



SIMTICS Respiratory Care Module Outlines

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Aerosol Medication Delivery Protocols

Description

This module provides knowledge in the various types of inhaler procedures used to deliver aerosol medications and the appropriate use of each one.

Learning objectives

- Describe the pre-procedure considerations for metered dose inhaler usage.
- Describe and demonstrate how to perform a metered dose inhaler procedure.
- Describe the pre-procedure considerations for dry powder inhaler usage.
- Describe and demonstrate how to perform a dry powder inhaler procedure.
- Describe the pre-procedure considerations for soft mist inhaler usage.
- Describe and demonstrate how to perform a soft mist inhaler procedure.
- Understand and apply the "seven rights" of drug administration.
- Understand the application and delivery of various aerosol medications.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 1 - Module introduction and expectations

Step 2 - Preparation

Step 2.1 - Equipment preparation

Step 2.1.1 - Metered Dose Inhaler (MDI)

Step 2.1.2 - Dry Powder Inhaler (DPI)

Step 2.1.3 - Soft Mist Inhaler (SMI)

Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Perform inhaler administration protocols

Step 3.1 - Perform Metered Dose Inhaler (MDI) administration protocol

Step 3.1.1 - Instruct the patient on how to properly use the metered dose inhaler

Step 3.1.2 - Have the patient practice using the metered dose inhaler

Step 3.2 - Perform Dry Powder Inhaler (DPI) administration protocol

Step 3.3 - Perform Soft Mist Inhaler (SMI) administration protocol

Step 4 - Documentation

Arterial Blood Gas Procedures and Interpretation

Description

This module provides knowledge in the proper steps to perform an arterial blood gas test and how to interpret the results.

Learning objectives

- Describe the pre-procedure considerations for arterial blood gas sampling.
- Describe and demonstrate how to examine the status of a pulse before commencing a blood gas procedure.
- Apply interpretation protocols to arterial blood gas sampling.
- Identify and understand when and how to interpret an Allen's test.
- Describe and demonstrate the procedure for interpreting an Allen's test:
 - positioning of the patient
 - cleansing of the puncture site
 - the angle of needle entry
 - the depth of needle insertion
 - collection of the sample
 - removal of the needle and application of pressure at the puncture site
 - placement of the sample in ice
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 1 - Module introduction and expectations

Step 2 - Preparation

Step 2.1 - Equipment preparation

Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Perform arterial blood sampling

Step 3.1 - Radial artery

Step 4 - Transport arterial blood sample

Step 5 - Document the procedure

Step 6 - Interpret arterial blood sample results

Step 6.1 - Document the pH balance

Step 6.2 - Analyze the respiratory mechanism

Step 6.3 - Analyze the metabolic mechanism

Step 6.4 - Interpretation

Assist with Bronchoscopy Procedure

Description

This module explains the proper steps to perform a bronchoscopy procedure.

Learning objectives

- Describe the pre-procedure considerations for bronchoscopy.
- Describe and demonstrate how to assist with a bronchoscopy procedure.
- Describe and demonstrate how to monitor the equipment and patient during and after the procedure.
- Understand proper medication delivery.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2 - Preparation

Step 2.1 - Equipment preparation

Step 2.1.1 - Bronchoscopy equipment

Step 2.1.2 - Monitoring equipment

Step 2.1.3 - Procedure room equipment

Step 2.1.4 - Medications

Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Assist with bronchoscopy procedure

Step 3.1 - Prepare anesthesia

Step 3.2 - Prepare airway for bronchial scope

Step 3.3 - Assist with bronchoscope procedure

Step 4 - Process specimens and monitor the patient

Step 5 - Complete the procedure

Oxygen Administration Equipment Recognition

Description

This module provides knowledge of the various types of oxygen administration devices available to healthcare professionals and the appropriate use of each.

Learning objectives

- Describe pre-procedure considerations for various types of oxygen administration equipment.
- Describe and demonstrate the proper assembly of various types of oxygen administration equipment.
- Identify the appropriate oxygen administration equipment based on patient conditions and evaluations.
- Define and use related medical terminology.
- Understand Occupational Safety and Health Administration (OSHA) guidelines.
- Understand correct post-procedure considerations.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2 - Tissue oxygenation and assessment

Step 2.1 - Tissue oxygenation

Step 2.2 - Tissue hypoxia

Step 2.3 - Clinical signs and symptoms

Step 3 - Oxygen administration techniques

Step 3.1 - Indications for oxygen therapy

Step 3.2 - Oxygen delivery device selection

Step 3.3 - Oxygen delivery device features

Step 3.3.1 - Nasal cannula

Step 3.3.2 - Simple mask

Step 3.3.3 - Partial rebreather mask

Step 3.3.4 - Non-rebreather mask

Step 3.3.5 - Tracheostomy mask

Step 3.3.6 - Air entrainment mask

Step 3.3.7 - High-flow nasal cannula

Step 4 - Review

Perform Oxygen Administration Protocols

Description

This module provides knowledge of how to perform oxygen assessments to ensure a therapeutic level of oxygen is being delivered in a safe manner.

Learning objectives

- Describe pre-procedure considerations for various types of oxygen administration equipment.
- Describe and demonstrate the proper assembly of various types of oxygen administration equipment.
- Identify the appropriate oxygen administration equipment based on patient conditions and evaluations.
- Identify patient 'sats' (oxygen saturation levels) that require adjusted oxygen treatment methods.
- Define and use related medical terminology.
- Understand Occupational Safety and Health Administration (OSHA) guidelines.
- Understand correct post-procedure considerations.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2 - Tissue oxygenation and assessment

Step 2.1 - Tissue oxygenation

Step 2.2 - Tissue hypoxia

Step 2.3 - Clinical signs and symptoms

Step 3 - Oxygen administration techniques

Step 3.1 - Indications for oxygen therapy

Step 3.2 - Oxygen delivery device selection

Step 3.3 - Oxygen delivery device features

Step 3.3.1 - Nasal cannula

Step 3.3.2 - Simple mask

Step 3.3.3 - Partial rebreather mask

Step 3.3.4 - Non-rebreather mask

Step 3.3.5 - Tracheostomy mask

Step 3.3.6 - Air entrainment mask

Step 3.3.7 - High-flow nasal cannula

Step 4 - Proper steps for applying oxygen administration devices

Step 4.1 - Apply nasal cannula

Step 4.2 - Apply simple mask

Step 4.3 - Apply partial rebreather mask

Step 4.4 - Apply non-rebreather mask

Step 4.5 - Apply air entrainment mask

Step 4.6 - Apply high-flow nasal cannula

Step 5 - Patient monitoring and documentation

Step 5.1 - Monitor the patient

Step 5.2 - Chart documentation

Perform Pulmonary Function Testing

Description

This module provides knowledge in the various tests used to measure the functions of the lungs.

Learning objectives

- Describe pre-procedure considerations for a spirometry test.
- Describe pre-procedure considerations for a lung plethysmography test.
- Describe and demonstrate how to perform a spirometry test in an outpatient setting.
- Describe and demonstrate how to perform a spirometry test in an inpatient setting.
- Describe and demonstrate how to perform a lung plethysmography test.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Understand and apply the "seven rights" of drug administration.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2.1.1 - Spirometry

Step 2.1.2 - Lung plethysmography

Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Perform spirometry test

Step 3.1 - Outpatient spirometry test

Step 3.1.1 - Position the patient

Step 3.1.2 - Practice the maneuver

Step 3.1.3 - Perform the forced volume capacity test

Step 3.2 - Perform inpatient spirometry test

Step 3.2.1 - Verify the patient's identifiers and the patient history

Step 3.2.2 - Position the patient

Step 3.2.3 - Practice the maneuver

Step 3.2.4 - Perform the forced volume capacity test

Step 3.3 - Document the procedure

Step 4 - Perform lung plethysmography

Step 4.1 - Verify the patient identifiers and history

Step 4.1.1 - Position the patient

Step 4.1.2 - Instruct the patient for lung plethysmography measurements

Step 4.2 - Complete the procedure

Proper Airway Procedures During Respiratory Care

Description

This module provides knowledge on how to perform proper airway procedures to ensure adequate ventilation and oxygenation in a patient.

Learning objectives

- Describe pre-procedure considerations for a spirometry test.
- Describe pre-procedure considerations for a lung plethysmography test.
- Describe and demonstrate how to perform a spirometry test in an outpatient setting.
- Describe and demonstrate how to perform a spirometry test in an inpatient setting.
- Describe and demonstrate how to perform a lung plethysmography test.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Understand and apply the "seven rights" of drug administration.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Perform airway procedures

Step 3.1 - Perform proper intubation procedure

Step 3.2 - Perform adult extubation

Step 3.3 - Perform tracheostomy care

Step 3.3.1 - Perform tracheostomy cleaning

Step 4 - Monitor the patient

Step 4.1 - Monitor adult patient after intubation

Step 4.2 - Monitor adult patient who has received tracheostomy care

Step 4.3 - Monitor adult patient after extubation

Step 5 - Complete the procedure

Proper Suctioning Procedures During Respiratory Care

Description

This module provides knowledge on how to perform various types of suctioning procedures.

Learning objectives

- Describe the pre-procedure considerations for nasotracheal suctioning.
- Describe and demonstrate how to perform nasotracheal suctioning.
- Describe the pre-procedure considerations for tracheal suctioning.
- Describe and demonstrate how to perform tracheal suctioning and placement procedures.
- Describe the pre-procedure considerations for endotracheal suctioning.
- Describe and demonstrate how to perform endotracheal suctioning and placement procedures.
- Describe the pre-procedure considerations for feeding tube suctioning.
- Describe and demonstrate how to perform feeding tube suctioning.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
- Explain the Patient Privacy Rule (HIPAA), Patient Safety Act, and Patients' Bill of Rights.

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Step 2 - Preparation

Step 2.1 - Equipment preparation

Step 2.1.1 - Nasogastric suctioning procedure equipment

Step 2.1.2 - Endotracheal and tracheostomy suctioning procedure equipment

Step 2.1.3 - Endotracheal tube and tracheal tube change and cleaning equipment

Step 2.2 - Patient preparation

Step 2.3 - Medical professional preparation

Step 3 - Perform suctioning procedures

Step 3.1 - Perform nasotracheal suctioning procedure

Step 3.2 - Perform tracheal suctioning procedure

Step 3.2.1 - Tracheal suctioning with a catheter

Step 3.2.2 - Tracheal suctioning with a closed suction device

Step 3.3 - Perform endotracheal tube suctioning

Step 3.4 - Perform nasogastric and orogastric tube suctioning

Step 4 - Monitor the patient

Step 5 - Complete the procedure

Proper Ventilation Procedures During Respiratory Care

Description

This module provides knowledge on how to perform mechanical ventilation.

Learning objectives

- Describe the pre-procedure considerations for invasive and non-invasive mechanical ventilation.
- Describe and demonstrate how to perform invasive and non-invasive mechanical ventilation.
- Understand and apply Occupational Safety & Health Administration (OSHA) guidelines.
- Describe and demonstrate the correct post-procedure considerations.
- Define and demonstrate correct recording and reporting procedures.
- Define and use related medical terminology.
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Step 2 - Assess ventilation need and identify appropriate ventilation type

Step 3 - Preparation

 Step 3.1 - Equipment preparation

 Step 3.1.1 - Ventilation modes

 Step 3.2 - Patient preparation

 Step 3.3 - Medical professional preparation

Step 4 - Deliver mechanical ventilation treatment

Step 5 - Monitor ventilation treatment

Step 6 - Complete the procedure