

Description

The patient with an artificial airway is not capable of effectively coughing, the mobilization of secretions from the trachea must be facilitated by aspiration. This is called as suctioning.

Types of Suctioning:

OPEN SUCTION SYSTEM:

Regularly using system in the intubated patients

CLOSED SUCTION SYSTEM:

This is used to facilitate continuous mechanical ventilation and oxygenation during the suctioning. Closed suctioning is also indicated when PEEP level is above 10cmH₂O.

Purpose

Therapeutic:

- Coarse breath sounds
- Noisy breathing
- Visible secretions in the airway
- Decreased SpO₂ in the pulse oximeter & Deterioration of arterial blood gas values
- Clinically increased work of breathing
- Suspected aspiration of gastric or upper airway secretions
- Patient's inability to generate an effective spontaneous cough
- Changes in monitored flow/pressure graphics
- Increased PIP; decreased V_t during ventilation
- X-ray changes consistent with retained secretions
- The need to maintain the patency and integrity of the artificial airway
- The need to stimulate a cough in patient's unable to cough effectively secondary to changes in mental status or the influence of medication
- Presence of pulmonary atelectasis or consolidation, presumed to be associated with secretion retention
- During special procedures like Bronchoscopy & Endoscopy
- Diagnostic:
 - The need to obtain a sputum specimen / ETA (Endo Tracheal Aspiration) for Bacteriological or microbiological or cytological investigations.
 - This is the picture which shows us about the ETA sampling.

Steps

Open Suctioning

SUCTIONING

Perform hand hygiene, wash hands. It reduces transmission of microorganisms.

Turn on suction apparatus and set vacuum regulator to appropriate negative pressure. For adult a pressure of 100-120 mmHg, 80-100mmhg for children & 60-80mmhg for infants.

Goggles, mask & apron should be worn to prevent splash from secretions

Pre-oxygenate with 100% O₂

Open the end of the suction catheter package & connect it to suction tubing (If you are alone)

Wear sterile gloves with sterile technique

With a help of an assistant open suction catheter package & connect it to suction tubing

With a help of an assistant disconnect the ventilator

Kink the suction tube & insert the catheter in to the ET tube until resistance is felt

Resistance is felt when the catheter impacts the carina or bronchial mucosa, the suction catheter should be withdrawn 1cm out before applying suction

Apply continuous suction while rotating the suction catheter during removal

The duration of each suctioning should be less the 15sec.

Instill 3 to 5ml of sterile normal saline in to the artificial airway, if required

Assistant resumes the ventilator

Give four to five manual breaths with bag or ventilator

Continue making suction passes, bagging patient between passes, until clear of secretions, but no more than four passes

Return patient to ventilator

Flush the catheter with hot water in the suction tray

Suction nares & oropharynx above the artificial airway

Discard used equipment

Flush the suction tube with hot water

Auscultate chest

Wash hands

Document including indications for suctioning & any changes in vitals & patient's tolerance

SUCTIONING

Closed Suctioning

Wash hands

Wear clean gloves

Connect tubing to closed suction port

Pre-oxygenate the patient with 100% O₂

Gently insert catheter tip into artificial airway without applying suction, stop if you met resistance or when patient starts coughing and pull back 1cm out

Place the dominant thumb over the control vent of the suction port, applying continuous or intermittent suction for no more than 10 sec as you withdraw the catheter into the sterile sleeve of the closed suction device

Repeat steps above if needed

Clean suction catheter with sterile saline until clear; being careful not to instill solution into the ET tube

Suction oropharynx above the artificial airway

Wash hands

Test your knowledge

Why is suctioning important?

How long should you suction a tracheostomy?

To be able to perform suctioning safely, what must one observe and remember to do?