Assessment of Oxygenation Learning Objectives

Overview and Definitions
- Differentiate between hypoxemia and hypoxia
- Identify symptoms potentially caused by hypoxemia
- Define the components of oxygen content
- Correlate arterial oxygen content, venous oxygen content, and oxygen consumption

Assessing Oxygenation with Arterial Blood Gases and Oximetry
- Distinguish information obtained from arterial blood gases and pulse oximetry
- Understand the principle of pulse oximetry
- Identify limitations of pulse oximetry
- Recognize determinants of tissue oxygenation

Alveolar Gas Equation and Alveolar-Arterial Oxygen Difference
- Track the partial pressure of oxygen from inspired air to alveolar gas
- Understand the components of the alveolar gas equation
- Calculate alveolar PO2
- Calculate the alveolar-arterial oxygen difference

Causes of Hypoxemia
- Identify major pathophysiologic mechanisms causing hypoxemia
- Correlate pathophysiologic mechanisms causing hypoxemia with specific clinical settings
- Understand ventilation-perfusion mismatch and how it causes hypoxemia