

**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 and perform nursing interventions for a patient with respiratory failure issues (ARDS, PE, Pneumothorax).
- 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
  - Acute Respiratory Failure (ARF)
  - Acute Respiratory Distress Syndrome (ARDS)
- Chapter 27
  - Pneumothorax
  - Pulmonary Embolism

Additional Resources:

See lecture material

**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:**

- HESI Skill: Tracheostomy Care and Tube Change
- HESI Skill: Arterial Catheter Insertion (assisting) Care, and Removal
- HESI Skill: Pronation Therapy
- HESI Skill: Chest Tube Management
- <https://www.youtube.com/watch?v=-M3OlfmKjo8> (Intubation/Mechanical Ventilation)

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

<p>Nurses - YouTube [20 minutes]</p> <ul style="list-style-type: none"> <li>• <a href="https://www.youtube.com/watch?v=Kw89JJZU3GA">https://www.youtube.com/watch?v=Kw89JJZU3GA</a> (Respiratory Alkalosis) [17 minutes]</li> <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> <li>• HESI products and exams</li> </ul>	
<b>Texas DECS</b>	<b>QSEN Competencies</b>
<p><b>Knowledge-</b> IIA2; IIA3; IIB2, IIB5, IIB7; IIC4, IIC6, IIF1, IIF2; IIIB1a, b, IIIB2</p> <p><b>Clinical Judgments and Behaviors-</b> IA1; IIA2b, IIA4; IIB2, 4, 5, 7; IIC4, 5, 7; IID2; IIE2a,b, IIE3; IIF 1, 4, 5, 6; IIIB3, 8, 9; IVB1</p>	<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>- <i>Management of Care, Advocacy,</i></li> <li>- <i>Client Right, Collaboration with Interdisciplinary, Continuity of Care,</i></li> <li>- <i>Safety &amp; Infection Control,</i></li> <li>- <i>Accident/Error/Injury Prevention</i></li> <li>- <i>Standard Precautions</i></li> </ul> </li> <li>• Health Promotion &amp; Maintenance <ul style="list-style-type: none"> <li>- <i>Lifestyle Choices</i></li> </ul> </li> <li>• Psychosocial Integrity <ul style="list-style-type: none"> <li>- <i>Coping Mechanisms</i></li> <li>- <i>Cultural Awareness &amp; Influences on Health Support Systems</i></li> </ul> </li> <li>• Physiological Integrity &amp; Adaptation <ul style="list-style-type: none"> <li>- <i>Basic Care &amp; Comfort, Nutrition &amp; Hydration, Pharmacological &amp; Parenteral Therapies, Medication Administration</i></li> <li>- <i>Reduction of Risk Potential, Hemodynamics, Illness management</i></li> </ul> </li> </ul>
<b>Concepts</b>	<b>Faculty</b>
Acid Base, Gas Exchange, Perfusion, Nutrition, Sleep, Clinical Judgment	<i>D. Kineman, D Smith, S Spradling</i>
<b>Date originated:</b> 5/13/2016	<b>Revision Dates:</b> 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, 9/7/21,2/22/22, 4/3/23, 8/2/23