



BAKER COLLEGE
STUDENT LEARNING OUTCOMES

BIO2150 Pathophysiology
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Classify disease as a failure of homeostasis.
 - a. Discuss homeostasis as it relates to feedback loops (negative or positive).
2. Utilize terminology related to the study of disease.
 - a. Discuss etiology, manifestations (signs and symptoms), diagnosis, sequelae/complications and prognosis.
3. Recognize cellular responses to injury and diseases.
 - a. Explain cellular adaptations as it relates to change in homeostasis.
 - b. Identify atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia, anaplasia, and neoplasia.
4. Describe the inflammatory response and healing.
 - a. Identify cardinal signs and symptoms of inflammation.
 - b. Compare acute and chronic inflammation.
 - c. Discuss resolution, regeneration and repair by scar tissue formation.
5. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the endocrine system.
 - a. Describe Diabetes Mellitus.
 - b. Describe Hyperthyroidism.
 - c. Describe Hypothyroidism.
 - d. Describe Cushing's syndrome.
 - e. Describe Addison's disease.
6. Compare and contrast benign and malignant tumors.
 - a. Understand terminology related to tumors/cancer.
 - b. Describe a benign tumor.
 - c. Describe a malignant tumor.
 - d. Identify tumors in stages.
 - e. Describe the process of carcinogenesis.
 - f. Describe the processes of invasion and metastasis.
7. Describe the inherited patterns of genetic or chromosomal disorders.

- a. Describe congenital disorders.
 - b. Describe autosomal dominant disorders.
 - c. Describe autosomal recessive disorders.
 - d. Describe X-linked disorders.
 - e. Describe Y-linked disorders.
8. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the integumentary system.
- a. Describe malignant melanoma.
 - b. Describe Kaposi's Sarcoma.
9. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of musculoskeletal diseases and disorders.
- a. Describe Osteoporosis.
 - b. Describe Duchenne's Muscular Dystrophy (DMD).
 - c. Describe Osteoarthritis.
 - d. Describe Rheumatoid Arthritis (RA).
10. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the nervous system.
- a. Describe Acute Neurological Disorders.
 - i. Cerebrovascular accidents
 - ii. Transient ischemic attacks (TIA)
 - iii. Increased intracranial pressure
 - b. Describe Chronic Neurological Disorders.
 - i. Parkinson's disease (PD)
 - ii. Alzheimer's disease (AD)
 - iii. Multiple sclerosis (MS)
 - iv. Seizures
 - v. Amyotrophic Lateral Sclerosis (ALS)
11. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the blood.
- a. Describe Leukemia.
 - b. Describe Iron deficiency anemia.
 - c. Describe Pernicious anemia.
 - d. Describe Sickle cell anemia.
 - e. Describe Hemophilia A.
12. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the cardiovascular system.

- a. Describe coronary artery disease including: arteriosclerosis, atherosclerosis, ischemia, angina pectoris and myocardial infarction.
 - b. Describe congestive heart failure.
 - c. Describe rheumatic heart disease.
 - d. Describe hypertension.
 - e. Describe aortic aneurysms.
 - f. Describe cardiac dysrhythmias.
13. Discuss the process of infectious disease.
- a. Discuss modes of transmission.
 - b. Discuss control of transmission.
 - c. Discuss patterns of infection.
 - d. Discuss signs and symptoms of infection.
14. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the immune system.
- a. Describe AIDS.
 - b. Describe hypersensitivity reactions.
 - c. Describe anaphylaxis.
 - d. Describe systemic lupus erythematosus (SLE).
15. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the digestive system.
- a. Describe peptic ulcers.
 - b. Describe viral hepatitis.
 - c. Describe Crohn's disease.
 - d. Describe cholelithiasis.
 - e. Describe gastroesophageal reflux disease (GERD).
 - f. Describe diverticulitis.
 - g. Describe colorectal cancer.
16. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the respiratory system.
- a. Describe tuberculosis (TB).
 - b. Describe cystic fibrosis (CF).
 - c. Describe influenza.
 - d. Describe pneumonia.
 - e. Describe asthma.
 - f. Describe emphysema.
 - g. Describe chronic bronchitis.
 - h. Describe lung cancer.

17. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the urinary system.
 - a. Describe cystitis and urethritis.
 - b. Describe pyelonephritis.
 - c. Describe urolithiasis.
 - d. Describe acute and chronic renal failure.
 - e. Describe acute poststreptococcal glomerulonephritis.
18. Describe the pathophysiology, etiology, manifestations (signs and symptoms), diagnostic procedures, treatment modalities, sequelae/complications and prognosis of diseases and disorders of the reproductive system.
 - a. Describe benign prostatic hypertrophy.
 - b. Describe pelvic inflammatory disease (PID).
 - c. Describe gonorrhea.
 - d. Describe syphilis.
 - e. Describe genital herpes.
 - f. Describe breast cancer.
 - g. Describe prostate cancer.

Big Ideas and Essential Questions

Big Ideas

- Homeostasis
- Acute and chronic inflammation
- Endocrine disorders
- Cancer and chromosomal disorders
- Integumentary system disorders
- Musculoskeletal system disorders
- Nervous system diseases
- Cardiovascular and blood disorders
- Infectious diseases and immune disorders
- Digestive, respiratory, and urinary diseases
- Reproductive diseases

Essential Questions

1. How do feedback loops maintain homeostasis in the human body?
2. What is the difference between acute and chronic inflammation and how does the body respond?
3. How do endocrine disorders affect the body?

4. How does cancer develop and spread in the body?
 5. What role do genetics play in congenital disorders?
 6. What types of diseases develop in the skin and muscles?
 7. How does the human body respond to neurodegenerative disorders?
 8. How does the cardiovascular system respond to heart and blood diseases?
 9. How does the body respond to infectious agents?
 10. What types of diseases develop in the digestive tract, respiratory tract, and urinary system?
 11. What are the similarities and differences in reproductive system disorders between males and females?
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These SLOs are not approved for experiential credit.

Effective: Spring 2021