UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
2020-2021:
RES 1403: MECHANICAL VENTILATION I

1. Name of individual compiling report: *Kelly Charleville*

2. Date of submission: *09/11/2020*

3. Is the assessment plan (*Check or highlight one*)

☐ an initial plan for the program ☐ a revision of an old plan X☐ unaltered from previous year

Course-Level Learning Outcomes-

1. What are the Course-Level Outcomes (CLOs)?

1. Review Data in the Patient Record
2. Collect and Evaluate Additional Pertinent Clinical Information
3. Recommend Procedures to Obtain Additional Data
4. Manipulate equipment by order or Protocol
5. Ensure Infection Control
6. Perform Quality Control Procedures
7. Maintain Records and Communicate Information
8. Remove Bronchopulmonary Secretions
9. Achieve Adequate Respiratory Support
10. Evaluate and Monitor Patient's Objective and Subjective Response to Care
11. Independently Modify Therapeutic Procedures Based on the Patient's Response
12. Recommend Modifications in the Respiratory Care Plan Based on the Patient's response
13. Determine the Appropriateness of the Prescribed Respiratory Care Plan and Recommend Modifications when Indicated by Data
14. Initiate, Conduct, or Modify Respiratory Care Techniques in an Emergency Setting
15. Act as an Assistant to the Physician Performing Special Procedures
16. Initiate and conduct Pulmonary Rehabilitation and Home Care.
17. Define respiratory failure.
18. Explain the general need for mechanical ventilation.
19. Name basic causes of respiratory failure and indications for mechanical ventilations.
20. Define terms related to the pressures and gradients in the lung.
21. Calculate airway resistance given the peak inspiratory pressure, a plateau pressure and the flow rate.
22. Calculate dynamic and static compliance.
23. List basic types of power sources used for mechanical ventilators.
24. Discuss the difference between a single-circuit and a double-circuit ventilator.
25. Describe the function of various controls on mechanical ventilators.
26. Describe the physiologic effects of PPV.
26. Discuss physiologic capabilities of ventilators.
27. Differentiate between various modes of invasive and noninvasive ventilation.

28. Explain the rationale for setting tidal volume, respiratory rate and peak flow when instituting mechanical ventilation.
29. Compare pressure, volume and flow delivery in volume-controlled breaths and pressure controlled breaths.
30. Identify common patient-trigger variables.
31. Calculate I:E ratios.
32. Compare and contrast spontaneous ventilation, augmented ventilation and controlled ventilation.
33. Describe how CPAP and NIV are used to deliver noninvasive PPV.
34. Understand the principles and application of PEEP and CPAP.
35. Troubleshoot mechanical ventilation situations such as inadequate delivered volumes, inspiratory flow, I:E ratios, ventilation and inadequate oxygenation.
36. Recognize the effects of a critical leak on pressure reading and volume measurements.
37. Interpret mechanical ventilation waveforms for flow, pressure, time and volume
38. Describe the procedure for changing ventilation settings according to blood gas results to achieve the desired effect.
39. Describe several measurements useful in determining a patient's readiness for weaning, and give normal and desirable values for each.
40. State guidelines for ventilator discontinuance.

1. Which CLOs were addressed for this academic year? (2019-2020)

All CLOs are addressed each year as they are imperative to competence of students performing patient care.

2. Which CLOs are being addressed in your assessment plan next academic year? (2019-2020)

All CLOs are addressed each year in the assessment plan. All CLOs are assessed with written exams and live student evaluations of competencies prior to performance on patients.

3. Explain the assessment cycle.

Didactic evaluations are with paper/pencil tests and all laboratory competencies are evaluated one-on-one with students in the laboratory prior to performance of competency in patient care. Students are required to perform a second

competency evaluation with preceptors at the bedside prior to autonomy with patients in care delivery.

4. What are the assessment methods? Are they direct or indirect?

All assessment methods are direct and require satisfactory performance on both written assessments and clinical competencies demonstrated in all laboratory experiences.

5. What are the assessment goal(s)?

To prepare graduates with demonstrated competence in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains of respiratory care practice as performed by registered respiratory therapists (RRTs).

6. What were the findings for this academic year? (2019-2020)

100% of 2021 graduates were both clinically and didactically successful and obtained employment in local hospitals.

7. What is your analysis of the findings?

All didactic and clinical training is sufficient to meet CoARC standards for respiratory care practice.

8. What is the action plan for the next academic year? (2019-2020) Explain.

1. To continue to present didactic, laboratory, and clinical materials and rotations currently utilized for students to ensure successful completion of the program.
2. Currently added tutoring on Fridays to assure retention of students in the program.
3. Recently added 3 hospitals and 1 DME to clinical rotations for student to ensure variety of clinical experiences is obtained by respiratory students.