Adjunct Therapy

Presentation guide

DC = Statement of the competence for a particular domain
E = Elements of the competence for a specific statement of competence
P = Performance criteria for competency; associated with a specific element of the competence

Domain of competence DC.18

Perform adjunct respiratory care procedures on patients in a clinical setting

E18.1 Administer surfactant replacement therapy

- P18.1.1 Describe the application protocol, indications and contraindications for surfactant replacement therapy
- P18.1.2 Describe the delivery route, the types of surfactant and relative dosages
- P18.1.3 Identify the complications and corrective action associated with the administration of surfactant replacement therapy
- P18.1.4 Prepare the equipment and material necessary for the administration of surfactant replacement therapy in a clinical setting
- P18.1.5 Prepare the patient for the administration of surfactant replacement therapy in a clinical setting
- P18.1.6 Assume responsibility for the management of the airway, oxygenation and ventilation of the patient in a clinical setting
- P18.1.7 Administer to patient surfactant replacement therapy in a clinical setting
- P18.1.8 Monitor and assure patient safety during surfactant replacement therapy and take corrective action in the advent of complications in a clinical setting
- P18.1.9 Documenter in patient chart observations, actions and outcomes associated with the administration of surfactant replacement therapy in a clinical setting

E18.2 Assist with surfactant replacement therapy

- P18.2.1 Prepare the equipment and material necessary for the administration of surfactant replacement therapy in a clinical setting
- P18.2.2 Prepare the patient for the administration of surfactant replacement therapy in a clinical setting
- P18.2.3 Assume responsibility for the management of the airway, oxygenation and ventilation of the patient in a clinical setting
- P18.2.4 Assist with the administration to patient surfactant replacement therapy in a clinical setting

P18.2.5 Monitor and assure patient safety during surfactant replacement therapy and take corrective action in the advent of complications in a clinical setting
P18.2.6 Chart observations, actions and outcomes associated with the administration of surfactant replacement therapy in a clinical setting

E18.3 Administer specialty medical gases (e.g., Heliox, nitric oxide – excluding oxygen)

P18.3.1 Describe the applications, indications and contraindications for heliox administration
P18.3.2 Describe the recommended procedure for heliox administration
P18.3.3 Apply flow corrections for low-density gas mixtures when used with non-specific gas metering devices
P18.3.4 Calculate cylinder duration for various heliox mixtures
P18.3.5 Describe the applications, indications and contraindications for nitric oxide administration
P18.3.6 Discuss pollution concerns and control regarding nitric oxide administration
P18.3.7 Explain specific monitoring during nitric oxide administration including weaning considerations
P18.3.8 Prepare the equipment for specialty medical gases administration in a clinical settting
P18.3.9 Administer specialty medical gases to patients in a clinical setting
P18.3.10 Monitor specialty medical gas administration to patients and take corrective action in the advent of complications in a clinical setting
P18.3.11 Report and document observations in patient's chart with respect to specialty medical gas administration in a clinical setting

E18.4 Perform medical gas analysis

P18.4.1 Explain the principles of operation of the electrochemical oxygen analyzers
P18.4.2 Describe the calibration of the electrochemical oxygen analyzers
P18.4.3 Compare the clinical and technical advantages and disadvantages of galvanic and polarographic oxygen analyzers
P18.4.4 Discuss the factors which affect the efficiency and accuracy of oxygen analyzers
P18.4.5 Describe the operating principles of nitric oxide and nitrogen dioxide analyzers
P18.4.6 Utilize medical gas analyzers/monitors on patients in a clinical setting
P18.4.7 Troubleshoot and report common analyzer/monitor problems in a clinical setting

E18.5 Assist with esophageal placement (e.g., oral, nasogastric tubes, gastric suction)

P18.5.1 Discuss the methods used for assessing airway patency as it relates to application of esophageal tubes
P18.5.2 Describe the various techniques used to manually maintain a patent airway as it relates to the use of esophageal tubes
P18.5.3 Compare the anatomical differences and characteristics of non-tracheal airways in neonates, children and adults

P18.5.4 Describe the physiological effects including indications and contraindications of gastric suction/drainage
P18.5.5 Describe the techniques utilized in gastric suction/drainage including the insertion techniques for specialized esophageal tubes
P18.5.6 Describe complications and corrective action associated with the placement of specialized esophageal tubes and gastric suction/drainage
P18.5.7 Prepare the equipment and material necessary for the placement of a specialized esophageal tube in a patient in a clinical setting
P18.5.8 Prepare the patient for the placement of a specialized esophageal tube in a clinical setting
P18.5.9 Assist with insertion and secure a specialized esophageal tube in a patient in a clinical setting
P18.5.10 Ensure gastric suction/drainage therapy in patients in a clinical setting
P18.5.11 Monitor patient, specialized esophageal tube and gastric suction/drainage and take corrective action in the advent of a complication in a clinical setting
P18.5.12 Assist with removal of drainage tube in patients in a clinical setting
P18.5.13 Report and document procedure and observations in patient's chart in a clinical setting

E18.6 Assist with insertion of a chest tube

P18.6.1 Describe the applications and indications for the placement of a chest tube
P18.6.2 Identify the complications and corrective action associated with the insertion and placement of a chest tube
P18.6.3 Describe the procedure for inserting and securing a chest tube
P18.6.4 Prepare the equipment and material necessary for insertion and maintenance of a chest tube in a patient in a clinical setting
P18.6.5 Assist during patient preparation for insertion of a chest tube in a clinical setting
P18.6.6 Assist during the insertion and maintenance of a chest tube in a patient in a clinical setting
P18.6.7 Monitor patient during chest tube therapy and take corrective action in the advent of a complication in a clinical setting
P18.6.8 Report and chart observations and actions as related to chest tube therapy in a patient in a clinical setting

E18.7 Assist thoracic suction or drainage therapy

P18.7.1 Describe the applications and indications for thoracic suction and drainage therapy
P18.7.2 Discuss the physiological effects associated with thoracic suction and drainage therapy including potential complications and corrective actions
P18.7.3 Discuss the effects of transpulmonary pressure changes on closed chest drainage during normal breathing and mechanical ventilation
P18.7.4 Discuss the capabilities and limitations of closed chest drainage systems
P18.7.5 Discuss thoracentesis/rapid needle decompression
P18.7.6 Compare techniques utilized for thoracic suction and drainage therapy

P18.7.7 Assemble and test equipment required for thoracic suction and/or drainage therapy in patients in a clinical setting
P18.7.8 Prepare patient for thoracic suction and/or drainage therapy in patients in a clinical setting
P18.7.9 Assist during thoracic suction and/or drainage therapy in patients in a clinical setting
P18.7.10 Assess patient, recognize complications and take corrective action during thoracic suction and/or drainage therapy in patients in a clinical setting

It should be noted that the following elements (E18.8, E18.9 and E18.10) do not appear in the 2011 NCP – they were added as very important elements to this and other domains.

E18.8 Utilized medical supply systems in a clinical setting

P18.8.1 Describe the basic physical and chemical properties of commonly utilized medical gases (excluding oxygen) in respiratory care
P18.8.2 Describe the methods of storage, distribution and transportation of various medical gases
P18.8.3 Describe the safety standards applicable to various supply formats for medical gases
P18.8.4 Describe the compressed medical gas pipeline systems of a hospital with emphasis on safety features
P18.8.5 Describe the locations and purpose of zone valves utilized for compressed medical gas systems in a hospital
P18.8.6 Describe the various Canadian standards and other regulatory bodies as they relate to compressed medical gases and their respective clinical application
P18.8.7 Estimate gas flow duration in gas and liquid cylinders
P18.8.8 Describe the general concepts for safety connection systems for compressed medical gases
P18.8.9 Describe the emergency action required for major leakage from a gas wall outlet in a clinical facility
P18.8.10 Handle and maintain compressed medical gases in a clinical setting

E18.9 Regulate and maintain the pressure and flow of medical gases in a clinical setting

P18.9.1 Describe the measurement of atmospheric pressure using a barometer
P18.9.2 Differentiate between types of pressure manometers/gauges
P18.9.3 Utilize reducing valves and/or regulators in a clinical setting
P18.9.4 Describe the principles related to fluid entrainment, mixing and gas concentration
P18.9.5 Explain the functional use and operation of fluid entrainment and gas mixing devices
P18.9.6 Utilize flow-metering devices in a clinical setting
P18.9.7 Compare low-flow and high-flow gas administration devices per respective applications
P18.9.8 Describe the complications and hazards associated with the use of low flow gas administration devices

P18.9.9 Describe the complications and hazards associated with the use of high-flow gas administration devices
P18.9.10 Select and utilize various types of medical gas administration devices on patients in a clinical setting

E.18.10 Provide Thermal Regulation

P18.10.1 Describe the basic function of temperature servo-controlled devices
P18.10.2 Discuss the advantages and disadvantages of various thermoregulation devices (e.g.; incubators, radiant warmers, heated humidifiers etc.)
P18.10.3 Assess need for thermal regulation therapy
P18.10.4 Select and assemble appropriate equipment for thermal regulation therapy in a clinical setting
P18.10.5 Initiate thermal regulation therapy in a clinical setting
P18.10.6 Monitor and chart thermal regulation therapy in a clinical setting