

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
 - Figure 67-1 Causes of Hypoxemia and Hypercapnic Respiratory Failure
 - Acute Respiratory Failure (ARF)
 - Acute Respiratory Distress Syndrome (ARDS)
- Chapter 27
 - Pneumothorax
 - Pulmonary Embolism

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]

<ul style="list-style-type: none"> • 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] • Metabolic Acidosis Acid Base Balance Made Easy NCLEX Review ABGs Made Easy for Nurses - YouTube [20 minutes] • Metabolic Alkalosis Acid Base Balance Made Easy NCLEX Review ABGs Made Easy for Nurses - YouTube [15 minutes] 	
Evaluation Methods	
<ul style="list-style-type: none"> • In class discussion & participation • Simulation • Unit exam • HESI 	
Texas DECs	QSEN Competencies
Knowledge- IIA2; IIA3; IIB2, IIB5, IIB7; IIC4, IIC6, IIF1, IIF2; IIIB1a, b, IIIB2, IIIA1; IVA3 Clinical Judgments and Behaviors- IA1; IIA2b, IIA4; IIB2, 4, 5, 7; IIC4, 5, 7; IID2; IIE2a, b, IIE3; IIF 1, 4, 5, 6; IIIB3, 8, 9; IVB1, IIIA 2,4	<ul style="list-style-type: none"> • Patient-centered care • Evidence based practice • Teamwork and collaboration • Quality improvement and Safety
IM Student Learning Outcomes	NCLEX Test Plan
1, 2, 3, 4, 5, 6, 7, 8	<ul style="list-style-type: none"> • Safe and Effective Care Environment <ul style="list-style-type: none"> - <i>Management of Care, Advocacy,</i> - <i>Client Right, Collaboration with Interdisciplinary, Continuity of Care,</i> - <i>Safety & Infection Control,</i> - <i>Accident/Error/Injury Prevention</i> - <i>Standard Precautions</i> • Health Promotion & Maintenance <ul style="list-style-type: none"> - <i>Lifestyle Choices</i> • Psychosocial Integrity <ul style="list-style-type: none"> - <i>Coping Mechanisms</i> - <i>Cultural Awareness & Influences on Health Support Systems</i> • Physiological Integrity & Adaptation <ul style="list-style-type: none"> - <i>Basic Care & Comfort, Nutrition & Hydration, Pharmacological & Parenteral Therapies, Medication Administration</i> - <i>Reduction of Risk Potential, Hemodynamics, Illness management</i>
Concepts	Faculty
Acid Base, Gas Exchange, Perfusion, Nutrition, Sleep, Clinical Judgment, Mobility	<i>D. Kineman, D Smith, S Spradling</i>
Date originated: 5/13/2016	Revision Dates: 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

Instructional Module (7) Learning Guide Topic: Acute Respiratory Failure and ABG's