Miami Dade College

Course Description

RET2275C | Respiratory Care Equipment and Procedures 2 | 2.00 credits

Emphasis on pressure breathing modalities, chest physiotherapy, and incentive devices. Prerequisite: RET2274C. RET2275L

Course Competencies

Competency 1: The student will describe BVM resuscitators and how to use and evaluate these devices by properly:

1. Identifying the significant parts of any BVM resuscitator.
2. Identifying types of BVM resuscitators and how each differs.
3. Discuss the indications, hazards, and contraindications for using BVM resuscitators on patients.
4. Comparing and contrasting the self-inflating to the non-inflating type of bag and identifying clinical uses requiring each.
5. Explain the FiO2 attainable with each unit type and how it should be monitored.
6. Identifying the desirable characteristics of a BVM resuscitator.
7. Explaining manual ventilation technique and procedure
8. Demonstrating CPR concept proficiency

Competency 2: The student will identify artificial airways and describe safe use by:

1. Identifying the significant groups of artificial airways.
2. Describe the indications and hazards of using each group.
3. Identifying the steps a therapist must take to properly assess the patient, establish and discontinue each type of airway, and determine patency and proper tube placement.
4. Describe the proper steps for maintaining safe airways.
5. Comparing proper and improper placement of each type of tube.
6. Discussing the material used in the construction of airways.
7. Explaining the ideal characteristics of a tube and a mask

Competency 3: The student will describe the proper technique used for oral and tracheal aspiration by:

1. Listing and explaining all equipment needed to aspirate the patient's airway.
2. Describe how the equipment is assembled.
3. Explaining how the patient is observed and assessed.
4. Identifying indications and contraindications for tracheal aspiration.
5. Comparing and contrasting open systems and closed systems for tracheal aspiration.
6. Describing precautions that should be taken before, during, and after the aspiration procedure.
7. Listing and defending procedure steps to be followed when aspirating.
8. Describe how the procedure is charted.
9. Explain the clinical applications of tracheal aspiration in patient care and select techniques appropriate to given clinical settings.

Competency 4: The student will describe the concepts of Sustained Maximal Inspiration (SMI) and Lung Expansion Therapy by:

1. Identifying specific clinical indications for Sustained Maximal Inspiration (SMI), Incentive Spirometry (IS), & CPAP Therapy.
2. Explaining the goals of (IS) Therapy/ Lung Expansion therapy
3. Evaluating the administration of Lung Expansion therapy seen in a demonstration.
4. Explaining how to administer a Lung Expansion treatment.
5. Identifying various types of Lung Expansion equipment, explaining how they operate.
6. Evaluating therapeutic outcome of Lung Expansion therapy.

7. Identifying appropriate data that should be recorded during and after Lung Expansion therapy.
8. Identifying key components of all the IPPB devices
9. Correctly connecting the tubing to all the IPPB devices.
10. Performing an equipment check to determine correct machine function prior to therapy utilization.
11. Determining what machine adjustments or operational situations: alter volume delivered to the patient alter deliverable oxygen concentration prevent device cycling into exhalation
12. Determining what effect lung compliance and airway resistance changes have on delivered tidal volume

Competency 5: The student will describe chest physiotherapy as a respiratory care therapeutic procedure by:

1. Reviewing the terms and definitions associated with chest physiotherapy
2. Reviewing proper use of patient transportation equipment and patient positioning.
3. Identifying and describing the function of equipment available to assist in chest physiotherapy.
4. Identifying all lung segments and the postural drainage positions appropriate for each lung segment.
5. Describe the indications, hazards, and contraindications when performing chest physiotherapy.
6. Identifying the clinical situations that would require modification of chest physiotherapy and how the modifications should be appropriate to each situation.
7. Identifying what should be observed and monitored in a patient during therapy administration.
8. Explaining what to chart after therapy has been administered.
9. Identifying, comparing, and contrasting airway clearance devices such as high-frequency chest wall oscillation, vibratory PEP, intrapulmonary percussive ventilation, & insufflation/insufflation devices. Assemble and troubleshoot associated equipment.
10. Explaining diaphragmatic breathing and who might benefit from it.
11. Reviewing the steps of a cough. Explain methods that can assist the patient in performing a more effective cough.
12. Selecting equipment and procedures currently used in chest physiotherapy appropriate to clinical situations in pediatric and adult patients
13. Comparing and contrasting the procedures and equipment for optimum patient success.
14. Comparing and contrasting percussion with vibration.
15. Identifying clinical situations that indicate the use of chest physiotherapy.
16. Discussing the current status of the various techniques of chest physiotherapy in the context of evidence

Learning Outcomes:

1. Communication
2. Computer / Technology Usage
3. Critical Thinking
4. Information Literacy