disorders of the motor system are useful in finding the disorder. What signs and symptoms would you assess when looking for a disorder of the motor system? Mark all that apply.
   a. Spinal reflex activity
   b. Bulk
   c. Motor coordination
   d. Muscle innervation
   e. Tone

5. Duchenne muscular dystrophy usually does not produce any signs or symptoms until between the ages of 2 and 3. What muscles are usually first to be affected in Duchenne muscular dystrophy?
   a. Muscles of the upper arms
   b. Large muscles of the legs
   c. Postural muscles of hip and shoulder
   d. Spinal and neck muscles

6. Antibiotics, such as gentamicin, can produce a disturbance in the body that is similar to botulism by preventing the release of acetylcholine from nerve endings. In persons with preexisting neuromuscular transmission disturbances, these drugs can be dangerous. What disease falls into this category?
   a. Multiple sclerosis
   b. Duchenne muscular dystrophy
   c. Becker muscular dystrophy
   d. Myasthenia gravis

7. In myasthenia gravis, periods of stress can produce myasthenia crisis. When does myasthenia crisis occur?
   a. When muscle weakness becomes sufficiently severe to compromise ventilation
   b. When the patient is too weak to hold up his or her head
   c. When the patient is so weak he or she cannot lift his or her arms
   d. When the patient can no longer walk

8. Peripheral nerve disorders are not uncommon. What is an example of a fairly common mononeuropathy?
   a. Guillain-Barré syndrome
   b. Carpal tunnel syndrome
   c. Myasthenia gravis
   d. Phalen syndrome

9. Herniated disks occur when the nucleus pulposus is compressed enough that it protrudes through the annulus fibrosus putting pressure on the nerve root. This type of injury occurs most often in the cervical and lumbar region of the spine. What is an important diagnostic test for a herniated disk in the lumbar region?
   a. Hip flexion test
   b. Computed tomography (CT) scan
   c. Straight-leg test
   d. Electromyelography

10. Match the cerebellar pathway with its function.

| Cerebellar Pathway | Function |
|---|---|
| ___ 1. Vestibulocerebellar pathway | a. Maintains equilibrium and posture |
| ___ 2. Spinocerebellar pathway | b. Provides the circuitry for coordinating the movements of the distal portions of the limbs |
| ___ 3. Cerebrocerebellar pathway | c. Coordinates sequential body and limb movements |

11. The basal ganglia play a role in coordinated movements. Part of the basal ganglia system is the striatum which involves local cholinergic interneurons. What disease is thought to be related to the destruction of the cholinergic interneurons?
    a. Parkinson syndrome
    b. Guillain-Barré syndrome
    c. Myasthenia gravis
    d. Huntington disease

12. What disease results from the degeneration of the dopamine nigrostriatal system of the basal ganglia?
    a. Parkinson disease
    b. Huntington disease
    c. Guillain-Barré syndrome
    d. Myasthenia gravis

13. Amyotrophic lateral sclerosis (ALS) is considered a disease of the upper motor neurons. What is the most common clinical presentation of ALS?
    a. Rapidly progressive weakness and atrophy in distal muscles of both upper extremities
    b. Slowly progressive weakness and atrophy in distal muscles of one upper extremity
    c. Rapidly progressive weakness and atrophy in distal muscles of both lower extremities
    d. Slowly progressive weakness and atrophy in distal muscles of one lower extremity

14. Although no laboratory test is diagnostic for multiple sclerosis (MS), some patients have alterations in their cerebrospinal fluid (CSF) that can be seen when a portion of the CSF is removed during a spinal tap. What finding in CSF is suggestive of MS?
    a. Decreased immunoglobulin G levels
    b. Decreased total protein levels
    c. Oligoclonal patterns
    d. Decreased lymphocytes

15. At what level of the cervical spine would an injury allow finger flexion?
    a. C5
    b. C6
    c. C7
    d. C8

16. A 14-year-old girl has been thrown from the back of a pick-up truck. MRI shows broken vertebrae at the C2 level. What is the main significance of an injury at this level of the spinal column?
    a. Cannot breathe on own, needs ventilator assistance
    b. Partial or full diaphragmatic function, ventilation is diminished because of the loss of intercostal muscle function, resulting in shallow breaths and a weak cough
    c. Intercostal and abdominal musculature is affected, the ability to take a deep breath and cough is less impaired
    d. Needs maintenance therapy to strengthen existing muscles for endurance and mobilization of secretions

17. Approximately 6 months after a spinal cord injury, a 29-year-old man has an episode of autonomic dysreflexia. What are the characteristics of autonomic dysreflexia? Mark all that apply.
    a. Hypertension
    b. Fever
    c. Skin pallor
    d. Vasoconstriction
    e. Piloerector response

18. Bowel dysfunction is one of the most difficult problems to handle after a spinal cord injury. After a spinal cord injury, most people experience constipation. Why does this occur?
    a. Innervation of the bowel is absent
    b. Defecation reflex is lost
    c. Internal anal sphincter will not relax
    d. Peristaltic movements are not sufficiently strong to move stool through the colon

CHAPTER 51

# Disorders of Brain Function

surface of the brain become effaced and shallow, and the white matter is reduced in volume.

g. Tissue perfusion becomes inadequate, cellular hypoxia results, and neuronal death can occur.

3. Several types of brain injuries can occur. What are the primary (or direct) brain injuries? Mark all that apply.
   a. Focal lesions of laceration
   b. Contusion
   c. Hypoxic
   d. Diffuse axonal
   e. Hemorrhage

4. Global and focal brain injuries manifest differently. What is almost always a manifestation of a global brain injury?
   a. Altered level of consciousness
   b. Change in behavior
   c. Respiratory instability
   d. Loss of eye movement reflexes

5. You are the nurse caring for a 31-year-old trauma victim admitted to the neurologic intensive care unit (ICU). During your initial assessment, you find that the patient is flexing arms, wrists, and fingers. There is abduction of the upper extremities with internal rotation and plantar flexion of the lower extremities. How would you describe this in your nursing notes?
   a. Decerebrate posturing
   b. Decorticate posturing
   c. Extensor posturing
   d. Diencephalon posturing

6. Brain death is the term used when irreversible loss of function of the entire brain occurs. A clinical examination must be done and repeated at least 6 hours later with the same findings for brain death to be declared. What is not assessed in the clinical examination for brain death?
   a. Blink reflex
   b. Responsiveness
   c. Electrocardiographic (ECG) findings
   d. Respiratory effort



7. Much as with brain death, there are criteria for the diagnosis of a persistent vegetative state, and the criteria have to have lasted for more than 1 month. What are criteria for the diagnosis of persistent vegetative state? Mark all that apply.
   a. Bowel and bladder incontinence
   b. Ability to open the eyes
   c. Lack of language comprehension
   d. Lack of sufficient hypothalamic function to maintain life
   e. Variable preserved cranial nerve reflexes

8. The regulation of cerebral blood flow is accomplished through both autoregulation and local regulation. This allows for the brain to meet its metabolic needs. What is the low parameter for blood pressure before cerebral blood flow becomes severely compromised?
   a. 30 mm Hg
   b. 40 mm Hg
   c. 50 mm Hg
   d. 60 mm Hg

9. Intracranial aneurysms that rupture cause subarachnoid hemorrhage in the patient. How is the diagnosis of intracranial aneurysms and subarachnoid hemorrhage made?
   a. Lumbar puncture
   b. Magnetic resonance imaging (MRI)
   c. Loss of cranial nerve reflexes
   d. Venography

10. When the suspected diagnosis is bacterial meningitis, what assessment techniques can assist in determining the presence of meningeal irritation?
    a. Kernig sign and Chadwick sign
    b. Brudzinski sign and Kernig sign
    c. Brudzinski sign and Chadwick sign
    d. Chvostek sign and Guedel sign

11. Manifestations of brain tumors are focal disturbances in brain function and increased intracranial pressure (ICP). What causes the focal disturbances manifested by brain tumors?
    a. Tumor infiltration and increased blood pressure
    b. Brain compression and decreased ICP
    c. Brain edema and disturbances in blood flow
    d. Tumor infiltration and decreased ICP

12. Match the type of seizure with its definition.

| Type of Seizure | Definition |
|---|---|
| ___ 1. Unprovoked | a. Motion takes the form of automatisms such as lip smacking, mild clonic motion (usually in the eyelids), increased or decreased postural tone, and autonomic phenomena |
| ___ 2. Complex partial seizures | b. These seizures also are known as drop attacks |
| ___ 3. Generalized-onset | c. Most common major motor seizure |
| ___ 4. Absence seizures | d. Clinical signs, symptoms, and supporting electroencephalographic (EEG) changes indicate involvement of both hemispheres at onset |
| ___ 5. Atonic | e. Begins in a localized area of the brain but may progress rapidly to involve both hemispheres |
| ___ 6. Tonic-clonic | f. No identifiable cause can be determined |

13. For seizure disorders that do not respond to anticonvulsant medications, an option for surgical treatment exists. What is removed in the most common surgery for seizure disorders?
    a. Temporal neocortex
    b. Hippocampus
    c. Entorhinal cortex
    d. Amygdala

14. Generalized convulsive status epilepticus is a medical emergency caused by a tonic-clonic seizure that does not spontaneously end, or recurs in succession without recovery. What is the first-line drug of choice to treat status epilepticus?
    a. Intravenous (IV) diazepam
    b. Intramuscular (IM) lorazepam
    c. IV cyclobenzaprine
    d. IM cyproheptadine

CHAPTER 52

# Sleep and Sleep Disorders

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. One of the stages of sleep is the rapid eye movement, or REM, stage. What is it that the brain cannot do during REM sleep?
   a. Acquire new sensory information
   b. Regulate blood pressure
   c. Replay previous memories
   d. Arouse auditory and visual systems
2. What hormone does the pineal gland synthesize and release under the direct control of the suprachiasmatic nucleus (SCN)?
   a. Growth hormone
   b. Melatonin
   c. Cortisol
   d. Dehydroepiandrosterone (DHEA)
3. The multiple sleep latency test (MSLT) is a diagnostic sleep study used to evaluate daytime sleepiness. What result of an MSLT would be considered abnormal?
   a. 10 minutes
   b. 12 minutes
   c. 4 minutes
   d. 5 minutes
4. Restless leg syndrome (RLS) is a disorder that has its peak onset in middle age. Diagnosis of RLS is based on a history of what?
   a. Compelling urge to rest legs
   b. Motor relaxation
   c. Symptoms that are worse in the afternoon
   d. Symptoms that become worse at rest
5. Match the type of dyssomnia with their definition.

| Type of Dyssomnia | Definition |
|---|---|
| ____ 1. Jet lag | a. A lack of synchronization between the internal sleep–wake rhythm and the external 24-hour day |
| ____ 2. Change in sleep phase disorder | b. Advanced or delayed sleep phase syndrome |
| ____ 3. Shift work sleep disorder | c. Clash between shift demands for wakefulness as part of the work environment and the sleep setting of the worker's intrinsic circadian clock. |
| ____ 4. Non–24-hour sleep–wake syndrome | d. Sudden loss of synchrony between a traveler's intrinsic circadian clock and the local time of the flight's destination. |
| ____ 5. Insomnia | e. A syndrome characterized by abnormal sleep tendencies, including excessive daytime sleepiness, disturbed nocturnal sleep, and manifestations related to REM sleep, such as cataplexy (brief periods of muscle weakness), hypnagogic hallucinations, and sleep paralysis. |
| ____ 6. Narcolepsy | f. Sleep that is chronically nonrestorative or poor in quality |

6. Sleepwalking can occur in both adults and children. Typically, what does someone who is sleepwalking do?
   a. Refuse to respond to communication efforts of other people
   b. Go outside
   c. Appear alert
   d. Fix something to eat

7. The onset of sleep terrors is usually between the ages of 2 and 4 years. What are the manifestations of sleep terrors? Mark all that apply.
   a. Dilated pupils
   b. Rapid breathing
   c. Tachycardia
   d. Screams on awakening
   e. Refuses to go to sleep in own bed

8. The prevalence of sleep disorders increases with age. Medication use is one reason for this. What medication can have a stimulating effect that interferes with sleep?
   a. Vasoconstrictors
   b. Antihypertensives
   c. Beta blockers
   d. Vasodilators

9. In what disease is often seen more frequent periods of nighttime awakening and daytime sleeping?
   a. Parkinson disease
   b. Huntington disease
   c. Alzheimer disease
   d. Amyotrophic lateral sclerosis (ALS)

10. Actigraphy can be used to diagnose sleep disturbances. The actigraph is worn on the wrist and is used most commonly with what?
    a. A sleep diary
    b. CPAP
    c. Video tape of sleep
    d. Trial pharmacologic substances

## SECTION III: APPLYING YOUR KNOWLEDGE

**Activity E** *Consider the following scenario and answer the question.*

A 65-year-old woman has just been diagnosed with Alzheimer disease. She calls the clinic and asks if she and her family can come in and have someone talk to them about the disease. The nurse sets aside time for this patient and her family.

1. In teaching this family about Alzheimer disease, what are the major points she should convey to them?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. In the 1960s, the deinstitutionalization of the mentally ill occurred along with a move to community psychiatry. What was a cause of this movement?
   a. Psychopharmacology
   b. Medicalizing of deviance
   c. Feeling that a calming environment was crucial
   d. Homelessness
2. In the 1990s, studies were conducted on whether mental illness had a genetic basis. What do the results of the studies show?
   a. Mental illness is a Mendelian trait
   b. Mental illness is polygenic
   c. Mental illness is a recessive trait
   d. Mental illness is based solely on environment
3. What are the major neuromediators? Mark all that apply.
   a. Norepinephrine
   b. Gamma-aminobutyric acid
   c. Succinylcholine
   d. Serotonin
   e. Dopamine
4. What is the task of the prefrontal area of the brain?
   a. Control speech
   b. Control hearing
   c. Manage information
   d. Comprehend language
5. Sensory input from the environment is received by what area of the brain?
   a. Hypothalamus
   b. Broca's area
   c. Amygdala
   d. Thalamus
6. Thought and memory pass across synapses in the brain. What are the neural circuits transmitted by new or reactivated pathways called?
   a. Memory traces
   b. Information processing
   c. Information storage
   d. Memory searches
7. Hallucinations can be categorized in several ways. What hallucinations are the products of abnormal neuronal discharges?
   a. Visual
   b. Ictal
   c. Emotional
   d. Release
8. Hallucinations are abnormalities of perception, whereas delusions are abnormalities of thought. What have delusions been associated with?
   a. Sensory overload
   b. Disorders of information management
   c. Sensory deprivation
   d. Disorders of speech
9. The emergence of psychotropic medications gave us the ability to target specific actions in the brain as treatment for mental illness. Which psychotropic medication is a monoamine oxidase inhibitor?
   a. Valium
   b. Halcion
   c. Paxil
   d. Nardil

10. Schizophrenia is a complex disease that strikes men and women equally. What is a common sign or symptom of schizophrenia in its early stages?
    a. Enhancement of senses
    b. Using invented words
    c. Visual hallucinations
    d. Catatonic behavior

11. Match the subclassification of depression or dysthymia with its symptoms.

| Subclassification | Symptoms |
|---|---|
| ___ 1. Catatonic | a. Increased emphasis related to the baby |
| ___ 2. Melancholic | b. Low self-esteem, sleep and energy problems |
| ___ 3. Atypical | c. Hypersomnia |
| ___ 4. Postpartum | d. Excessive mobility or motoric immobility |
| ___ 5. Dysthymia | e. Insomnia with early morning awakening |

12. Bipolar disorder, also called manic-depressive disorder, has a variety of subclassifications based on the manic episodes of the disorder. What is the severity of manic symptoms called?
    a. Mania
    b. Cyclothymia
    c. Specifier
    d. Kindling

13. Anticonvulsive medications are used in the treatment of bipolar depression. What other drug is used to treat bipolar disorder?
    a. Valium
    b. Flexeril
    c. Lithium
    d. Restoril

14. Panic attacks may result from a "fear network" that has become abnormally sensitive. Where is this "fear network" centered?
    a. Hippocampus
    b. Prefrontal cortex
    c. Thymus
    d. Amygdala

15. Obsessive-compulsive disorder (OCD) is a disorder that remains under investigation as to its actual neurophysiology. What is OCD believed to be a product of?
    a. Dysfunction of the caudate nucleus
    b. Overexcitement of the globus pallidus
    c. Hypersensitive reaction of the frontal cortex
    d. Dysfunction of the amygdala

16. Abuse and addiction are believed to have a neurophysiologic basis. What does habitual use of drugs or alcohol do to the body?
    a. Decrease serotonin reuptake
    b. Increase dopamine transmission
    c. Alter gamma-aminobutyric acid pathways
    d. Reduce the brain's ability to adapt

17. Wernicke-Korsakoff syndrome is a dementia that is associated with chronic alcoholism. It is caused by a deficiency in thiamine (vitamin $B_{12}$). What is the most distinctive sign or symptom of this syndrome?
    a. Loss of memory
    b. Inability to interact with environment
    c. Confabulation
    d. Isolationism

18. Huntington disease is a genetic disorder that does not usually manifest itself until the patient is in his or her 40s or 50s. What are the most common early psychological changes that occur with Huntington disease? Mark all that apply.
    a. Moodiness
    b. Impulsive behavior
    c. Personality changes
    d. Mania
    e. Heightened sensory awareness

CHAPTER 54

# Disorders of Visual Function

1. What diagnostic measures would the nurse expect the doctor to order?

2. Retinoblastoma is confirmed, and a treatment plan is being made. What are the treatment options for retinoblastoma?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Causes of eyelid weakness include neurologic causes. There can be damage to the cranial nerves that innervate the eyelids, or there can be damage to the central nuclei of the cranial nerves. Where are the central nuclei of cranial nerve (CN) III (oculomotor nerve) and CN VII (facial nerve)?
   a. Midbrain and caudal pons
   b. Faux cerebellum and amygdala
   c. Hypothalamus and pyramid
   d. Medulla oblongata and pineal body
2. Dacryocystitis is an infection in the lacrimal sac. What symptoms indicate dacryocystitis?
   a. Purulent discharge
   b. Swelling
   c. Inflamed conjunctiva
   d. Lack of tears
3. Ophthalmia neonatorum is a conjunctivitis that develops in newborns. It is caused by the agents that cause sexually transmitted diseases. When should ophthalmia neonatorum be suspected?
   a. When a conjunctivitis develops 24 hours after birth
   b. When a conjunctivitis develops 12 hours after birth
   c. When a conjunctivitis develops 48 hours after birth
   d. When a conjunctivitis develops 36 hours after birth

4. Keratitis can be caused by different infectious agents. What is the treatment goal with herpes simplex virus keratitis?
   a. Minimizing pain
   b. Curing the disease
   c. Eliminating viral replication within the cornea
   d. Minimizing spread of virus to other parts of the eye

5. Corneal transplants are performed every day in hospitals around the world. The transplanted corneas come from cadavers. Why do corneal transplants have such a low rejection rate? Mark all that apply.
   a. The cornea is very vascular.
   b. Antigen-presenting cells are not present in great numbers.
   c. The cornea secretes immunosuppressive factors.
   d. The cornea has no lymphatics.
   e. Corneal cells secrete substances that protect against keratitis.

6. Pharmacologic agents can affect dilation of the pupil and the papillary response. What types of drugs produce papillary constriction?
   a. Sympathomimetic agents
   b. Antihistamine agents
   c. Cycloplegic agents
   d. Miotic agents

7. In open-angle glaucoma, there is an increased pressure within the globe of the eye without obstruction at the iridocorneal angle. Usually, this is caused by an abnormality in the trabecular meshwork, which controls the flow or aqueous humor. Where is aqueous humor in a normal eye?
   a. Canal of Schlemm
   b. Ocular canal
   c. Ductus lacrimalis
   d. Behind the pupil

8. Match the terms with their definitions.

| Term | Definition |
|---|---|
| ___ 1. Presbyopia | a. Anterior-posterior dimension of the eyeball is too long; the focus point for an infinitely distant target is anterior to the retina |
| ___ 2. Cycloplegia | b. Paralysis of the ciliary muscle, with loss of accommodation |
| ___ 3. Myopia | c. Anterior-posterior dimension of the eyeball is too short; the image is theoretically focused posterior to (behind) the retina |
| ___ 4. Hyperopia | d. Range of focus or accommodation is diminished |
| ___ 5. Astigmatism | e. Asymmetric bowing of the cornea |

9. Age-related cataracts are characterized by what?
   a. Everything looking grey
   b. Visual distortion
   c. Narrowing visual field
   d. Blind spots in visual field

10. Vitreous humor occupies the posterior portion of the eyeball. It is an amorphous biologic gel. When liquefaction of the gel occurs, as in aging, what can be seen during head movement?
    a. Blind spots
    b. Meshlike structures
    c. Floaters
    d. Red spots

11. When conditions occur that impair retinal blood flow, such as hyperviscosity of the blood or a sickle cell crisis, what can occur in the eye?
    a. Microaneurysms
    b. Hypertensive retinopathy
    c. Microinfarcts
    d. Neovascularization

12. Age-related macular degeneration that is dry is characterized by what?
    a. Atrophy of the Bruch membrane
    b. Leakage of serous or hemorrhagic fluid
    c. New blood vessels in the eye
    d. Formation of a choroidal neovascular membrane

13. Cortical blindness is the bilateral loss of the primary visual cortex. What is retained in cortical blindness?
    a. Red spots seen behind the eyelids
    b. Pupillary reflexes
    c. Phytosis
    d. Myopia

14. Adult strabismus is almost always of the paralytic variety. What is a cause of adult strabismus?
    a. Huntington disease
    b. Parkinson disease
    c. Graves disease
    d. Addison disease

15. Amblyopia, or lazy eye, occurs at a time when visual deprivation or abnormal binocular interactions occur in visual infancy. Whether amblyopia is reversible depends on what?
    a. Child has to be older than 5 years
    b. Maturity of the visual system at time of onset
    c. Child has to have bilateral congenital cataracts
    d. Child has to be able to wear contact lenses

CHAPTER 55

# Disorders of Hearing and Vestibular Function

## SECTION III: APPLYING YOUR KNOWLEDGE

**Activity E** *Consider the following scenario and answer the question.*

You are the nurse preparing an educational event for the local junior league, which has asked you to speak on hearing loss and deafness. One of the subjects that you will address is ototoxicity.

1. What drugs would you include when talking about ototoxicity?

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Otitis externa is an inflammation of the outer ear. What fungi cause otitis externa?
   a. *Aspergillus*
   b. *Pseudomonas aeruginosa*
   c. *Staphylococcus aureus*
   d. *Escherichia coli*
2. The eustachian tube connects the nasopharynx and the middle ear. In infants and children with abnormally patent tubes, what are let into the eustachian tube when the infant or child cries or blows their nose?
   a. Air and cerumen
   b. Air and secretions
   c. Secretions and saliva
   d. Cerumen and saliva
3. Acute otitis media (AOM) is the disorder in children for which antibiotics are most prescribed. What are the risk factors for AOM? Mark all that apply.
   a. Ethnicity
   b. Premature birth
   c. Only child in household
   d. Genetic syndromes
   e. Female gender

4. Otosclerosis is a condition where spongy, pathologic bone grows around the stapes and oval window. It can be treated either medically or surgically. What is the surgical treatment for otosclerosis?
   a. Otosclerotomy
   b. Ovalectomy
   c. Stapedectomy
   d. Amplification surgery

5. What separates the scala vestibule and the scala media?
   a. Corti membrane
   b. Tympani membrane
   c. Modiolus membrane
   d. Reissner membrane

6. Objective tinnitus is tinnitus that someone else can hear. What does the tinnitus that is caused by vascular disorders sound like?
   a. Pulses
   b. Rings
   c. Hums
   d. Roars

7. Conductive hearing loss can occur for a variety of reasons, including foreign bodies in the ear canal, damage to the ear drum, or disease. What disease is associated with conductive hearing loss?
   a. Huntington disease
   b. Paget disease
   c. Alzheimer disease
   d. Parkinson disease

8. Tumors affecting cranial nerve VIII are acoustic neuromas. What are these tumors of?
   a. Inner ear
   b. Organ of Corti
   c. Schwann cells
   d. Labyrinth

9. It is important to differentiate between the kinds of hearing loss so they can be appropriately treated. What is used to test between conductive and sensorineural hearing loss?
   a. AudioScope
   b. Audiometer
   c. Tone analysis
   d. Tuning fork

10. Hearing loss in children can be either conductive or sensorineural, as it is in adults. What is the major cause of sensorineural hearing loss in children?
    a. Genetic causes
    b. Acute otitis media
    c. Paget disease
    d. Ototoxicity

11. Presbycusis is degenerative hearing loss associated with aging. What is the first symptom of this disorder?
    a. Inability to localize sounds
    b. Reduction in ability to understand speech
    c. Inability to detect sound
    d. Reduction in ability to identify sounds

CHAPTER 56

# Structure and Function of the Musculoskeletal System

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. The metaphysis is the part of the bone that fans out toward the epiphysis. What is the metaphysis composed of?
   a. Trabeculae
   b. Cancellous bone
   c. Red bone marrow
   d. Endosteum

2. We have both red and yellow bone marrow in our bodies. What is yellow bone marrow largely composed of?
   a. Hematopoietic cells
   b. Adipose cells
   c. Cancellous cells
   d. Osteogenic cells

3. Lamellar bone is the bone tissue that is found in the adult body. What is lamellar bone largely composed of?
   a. Hematopoietic cells
   b. Spicules
   c. Osteons
   d. Macrocrystalline cells

4. Our bodies contain three types of cartilage: elastic cartilage, hyaline cartilage, and fibrocartilage. Which of these types of cartilage is found in the symphysis pubis?
   a. None
   b. Elastic
   c. Hyaline
   d. Fibrocartilage

5. Parathyroid hormone functions to maintain serum calcium levels. How does it fulfill this function? Mark all that apply.
   a. Initiates calcium release from bone
   b. Enhances intestinal absorption of calcium
   c. Activates conservation of calcium by the kidney
   d. Decreases intestinal absorption of calcium
   e. Inhibits conservation of calcium by the kidney

6. When vitamin D is metabolized, it breaks down into various metabolites. $1,25(OH)_2D_3$ is the most potent of the vitamin D metabolites. What is the function of this metabolite of vitamin D?
   a. Promotes actions of parathyroid hormone on resorption of calcium and phosphate from bone
   b. Decreases intestinal absorption of calcium
   c. Promotes absorption of calcium and phosphate by bone
   d. Decreases absorption of phosphate and increases absorption of calcium by bone

7. There are two types of joints in the human body. They are synarthroses and synovial joints. Synarthroses joints are further broken down into three types of joint. What type of joint occurs when bones are connected by hyaline cartilage?
   a. Synovial
   b. Synchondroses
   c. Syndesmoses
   d. Diarthrodial

8. Rheumatic disorders attack the joints of the body. Which joints are most frequently attacked by rheumatic disorders?
   a. Synchondroses
   b. Articular
   c. Diarthrodial
   d. Synarthroses

9. Each joint capsule has tendons and ligaments? What are the tendons and ligaments of the joint capsule sensitive to?
   a. Position and elevating
   b. Position and lowering
   c. Position and turning
   d. Position and movement

10. Synovial membranes can form sacs called bursae. What is the function of bursae?
    a. Prevent friction on a tendon
    b. Prevent injury to a joint
    c. Prevent friction on a ligament
    d. Cushion the joint

# Disorders of Musculoskeletal Function: Trauma, Infection, and Neoplasms

3. Shoulder and rotator cuff injuries usually occur from trauma or overuse. What orders would be given for conservative treatment of an injured shoulder? Mark all that apply.
   a. Anesthetic injections
   b. Physical therapy
   c. Corticosteroid injections
   d. Anti-inflammatory agents
   e. Pain medicine

4. Hip injuries include dislocations and fractures of the hip. Why is hip dislocation considered a medical emergency?
   a. The dislocation causes great pain
   b. Avascular necrosis can result from the dislocation
   c. The longer the hip is dislocated, the less chance of putting it back in place
   d. Dislocation interrupts the blood supply to the femoral head

5. At times, fractures of long bones need enhancement to promote healing. What can be done to induce bone formation and repair bone defects?
   a. The use of steroids to induce bone growth
   b. The use of growth factors to induce bone growth
   c. The use of vibration therapy to induce bone growth
   d. The use of physical therapy to induce bone growth

6. Determining the extent of the injury when a fracture occurs is important. It is also important to obtain a thorough history. What is important to determine during the history taking? Mark all that apply.
   a. Anyone else in family susceptible to fractures
   b. Recognition of symptoms
   c. Any treatment initiated
   d. Mechanism of injury
   e. What patient has eaten

7. Match the complication with the definition.

| Complication of Fracture | Definition |
|---|---|
| ___ 1. Fracture blisters | a. Areas of epidermal necrosis with separation of epidermis from the underlying dermis by edema fluid |
| ___ 2. Compartment syndrome | b. Reflex sympathetic dystrophy |
| ___ 3. Complex regional pain syndrome | c. A condition of increased pressure within a limited space (e.g., abdominal and limb compartments) that compromises the circulation and function of the tissues within the space |

8. Fat emboli syndrome (FES) can occur after a fracture of a long bone. What are the clinical features of FES?
   a. Petechiae on soles of feet and palms of hands
   b. Respiratory insufficiency
   c. Encephalopathy
   d. Global neurologic deficits

9. Osteomyelitis is an infection of the bone. Chronic osteomyelitis is complicated by a piece of infected dead bone that has separated from the living bone. How long does the initial intravenous (IV) antibiotic therapy last for chronic osteomyelitis?
   a. 4 weeks
   b. 8 weeks
   c. 12 weeks
   d. 6 weeks

10. Tuberculosis can spread from the lungs into the musculoskeletal system. What is the most common site in the skeletal system for tuberculosis to be found?
    a. Spine
    b. Ankles
    c. Shoulders
    d. Hips

11. Osteonecrosis is a condition where part of a bone dies because of the interruption of its blood supply. What is the most common cause of osteonecrosis other than fracture?
    a. Vessel injury
    b. Prior steroid therapy
    c. Radiation therapy
    d. Embolism

12. Osteosarcoma is an aggressive malignancy of the bone. What is the primary clinical feature of osteosarcoma?
    a. Pain, worse during the day
    b. Erythema in the overlaying skin
    c. Nighttime awakening
    d. Soreness in nearest joint

13. Metastatic bone disease is a frequent disorder. It occurs at a time when primary tumors in the lungs, breasts, and prostate seed themselves (metastasize) to the musculoskeletal system. What are the primary goals of treatment for metastatic bone disease? Mark all that apply.
    a. Prevent pathologic fractures
    b. Cure the disease
    c. Promote survival with maximum functioning
    d. Prevent ischemia to the bone segment
    e. Maintain mobility and pain control

CHAPTER 58

# Disorders of Musculoskeletal Function: Developmental and Metabolic Disorders

a. Patellar subluxation
b. Toeing-in
c. Toeing-out
d. Metatarsus adductus

2. Genu varum and genu valgum, bowlegs and knock-knees, during infancy and toddlerhood, are common findings. They usually correct themselves once the child becomes weight-bearing on the lower extremities. When it does not self-correct, what can genu valgum cause?
a. Gait awkwardness
b. Subluxation
c. Metatarsus adductus
d. Radial torsion

3. Osteogenesis imperfecta is the most common hereditary bone disease. What are the manifestations of osteogenesis imperfecta? Mark all that apply.
a. Triangular appearance to face
b. Thick bones in lower extremities
c. Blue or gray sclera
d. Thick skin
e. Scoliosis

4. Congenital clubfoot is usually corrected nonsurgically during the first few weeks of life. Once the correction is made, how is it maintained?
a. The Ponseti method of periodic stretching
b. Galeazzi splints worn for 6 months
c. Denis Browne splint worn for 3 months
d. Ortolani method of periodic stretching

5. Legg-Calvé-Perthes disease is an osteonecrotic disease of the proximal (capital) femoral epiphysis. What does treatment involve? Mark all that apply.
a. Assistive devices
b. Periods of rest
c. Abduction braces
d. Weight-bearing braces
e. Adduction braces

6. Osgood-Schlatter disease is a disease that strikes children between the ages of 11 and 15. This disease involves microfractures, where the patellar tendon inserts into the tibial tubercle. What is Osgood-Schlatter disease characterized by?
a. Pain in the hip
b. Thinning of the patellar tendon
c. Pain in knee at rest
d. Thickening of patellar tendon

7. Scoliosis is an abnormal curvature of the spine. Why is it first noticed?
a. Because of the deformity it causes
b. Because the child cannot stand straight
c. Because of the pain it causes
d. Because the child cannot walk straight

8. Osteoporosis is a disease caused by demineralization of bone. What is the clinical method of choice for diagnosing osteoporosis?
a. Serum calcium levels
b. Dual-energy x-ray absorptiometry (DXA) of the spine and hip
c. Magnetic resonance imaging (MRI) of the chest cavity and femur
d. Body mass index (BMI)

9. Osteomalacia is a bone disease caused by one of two reasons: inadequate calcium absorption or phosphate deficiency. In the elderly, what is the least expensive and most effective long-term treatment for osteomalacia?
a. Pharmacologic replacement of calcium and vitamin D
b. Intravenous (IV) phosphorus
c. Vitamin D rich diet and exposure to midday sun
d. Increased calcium and phosphorus in diet

10. Adult rickets can result from several disorders. It can also have a pharmacologic basis for its onset. Which medication can cause rickets in an adult?
a. Cephalosporins
b. Sulfur-based antibiotics
c. Sodium-sparing diuretics
d. Aluminum-sparing antacids

CHAPTER 59

# Disorders of the Musculoskeletal Function: Rheumatic Disorders

idiopathic arthritis (JIA). The mother asks you what JIA is.

1. What information would you include in your response?

_____

_____

_____

2. What confirmative test would you expect to see ordered?

_____

_____

_____

## SECTION IV: PRACTICING FOR NCLEX

**Activity G** *Answer the following questions.*

1. Joint destruction in rheumatoid arthritis (RA) occurs by an obscure process. The cellular changes, however, have been documented. Place the process in the correct order.
   a. Vasodilation
   b. Joint swelling
   c. Neutrophils, macrophages and lymphocytes arrive
   d. Lysosomal enzymes released
   e. Immune complexes phagocytized
   f. Inflammatory response
   g. Reactive hyperplasia of synovial cells and subsynovial tissues
   h. Increased blood flow to joint
   i. Destructive changes in joint cartilage

2. Systemic lupus erythematosus (SLE) has been called the great imitator because it can affect many different body systems. What is one of the most commonly occurring symptoms in the early stages of SLE?
   a. Arthritis
   b. Avascular necrosis
   c. Rupture of the Achilles tendon
   d. Classic malar rash

3. Scleroderma is an autoimmune disease of connective tissue that is characterized by hardening of the skin. What diseases do most people with scleroderma develop? Mark all that apply.
   a. Dumping syndrome
   b. Chronic diarrhea
   c. Polyarthritis
   d. Raynaud phenomenon
   e. Chronic vasoconstriction

4. Polymyositis and dermatomyositis are chronic inflammatory myopathies that commonly manifest systemically. What is the treatment of choice for these myopathies?
   a. Muscle relaxants
   b. Corticosteroids
   c. IgG
   d. Nonsteroidal anti-inflammatory drugs (NSAIDs)

5. Ankylosing spondylitis is a disease that typically manifests in late adolescence and early adulthood. What is characteristic of the pain in ankylosing spondylitis?
   a. Worse when active
   b. Worse when sitting
   c. Worse when resting or lying in bed
   d. Worse when standing

6. Reiter syndrome is a reactive arthropathy. What disease is Reiter syndrome associated with?
   a. Pelvic inflammatory disease
   b. Gonorrhea
   c. Syphilis
   d. Human immunodeficiency virus (HIV)

7. A seronegative inflammatory arthropathy is psoriatic arthritis. What drug has been found to be beneficial in controlling both the psoriasis and the arthritis in these patients?
   a. Etanercept
   b. Acetaminophen
   c. Interferon B
   d. Econazole

8. Osteoarthritis (OA) is the most common cause of arthritis and a significant cause of disability in the elderly. What joint changes occur in OA? Mark all that apply.

a. Creation of spurs
b. Loss of synovial fluid
c. Loss of articular cartilage
d. Inflammation of cartilage
e. Synovitis

9. Gout, or gouty arthritis, cannot be diagnosed on the basis of hyperuricemia. What is the diagnostic criterion for gout?
a. Finding of tophaceous deposits
b. Finding of monosodium urate crystals in the synovial fluid
c. Finding of sodium urate crystals in the tissues
d. Finding of urate crystal deposits in the synovial fluid

10. Elderly patients need special consideration in the treatment of the arthritic diseases. Nonsteroidal anti-inflammatory drugs (NSAIDs), a first-line group of drugs used in the general population for arthritic diseases, may not be well tolerated by the elderly. What side effects of NSAIDs might be seen in the elderly?
a. Malaise
b. Lethargy
c. Sleeplessness
d. Mania

CHAPTER 60

# Structure and Function of the Skin

## SECTION IV: PRACTICING FOR NCLEX

**Activity F** *Answer the following questions.*

1. Among the skin's known protective functions is that it serves as an immunologic barrier. What cells detect foreign antigens?
   a. Langerhans' cells
   b. Merkel cells
   c. Keratinocytes
   d. Melanocytes

2. Match the cells of the epidermis with their description or function.

| Cell | Description or Function |
|---|---|
| ___ 1. Keratinocytes | a. Thought to be neuroendocrine cells |
| ___ 2. Melanocytes | b. Pigment-synthesizing cells |
| ___ 3. Merkel cells | c. Replaces lost skin cells |
| ___ 4. Langerhans cells | d. Immunologic cells |

3. The basement membrane separates the epithelium from the underlying connective tissue. It is a major site of what is found in skin disease?
   a. Melanocytes
   b. Complement deposition
   c. Lamina lucida
   d. Type IV collagen

4. The pars reticularis is characterized by what?
   a. Dendritic cells
   b. Its color
   c. Three-dimensional collagen bundles
   d. Its immunologic function

5. Why is the subcutaneous tissue considered part of the skin? Mark all that apply.
   a. Eccrine glands extend to this layer.
   b. The keratinocytes are formed in the subcutaneous tissue
   c. Skin diseases can involve the subcutaneous tissue
   d. The Merkel cells are formed in the subcutaneous tissue
   e. Deep hair follicles can be found in the subcutaneous tissue

6. Sebaceous glands excrete a mixture that lubricates the hair and skin. What is this mixture called?
   a. Sweat
   b. Chalasia
   c. Cerumen
   d. Sebum

7. Fingernails and toenails, unlike hair, grow continuously. The nail plate itself is nearly transparent and acts as a window for viewing what?
   a. The amount of oxygen in the blood
   b. The color of the blood in the subcutaneous tissue
   c. The health of the nail plate
   d. The color of the stratum corneum

8. When a degeneration of the epidermal cells occurs, layers of the skin separate because of a disruption of the intercellular junctions. When this occurs what is formed?
   a. Lichenifications
   b. Vesicles
   c. Petechiae
   d. Pressure ulcer

9. Pruritus, or the itch sensation, is a byproduct of almost all skin disorders. However, we can itch without having a skin disorder. Itch then can be local or central in our bodies. Where is it postulated that a central "itch center" exists?
   a. Pons
   b. Medulla oblongata
   c. Somatosensory cortex
   d. Sensory area of the cerebrum

10. The first-line treatment for dry skin is a moisturizing agent. How do these agents work?
   a. Decreasing pruritus
   b. Penetrating the lipid barrier of the skin
   c. Increasing transepidermal water loss
   d. Repairing the skin barrier

CHAPTER 61

# Disorders of Skin Integrity and Function

occurs in all races.

2. Human bodies have, as endemic organisms, both yeast (*Candida albicans*) and molds. What is used as a confirmatory diagnostic test is used when a fungus invades the skin?

   **a.** Potassium hydroxide (KOH) preparations

   **b.** The Forest light

   **c.** Tinea preparations

   **d.** Sodium chloride ($Na^+Cl^-$) preparations

3. Match the bacterial or viral skin infection with its preferred treatment.

| Skin Infection | Preferred Treatment |
|---|---|
| ___ 1. Impetigo | a. Systemic antibiotics |
| ___ 2. Ecthyma | b. Bactroban or systemic antibiotics |
| ___ 3. Cellulitis | c. Acyclovir |
| ___ 4. Verrucae | d. Oral acyclovir |
| ___ 5. Herpes simplex virus (HSV-1) | e. Penciclovir cream |
| ___ 6. Herpes simplex virus (HSV-2) | f. Oral and intravenous (IV) antibiotics |
| ___ 7. Herpes zoster | g. A keratolytic agent |

4. Acne vulgaris is typically an infection in the adolescent population. What topical agent used in the treatment of acne is both an antibacterial and a comedolytic?
   a. Alcohol
   b. Benzoyl peroxide
   c. Bactroban
   d. Resorcinol

5. Rosacea is a chronic inflammatory process that occurs in middle-aged and older adults. What are common manifestations of rosacea? Mark all that apply.
   a. Swelling of the eyelid
   b. Heat sensitivity
   c. Burning eyes
   d. Telangiectasia
   e. Erythema

6. Allergic contact dermatitis is a common inflammation of the skin. It produces lesions in the affected areas. What do these lesions look like?
   a. Papules
   b. Papulosquamous pustules
   c. Vesicles
   d. Ulcers

7. Atopic dermatitis, or eczema, occurs at all ages and in all races. What happens in black-skinned people who have eczema?
   a. Hyperpigmentation of skin
   b. Papules cover the area affected
   c. Erythema is a prominent symptom
   d. Loss of pigmentation from lichenified skin

8. In severe Stevens-Johnson syndrome and toxic epidermal necrolysis, hospitalization is requiree. When large areas of the skin are lost what IV medication may speed-up the healing process?
   a. Immunoglobulin
   b. Broad-spectrum antibiotics
   c. Diflucan
   d. Corticosteroids

9. What disease has primary lesions that have a silvery scale over thick red plaques?
   a. Pityriasis rosea
   b. Psoriasis vulgaris
   c. Lichen planus
   d. Lichen simplex chronicus

10. What skin disease manifests with lesions on the skin and oral lesions that look like milky white lacework?
    a. Eczema
    b. Psoriasis
    c. Lichen planus
    d. Pityriasis rosea

11. Scabies infections are caused by mites that burrow under the skin. They are usually easily treated by bathing with a mite-killing agent and leaving it on for 12 hours. When scabies are resistant to the mite-killing agent what oral drug is prescribed?
    a. Clindomycin
    b. Interferon B
    c. Potassium hydroxide
    d. Ivermectin

12. Pressure ulcers can occur quickly in the elderly and in those who are immobile. What is a method for preventing pressure ulcers?
    a. Preventing dehydration
    b. Frequent position changes
    c. Use of water-based skin moisturizers
    d. Infrequent changing of incontinent patients

13. Nevi are benign tumors of the skin. One type of nevi is important because of its capacity to transform to malignant melanoma. What type of nevus is this?
    a. Nevocellular
    b. Compound nevi
    c. Dysplastic
    d. Dermal

14. Malignant melanomas are metastatic tumors of the skin. In the past decades, the incidence of malignant melanoma has grown. This is related to more exposure to UV light, such as tanning salons. What are risk factors for developing malignant melanoma?
    a. Freckles across the bridge of the nose
    b. Blistering sunburns after age 20
    c. Palmar nevi
    d. Presence of actinic keratoses

15. Basal cell carcinoma is the most common skin cancer in white-skinned people. Although the treatment goal that is most important is elimination of the lesion, it is also important to maintain the function and cosmetic effect. What treatment is used for basal cell carcinoma?
    a. Curettage with electrodesiccation
    b. Systemic chemotherapy
    c. Topical chemotherapy
    d. Simple radiographic radiation

16. Squamous cell carcinoma in light-skinned people is a red scaling, keratotic, slightly elevated lesion with an irregular border, usually with a shallow chronic ulcer. How do the lesions appear in black-skinned people?
    a. Keratotic lesions with rolling, irregular borders
    b. Hyperpigmented nodules
    c. Hypopigmented nodules
    d. Lichenous plaques with silvery scales

17. Hemangiomas of infancy are small, red lesions that are noticed shortly after birth and grow rapidly. What is the treatment of choice for hemangiomas of infancy?
    a. Surgical excision
    b. Laser surgery
    c. No treatment
    d. Chemotherapy

18. Rubella, or 3-day measles, is a childhood disease caused by a togavirus. Because rubella can be easily transmitted and, because it is dangerous to the fetus if contracted by pregnant women early in their gestational period, immunization is required. What type of vaccine is the rubella vaccine?
    a. Attenuated virus vaccine
    b. Antibody/antigen vaccine
    c. Dead virus vaccine
    d. Live virus vaccine

19. Lentigines are skin lesions common in the elderly. A type of lentigine is tan to brown in color with benign spots. Lentigines are removed because they are considered precursors to skin cancer. How are lentigines removed?
    a. Cryotherapy
    b. Chemotherapy
    c. Bleaching agents
    d. Curettage