

SUBJECT NAME: Special Populations Health (Pathophysiology)

SUBJECT DESCRIPTION

Special Populations content explores the diverse healthcare needs and considerations of those living with common diseases and conditions, including children, older adults, individuals with disabilities and those experiencing mental health challenges. Subject content provides an overview of the functional changes occurring in the human body from disease processes or conditions resulting from the loss of normal structure and/or function, including variations due to stage of life. The content correlates the underlying pathophysiology of common diseases and conditions to the risk factors associated with physical and mental function. Knowledge competency will focus on common signs and symptoms, and the accommodations for care related to contraindications, risk factors and other factors in kinesiology practice.

CONTENT COVERED (up to 65% of the content listed below in one or more course)

- Age specific related disorders
 - Older adult conditions, such as dementia, Alzheimer's, Parkinson's, and cauda equina syndrome,
 - Childhood diseases and conditions, such as developmental dysplasia of the hip (DDH), Osgood-Schlatter Disease, female athlete triad
- Blood Disorders – such as anemias and polycythemia, clotting disorders, leukemias
- Bone and Joint disorders – such as OA, RA, osteoporosis, spinal stenosis, degenerative disc disease
- Cancer – basic pathophysiology, etiology and treatment considerations
- Cardiac Conduction Disorders – such as arrhythmias, including heart blocks, atrial and ventricular fibrillation,
- Cardiovascular Disease (CVD) – congenital heart disease, hypertension, angina, hypercholesterolemia, peripheral artery disease (PAD), venous disorders, stroke
- Digestive Disorders – such as irritable bowel syndrome (IBS), gastroesophageal reflux disease (GERD), inflammatory bowel disease (IBD), and lactose intolerance.
- Immune System Disorders – such as hypersensitivity reactions, autoimmune disorders, immunodeficiency
- Metabolic and Endocrine Disorders – such as type I and II Diabetes Mellitus, hypothalamus, pituitary and related glands dysfunctions, such as cystic fibrosis related pancreatic insufficiency and Graves' disease
- Musculoskeletal and other soft tissue disorders – including Fibromyalgia
- Neurological Disorders – such as Cerebral Palsy (CP), Muscular Dystrophy (MD), Multiple Sclerosis (MS), Amyotrophic Lateral Sclerosis (ALS), concussion
- Respiratory/Pulmonary Disorders – including obstructive and restrictive lung diseases (such as COPD, cystic fibrosis, pulmonary fibrosis, emphysema, asthma, exercise induced asthma)
- Urinary Disorders – such as urinary tract obstructions and infections, renal failure
- Adapting physical activity and programming considerations for individuals with mental and/or physical challenges.

KEY PERFORMANCE INDICATORS (KPIs)

1. Explains the role of pathophysiology in the diagnosis and treatment of disease.
2. Describes the common cellular changes underlying disease processes.
3. Explains the mechanism, types and effects of inflammation, and describes the healing process.
4. Discusses the mechanism of autoimmunity and provide examples of autoimmune disorders.
5. Explains the causes and effects of immunodeficiency.
6. Distinguishes between benign and malignant tumors.
7. Discusses the signs, symptoms and principles of therapies, and prognosis of commonly occurring forms of cancer.
8. Describes and compares the etiopathology, manifestations and treatment of various forms of anemia, polycythemia and coagulation disorders.

9. Describes and compares the etiopathology, manifestations, and treatment of various cardiovascular disorders.
10. Recognizes normal and abnormal physiology, including the impact of injury and/or disease states and common signs and symptoms of;
 - a. Disorders of the respiratory tract and obstructive lung disorders.
 - b. Disorders of the gastrointestinal tract and select endocrine and exocrine glands (such as the liver, pancreas pituitary, thyroid, parathyroid, adrenal, pineal body, the testes, the ovaries).
 - c. Disorders of the urinary tract and kidneys.
 - d. Neurological disorders.
11. Describes and compares the basic etiopathology, manifestations and treatment of acute and chronic neurological disorders.
12. Compares the various types of fractures and describes the healing process in bone.
13. Describes and explains the pathophysiology of osteoporosis.
14. Describes and compares the etiopathology and manifestations of the various forms of arthritis.
15. Demonstrates knowledge of contraindications, precautions, and exercise modifications for clients with chronic disease.
16. Considers the impact of disease states and injury on different body systems and functions as they relate to human movement and performance.
17. Demonstrates the ability to evaluate the pathological adaptations and responses to exercise inherent in chronic diseases and other pathologies to deliver progressive quality care.
18. Considers the impact of mental or physical challenges in the delivery of evidence-informed healthcare.