

**Covenant School of Nursing**  
**Instructional Module 1 Learning Guide**  
**Topic: Gas Exchange and Oxygen Devices**

**Learning Goals/Outcomes**

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

- Discuss hypoxemia/hypoxia and poor perfusion
- Recognize the impact of gas exchange and identify clinical manifestations of impaired gas exchange
- Discuss care strategies to assist the patient with impaired gas exchange
- Demonstrate the use of various oxygen therapy modalities as they relate to respiratory care in a simulation setting.
- Review options to improve oxygenation.
- Teach about oxygen policies and oxygen safety.

**Pre-Class Preparation**

Required:

- Review: Gas Exchange and Oxygen Devices PowerPoint prior to class attendance
  
- Read:  
Potter & Perry, Fundamentals of Nursing: Read Respiratory physiology, Factors affecting oxygenation, alterations in respiratory functioning, Nursing knowledge base, Critical thinking, Nursing process. Under Acute Care read Dyspnea management, Airway management, Mobilization of pulmonary secretions, Hydration, Humidification, Nebulization, and Coughing and deep-breathing techniques. Also read Maintenance and promotion of lung expansion: ambulation, positioning, and incentive spirometry.  
  
Lewis, Medical-Surgical Nursing: Nasal Cannula, Simple Face Mask, Partial and Non-Rebreather Masks, and Venturi Mask
  
- **Complete: HESI Essentials** – Applying a Nasal Cannula or Face Mask – Read all sections and complete quizzes for self-learning.  
**An average score of 80% on the test included in the activities is required.**  
**Failure to complete the assignments by the due date may result in an absence – review your syllabus**

**Learning Activities**

Classroom Activities:

- Discuss patients with hypoxia and/or inadequate perfusion & determine the appropriate oxygen device/therapy needed
- Pass around nasal cannula, venturi mask with adapters, non-rebreather mask

Laboratory/Clinical Activities:

- Hands-on use of various oxygenation modalities
- Practice using different oxygen devices in Simulation and teach oxygen therapy with nasal cannula to a patient in the clinical setting

Out-of-class activities:

See Required HESI Assignment above

Computer Assisted Activities:	
<ul style="list-style-type: none"> <li>None</li> </ul>	
<b>Evaluation Methods</b>	
<ul style="list-style-type: none"> <li>Mock CPE/Skills Practice &amp; clinical performance based on criteria in Professional Nursing Interventions Instructions for IM 1</li> <li>Unit Exam</li> </ul>	
<b>Texas DECS</b>	<b>QSEN Competencies</b>
<b>Knowledge:</b> II.A.1.a,4; 1B,5,7a,b,c; 2a, b., 3; II.B.2, 4, 5, 6, 7, 8, 11, 12; II.C,2a, 3, 4b, 5, 6, 7, 8; II.D. 1a, 1b, 1c, 3b, 4c,5a; II.E, 1a, 1b, 2, 4a,4b, 5, 6b, 12, 13; II.F, 2; IIG, 2a, 2b, 3a, 3b; IIIC 2a; IV.C, 1, 3, 5, 8; IVE 3  <b>Clinical Judgment:</b> I.A.1, 2, 3a, 3b, I.B.2.a, 2.b, 3.a, 3.b, 3.c, 4.a, 4.b, 5.a, 5.c, 6.a, 6.b, 6.c,8; II.A, 1, 2.a, 2.b, 3, 4; II.B, 1, 2, 3.a, 3.b, 4, 5, 6, 7, 8, 9, II.C.1, 2, 3.a, 4, 5, 6, 7; II.D.1, 2.a, 2.c, 2.d, ,3.a, 3.b,3.c; II.E.1, 2.a, 2.b, 2.c, 3.b, 4, 5.a, 6.a, 6.c, 6.d, 9, 10, 11, 12.b; II.F.1.a, 1.b, 1.c, 2.a, 2.b, 5.a, 5.b; II.G.1,2a, 2b, 3, 4, 5a, 5b, 6, 7; II.H.6; III.A., 2, 3, 4, 5a; III.B.1, 2, 3.a, 3.b, 3.c, 4, 5, 8, 9; III.C.2.a, 2.b, III.D.1, 2, 3; III.E.1, 3; III.F.1; IV.A.1, IV.B.1.a, 2; IV.C.1.a, 2.b; IV.D.1.b, 3.b, IV.E.1.b, 1.c, 2.b, 2.c, 4	Patient-Centered Care, Teamwork and Collaboration, Evidence-Based Practice, Safety
<b>Graduate Competencies / Student Learning Outcomes</b>	<b>NCLEX Test Plan</b>
1,2,5,7,8	<b>Safe &amp; Effective Care Environment:</b> Safety & Infection Control; Safe use of equipment <b>Physiological Integrity:</b> Basic Care & Comfort; Assistive Devices Reduction of Risk Potential; System Specific Assessments
<b>Concepts</b>	<b>Faculty</b>
Clinical judgment; Communication; Patient Education; Professionalism; Evidence-Based Practice; Patient-Centered Care; Safety; Gas Exchange; Perfusion	Julie Wolfe, MSN, RN, CNE
<b>Date originated: 9/9/15 (IM2)</b>	<b>Revision Dates: 4/7/16, 1/24/22, 1/20/24</b>
IM 1 Learning Guide Topic: Oxygenation cont'd	
CSON Learning Guide (adopted 5-2015 by Faculty vote) - adapted from Smith, R. M. Conquering the Content. San Francisco: Jossey-Bass, 2008.	