

ENDOTRACHEAL TUBE (ETT) SUCTIONING • 1/2

This procedure guideline is applicable to ventilated babies where a closed suction catheter system is used. ETT suctioning is necessary to clear secretions and to maintain airway patency, and to optimise oxygenation and ventilation in an intubated patient. The goal of ETT suctioning should be to maximise the amount of secretions removed with minimal adverse effects

INDICATIONS

- To maintain airway patency
- To remove respiratory secretions or aspirated fluid from within the ETT
- To obtain secretions for culture analysis

EQUIPMENT

- In line/closed circuit catheter
- catheter size <0.5 diameter of ETT
- Non-sterile disposable gloves
- Disposable apron
- Sodium chloride 0.9%
- 1 mL syringe

PROCEDURE

- DO NOT attempt to carry out this procedure unless trained in the use of endotracheal closed suction catheter system

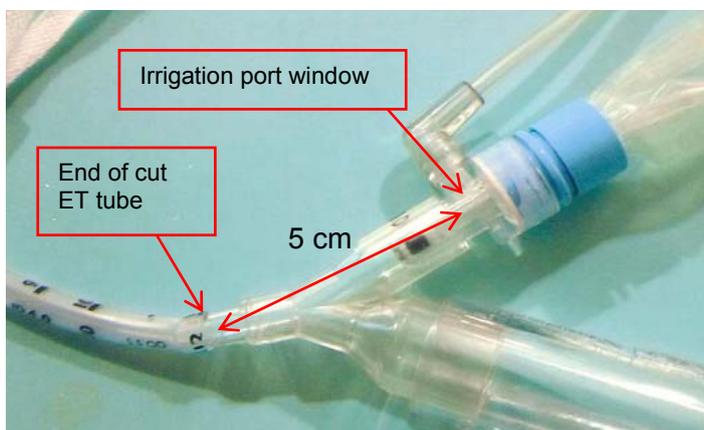
Preparation

- Wash hands and put on gloves and apron
- Auscultate chest before suctioning
- Ensure full monitoring of heart rate and SpO₂ in place
- Ensure baby is adequately oxygenated; consider increasing FiO₂ by up to 0.1 before procedure, e.g. if baby receiving FiO₂ of 0.3 (or 30% oxygen), increase oxygen delivery to up to FiO₂ 0.4 (or 40% oxygen)
- Ensure baby is positioned appropriately for secretion clearance and stress reduction
- Ensure closed suction device is unlocked
- Check suction pressure – maximum 13 kPa. Use lowest pressure that effectively clears secretions

Measuring catheter advancement

Method 1 (compatible with the Halyard Health brand of closed suction catheters)

- Note the printed number on the cut ETT
- Add 5 cm to this to give the total distance of suction catheter advancement
- Stabilise the Y adaptor with 1 hand and advance the catheter until calculated length is visible in the irrigation port window. The catheter tip will be within 0.5–1 cm of the end of the ETT
- Note the nearest coloured band to the irrigation port window. Coloured bands allow for easy visualisation on subsequent suction procedures



Method 2

- Stabilise the Y adaptor with 1 hand
- Advance the catheter until the printed depth numbers on the catheter align with the same numbers printed on the endotracheal tube
- The catheter tip will be within 0.5–1 cm of the end of the endotracheal tube

ENDOTRACHEAL TUBE (ETT) SUCTIONING • 2/2

Performing suctioning

- Ensure the suction catheter is correctly advanced using either of methods 1 or 2 (above)
- Depress thumb control valve and hold while withdrawing the catheter slowly
- When the tip of the suction catheter reaches the dome, release thumb control valve and stop withdrawing
- Procedure should take ≤ 10 sec and **the duration of negative pressure should be ≤ 5 sec**
- Repeat procedure if necessary
- Do not use sodium chloride 0.9% instillation routinely. Sodium chloride 0.9% ≤ 0.5 mL may be instilled before suctioning if secretions are thick and tenacious and cannot be extracted by suctioning alone
- After each suctioning episode ensure the closed circuit is flushed with sodium chloride 0.9% according to manufacturers' instructions

DOCUMENTATION

- Record procedure in nursing documentation, noting the distance the tube was passed and the colour of the band on the catheter tube closest to this measured distance

AFTERCARE

Equipment

- Leave thumb valve in locked position when not in use to prevent inadvertent activation
- Leave catheter tip in dome between use
- Device is single use only and replace every 24 hr as per manufacturer's guidance

Monitoring

- Ensure monitoring of heart rate and SpO₂ continues after procedure
- Auscultate baby's chest after procedure and document any changes observed
- If FiO₂ was adjusted before procedure, return to original settings, or ensure that baby's target FiO₂ is maintained

Reporting adverse events

- Report adverse incidents using local risk management procedure

COMPLICATIONS

- Hypoxaemia
- Atelectasis
- Bradycardia
- Tachycardia
- Blood pressure fluctuations
- Decreased tidal volume
- Airway mucosal trauma
- Dislodgement of ETT
- Extubation
- Pneumothorax
- Pneumomediastinum
- Bacteraemia
- Pneumonia
- Fluctuations in intracranial pressure and cerebral blood flow velocity

FURTHER INFORMATION

- Further details on ETT closed suction can be found in the manufacturer's guidance