



Western Technical College

10515113 Respiratory Life Support

Course Outcome Summary

Course Information

Description	Focuses on management of adult ventilatory support. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care.
Total Credits	3

Pre/Corequisites

Prerequisite	Respiratory Therapeutics 2
Pre/Corequisite	Respiratory Airway Management
Prerequisite	Respiratory Clinical 1

Textbooks

Egan's Fundamentals of Respiratory Care. 12th Edition. Copyright 2021. Kacmarek, Robert M., James K. Stoller and Albert J. Heuer. Publisher: Elsevier Science. **ISBN-13**: 978-0-323-51112-4. Required.

Program Outcomes

1. Apply respiratory therapy concepts to patient care situations.
2. Demonstrate technical proficiency required to fulfill the role of a Respiratory Therapist.
3. Practice respiratory therapy according to established professional and ethical standards.

Course Competencies

1. Assess the need for mechanical ventilation

Assessment Strategies

- 1.1. given various patient scenarios
- 1.2. by answering questions in an oral or written format
- 1.3. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 1.1. assessment includes results of non-invasive monitoring

- 1.2. assessment includes recognition of impending ventilatory and/or oxygenation failure
- 1.3. assessment includes results of cardiopulmonary assessment
- 1.4. assessment includes recommendation for gathering further data as needed

2. Explain general principles of mechanical ventilation

Assessment Strategies

- 2.1. by answering questions in an oral or written format
- 2.2. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 2.1. you classify ventilators
- 2.2. you compare ventilator modes
- 2.3. you discuss the patient-ventilator interface
- 2.4. you calculate simple pulmonary mechanics to determine ventilator settings

3. Apply non-invasive mechanical ventilation

Assessment Strategies

- 3.1. given various patient scenarios
- 3.2. by answering questions in an oral or written format
- 3.3. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 3.1. you identify candidates for non-invasive mechanical ventilation
- 3.2. you select appropriate mode and ventilator parameters
- 3.3. you select, assemble, use and troubleshoot equipment
- 3.4. you select, assemble, use, and troubleshoot the patient interface
- 3.5. you modify therapy based on patient response
- 3.6. you evaluate and monitor patient's objective and subjective responses to therapy

4. Apply invasive mechanical ventilation

Assessment Strategies

- 4.1. given various patient scenarios
- 4.2. by answering questions in an oral or written format
- 4.3. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 4.1. you identify candidates for invasive mechanical ventilation
- 4.2. you select appropriate mode and ventilator parameters
- 4.3. you select, assemble, use and troubleshoot equipment
- 4.4. you evaluate and monitor patient's objective and subjective responses to therapy

5. Manage patients requiring mechanical ventilation

Assessment Strategies

- 5.1. by operating a variety of ventilators in the lab

Criteria

Your performance will be successful when:

- 5.1. you select appropriate ventilator settings for patient situation
- 5.2. you assemble and configure operation
- 5.3. you correctly operate ventilator according to patient response
- 5.4. you troubleshoot ventilator and circuit
- 5.5. you modify therapy based on patient response and patient/ventilator synchrony

6. Interpret waveforms and graphics

Assessment Strategies

- 6.1. by interpreting waveforms and graphics

Criteria

Your performance will be successful when:

- 6.1. interpretation includes selection of the appropriate graphics
- 6.2. interpretation includes recognition of the mode being delivered
- 6.3. interpretation includes triggering of the ventilator
- 6.4. interpretation includes identification of waveform components
- 6.5. interpretation includes association of waveforms with clinical abnormalities such as excessive work, insufficient time, auto PEEP, over-distension
- 6.6. interpretation includes modification of ventilator based on waveform analysis

7. Evaluate patient response to mechanical ventilation

Assessment Strategies

- 7.1. by evaluating patient responses

Criteria

Your performance will be successful when:

- 7.1. you calibrate the capnography equipment
- 7.2. you demonstrate proper use of the capnography equipment
- 7.3. you interpret arterial blood gases and make recommendations for ventilator adjustments including adjuncts such as high frequency ventilation and recruitment maneuvers
- 7.4. you interpret capnography and make recommendations for ventilator adjustments
- 7.5. you correlate capnography with arterial blood gases
- 7.6. you correlate pulse oximetry with arterial blood gases

8. Apply weaning/liberation strategies to mechanically ventilated patients

Assessment Strategies

- 8.1. given various patient scenarios
- 8.2. by answering questions in an oral or written format
- 8.3. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 8.1. you assess patient's readiness for weaning to include MIP, MEP, VC, RSBI and nutritional status
- 8.2. you select appropriate weaning strategy
- 8.3. you monitor the weaning process
- 8.4. you select, assemble, use and troubleshoot equipment used during the weaning process
- 8.5. you recommend modification and/or termination of the weaning process

9. Analyze the legal and ethical implications of initiation, continuation, and end of life situations/scenarios

Assessment Strategies

- 9.1. by responding to case scenarios and situations involving legal and ethical situations

Criteria

Your performance will be successful when:

- 9.1. you identify clinical situations in which life support would be initiated, continued, and/or withdrawn
- 9.2. you explain the procedures to assess for termination of life support (i.e. apnea testing, neurologic assessment)
- 9.3. you describe legal implications involved in initiation, continuation, and withdrawal of life support
- 9.4. you describe ethical implications involved in initiation, continuation, and withdrawal of life support
- 9.5. you examine the process for surge planning and triage for mass casualties

10. Implement mechanical ventilation strategies to various disease states according to evidenced based practice

Assessment Strategies

- 10.1. given various patient scenarios
- 10.2. by answering questions in an oral or written format
- 10.3. in a laboratory setting with mechanical ventilation equipment

Criteria

Your performance will be successful when:

- 10.1. you identify candidates for nonconventional ventilation strategies (i.e. ARDS, asthma, COPD)
- 10.2. you select appropriate mode and ventilator parameters
- 10.3. you modify therapy based on patient situation and response (i.e. VAI, VAE, lung protective strategies)
- 10.4. you evaluate and monitor patient's objective and subjective responses to therapy

11. Apply strategies to prevent ventilator associated events**Assessment Strategies**

- 11.1. Oral, Written and/or Skill Assessment

Criteria

- 11.1. you position the patient
- 11.2. you provide appropriate oral care
- 11.3. you monitor parameters for the ventilator bundle
- 11.4. you confirm compliance with the VAE prevention methods