



NCCU CLINICAL GUIDELINES
SECTION: 2

RESPIRATORY PROBLEMS AND MANAGEMENT

Section 2: Respiratory problems and management
Endotracheal suction
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ENDOTRACHEAL SUCTION

ETT suction is performed to maintain a patent airway and optimize oxygenation and ventilation through the removal of airway secretions, whilst providing uninterrupted ventilation. In unstable infants and all infants on HFO/Jet Ventilation, perform the procedure with an assistant.

KEY POINTS

- Routine suction should be avoided. The need for suction should be based on clinical assessment of:
 - Visible or audible secretions in the chest or endotracheal tube.
 - Interpretation of certain clinical changes: decrease in SaO₂, bradycardia, altered air entry / chest wall movement / decrease in tidal volume. Deterioration in blood gas values
- Turning of the infant's head from side to side during suction can occlude the jugular vein causing increased intracranial pressure; therefore this practice should be avoided.
- Correct humidification settings (40+-3), and adequate hydration of the infant should ensure thin secretions. However if secretions are thick and tenacious, 0.25 – 0.5mL normal saline can be instilled as a lavage prior to suctioning.
- One-person procedure: operator to stand on the same side as the ventilator so able to adjust settings quickly if necessary.
- Two-person procedure: the person controlling the ventilator to stand on the side of the ventilator, the operator to stand on the opposite side. Incubator door to remain closed during the procedure to maintain NTE. Position infant appropriately to perform the procedure safely.
- Obtain an ETT aspirate for M,C&S should be performed in the following circumstances:
 - All intubated and ventilated infants should have a routine aspirate sent each Monday.
 - All intubated infants who have a septic screen and all infants who are re-intubated.

EQUIPMENT

Ballards closed-system suctioning device is a one-person suction procedure.
Suction set at: 50-80mmHg – infant <1000 grams / 80-100mmHg – infant >1000 grams

PROCEDURE

1. Turn off continuous milk feed prior to procedure to assist in the prevention of aspiration of milk. If bolus feed recently given, consider aspirating contents prior to suctioning.
2. Increase FiO₂ by 5-10% prior to suctioning (if appropriate).
3. Open the Ballard suction valve, measure depth required; level ETT cut at +5 cm, correct measurement prevents deep suctioning which causes mucosal damage.

4. Insert catheter to the predetermined length, apply suction and while supporting the endotracheal tube withdraw the catheter – this should not take longer than 10 seconds to minimise the risk of cerebral and pulmonary vasoconstriction.
5. Observe the secretions through the secretion viewing window
6. Auscultate the chest; assess the need for further passes of the catheter.
7. At the completion of suction procedure, clean catheter with saline, leave catheter in correct position. Close Ballard suction valve.
8. Replace gastric residual if aspirated prior to suctioning.