

**Covenant School of Nursing**  
**Instructional Module 7 Learning Guide**  
**Topic: Care of the Acute Respiratory Failure Patient & ABG Interpretation**

**Learning Goals/Outcomes**

Upon completion of this lesson, you will be able to:

- Interpret arterial blood gas (ABG) values.
- Implement nursing interventions according to ABG interpretations and patient signs and symptoms.
- Assess for effective gas exchange of the patient with mechanical ventilation support.
- Select appropriate nursing interventions related to care of the respiratory failure patient and the patient requiring mechanical ventilation
- Perform nursing interventions related to care of a patient with a tracheostomy

**Pre-Class Preparation**

Required:

- Review PowerPoint slides
- Selected reading from Lewis's Medical Surgical Nursing
- HESI modules

**Acid- Base Disorders**

- Chapter 16
  - Acid-Base Regulation
  - Alteration in Acid-Base Balance
  - Clinical Manifestations of Acid-Base Imbalances

**Acute Respiratory Failure**

- Chapter 65
  - Artificial Airways
  - Nursing & Interprofessional Management: Artificial Airway
  - Settings of Mechanical Ventilation Table 65-10
  - Complications of Positive Pressure Ventilation
- Chapter 67
  - Figure 67-1 Causes of Hypoxemia and Hypercapnic Respiratory Failure
  - Nursing and Interprofessional Management: Acute Respiratory Failure
  - Pathophysiology of ARDS Figure

Additional Resources:

- See online resources and out of class activities

**Learning Activities**

Classroom Activities:

- Lecture, Case study, ABG Interpretation

Laboratory/Clinical:

- Review ABG series and discuss appropriate interventions and nursing care plans
- Simulation

**Online/Out of Class Activities:**

- <https://youtu.be/FtJr7i7ENMY> (Intubation/Mechanical Ventilation) [6 minutes]
- HESI Skill: Tracheostomy Care and Tube Change
- HESI Skill: Arterial Catheter Insertion (assisting) Care, and Removal
- HESI Skill: Pronation Therapy

Review the concepts of acid base balance, gas exchange, and perfusion

- <https://www.youtube.com/watch?v=URCS4t9aM5o> (ABG Tic-Tac-Toe Method) [8 minutes]
- Partially Compensated vs Fully Compensated Uncompensated ABGs Interpretation Tic Tac Toe Method - Bing video [13 minutes]
- ABG Interpretation (basic): Easy and Simple - YouTube [21 minutes]
- Respiratory Acidosis Acid Base Balance Made Easy NCLEX Review | ABGs Made Easy for Nurses - YouTube [20 minutes]
- <https://www.youtube.com/watch?v=Kw89JJZU3GA> (Respiratory Alkalosis) [17 minutes]

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Metabolic Acidosis Acid Base Balance Made Easy NCLEX Review   ABGs Made Easy for Nurses - YouTube [20 minutes]</li> <li>Metabolic Alkalosis Acid Base Balance Made Easy NCLEX Review   ABGs Made Easy for Nurses - YouTube [15 minutes]</li> </ul> |  |
| <b>Evaluation Methods</b>   |  |
| <ul style="list-style-type: none"> <li>In class discussion &amp; participation</li> <li>Simulation</li> <li>Unit exam</li> </ul>  | <ul style="list-style-type: none"> <li>HESI</li> </ul>   |
| <b>Texas DECs</b>   | <b>QSEN Competencies</b>   |
| <b>Knowledge-</b><br>IIA2; IIA3; IIB2, IIB5, IIB7; IIC4, IIC6, IIF1, IIF2; IIIB1a, b, IIIB2<br><br><b>Clinical Judgments and Behaviors-</b><br>IA1; IIA2b, IIA4; IIB2, 4, 5, 7; IIC4, 5, 7; IID2; IIE2a,b, IIE3; IIF 1, 4, 5, 6; IIIB3, 8, 9; IVB1  | <ul style="list-style-type: none"> <li>Patient-centered care</li> <li>Evidence based practice</li> <li>Teamwork and collaboration</li> <li>Quality improvement and Safety</li> </ul>   |
| <b>IM Student Learning Outcomes</b>   | <b>NCLEX Test Plan</b>   |
| 1, 2, 3, 4, 5, 6, 7, 8  | <ul style="list-style-type: none"> <li>Safe and Effective Care Environment               <ul style="list-style-type: none"> <li>Management of Care, Advocacy,</li> <li>Client Right, Collaboration with Interdisciplinary, Continuity of Care,</li> <li>Safety &amp; Infection Control,</li> <li>Accident/Error/Injury Prevention</li> <li>Standard Precautions</li> </ul> </li> <li>Health Promotion &amp; Maintenance               <ul style="list-style-type: none"> <li>Lifestyle Choices</li> </ul> </li> <li>Psychosocial Integrity               <ul style="list-style-type: none"> <li>Coping Mechanisms</li> <li>Cultural Awareness &amp; Influences on Health Support Systems</li> </ul> </li> <li>Physiological Integrity &amp; Adaptation               <ul style="list-style-type: none"> <li>Basic Care &amp; Comfort, Nutrition &amp; Hydration, Pharmacological &amp; Parenteral Therapies, Medication Administration</li> <li>Reduction of Risk Potential, Hemodynamics, Illness management</li> </ul> </li> </ul> |
| <b>Concepts</b>   | <b>Faculty</b>   |
| Acid Base, Gas Exchange, Perfusion  | D. Kineman, D Smith, S Spradling   |
| <b>Date originated:</b><br>5/13/2016  | <b>Revision Dates:</b><br>3/27/17; 6/30/17; 7/12/17; 11/10/17; 4/10/17; 4/13/19; 4/16/19; 3/10/20; 9/16/2020; 4/19/2021, 9/7/21  |