

Covenant School of Nursing
Instructional Module 7 Learning Guide
Topic: Care of the Acute Respiratory Failure Patient & ABG Interpretation
Week 1

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
 - Principles of Invasive Pressure Monitoring
 - Figures 65 -3 and 65 - 4
 - Artificial Airways
 - Nursing & Interprofessional Management: Artificial Airway
 - Mechanical Ventilation Tables 65-10 and 65-11
 - Complications of Positive Pressure Ventilation
- Chapter 67
 - Figure 67-1 Causes of Hypoxemia and Hypercapnic Respiratory Failure
 - Figure 67 -2 Manifestations of Hypoxemia and Hypercapnia
 - 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 min.]

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

- <https://www.youtube.com/watch?v=URCS4t9aM5o> (ABG Tic-Tac-Toe Method)
- <https://youtu.be/3neNB0w1P9M> (Partially vs. Fully Compensated ABGs)
- <https://youtu.be/EML9vE1nOgk> (Acid-Base Patho & ABG practice)
- <https://youtu.be/X0VjnFKDNI0> (Respiratory Acidosis)
- <https://youtu.be/Kw89JJZU3GA> (Respiratory Alkalosis)
- <https://youtu.be/hitB3P8ZnOw> (Metabolic Acidosis)
- <https://youtu.be/hmc0y6pJ1tA> (Metabolic Alkalosis)

Evaluation Methods	
<ul style="list-style-type: none"> In class discussion & participation Simulation Unit exam 	<ul style="list-style-type: none"> Collaborative Learning Unit Exam HESI
Texas DECs	QSEN Competencies
<p>Knowledge- IA2, IA4, IIA1a-b, IIA2a-b, IIA3-4, IIA1a, IIB1-11, IIC1a-b, IIC2a-b, IIC3, IIC4a-b, IIC5-8, IID1a-e, IID2, IID3a-b, IID4a-c, IID5a-b, IVC1, IVC3, IVC4a-b, IVC5</p> <p>Clinical Judgments and Behaviors- IA2, IA3a-b, IB5a-b, IB6a-c, IB9, IC5, ID1, ID2, IIA1, IIA2a-b, IIB1a-b, IIB4, IIC1, IIC7, IID1, IID2a-d, IIE2a-c, IIE4, IIF1a-c, IIF4, IIF5a-c, IIF6</p>	<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
<p>1, 2, 3, 4, 5, 6, 7, 8</p>	<ul style="list-style-type: none"> Safe and Effective Care Environment <ul style="list-style-type: none"> Management of Care, Advocacy, Client Right, Collaboration with Interdisciplinary, Continuity of Care, Safety & Infection Control, Accident/Error/Injury Prevention Standard Precautions Health Promotion & Maintenance <ul style="list-style-type: none"> Lifestyle Choices Psychosocial Integrity <ul style="list-style-type: none"> Coping Mechanisms Cultural Awareness & Influences on Health Support Systems Physiological Integrity & Adaptation <ul style="list-style-type: none"> Basic Care & Comfort, Nutrition & Hydration, Pharmacological & Parenteral Therapies, Medication Administration Reduction of Risk Potential, Hemodynamics, Illness management
Concepts	Faculty
Acid Base, Gas Exchange, Perfusion	D. Kilpatrick & J.Jones
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

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