A. POLICY

To provide guidelines for endotracheal tube care and suctioning.

B. PURPOSE

- Maintain patent airway
- Facilitate oxygenation and ventilation
- Clearance of tracheal bronchial secretions

**Determine the need to suction and suction only when indicated. Frequency of suctioning should be individualized and based on the infant's respiratory status, clinical condition, blood gases and character and amount of secretions.**

The following situations may indicate the need for suctioning:

- Falling oxygen saturations
- Increasing oxygen requirements
- Diminished breath sounds
- Changes in vital signs, blood gases, respiratory rate and pattern
- Agitation
- Visible secretions in endotracheal tube

Perform respiratory assessment observing color, respiratory rate, chest movement, bilateral air entry, breath sounds and presence of airway leak. Include other vital signs as indicated by infant's condition.

C. EQUIPMENT

- Sterile 0.9 % NaCl without preservatives (plastic ampoules). Use newly opened sterile plastic ampoule each time.
- #6, #8, or #10 Fr. sterile suction catheter (catheter size dependent on the size of the endotracheal tube).
- Sterile saline for catheter rinse
• Disposable gloves
• Medication cups
• #8, #10 or #12 Fr. Sterile suction catheter for oral suctioning (use appropriate catheter for infant's size).
• Appropriate tape, skin protectant if endotracheal tube requires re-taping or reinforcement if required by RT
• A resuscitation bag, connected to a blended oxygen line, must be set up at the bedside and an appropriate sized facemask immediately available. Check the resuscitation bag and mask for function at the beginning of every shift.

D. GUIDELINES

1. Ensure the tapes holding the endotracheal tube in place are secure and there is no movement of the endotracheal tube.

2. Open the suction catheter package and withdraw only the "whistle stop" end of the catheter, keeping the tip inside to keep it as aseptic as possible. Attach the whistle-stop end to the suction tubing.

3. Regulate the suction pressure between 50-80 mmHg.

4. Place clean gloves on both hands.

5. Enclose suction catheter in gloved hand to maintain aseptic technique. Determine depth of catheter insertion with pre marked measuring guide (length of ETT and adapter).

6. Disconnect infant from ventilator.

7. Quickly but gently insert catheter into the lumen of the ETT. Do not apply suction during insertion. Pass the catheter only to the predetermined depth. Advancing the catheter beyond the ETT can cause trauma to the surrounding tissue.

Note: Normal Saline instillation is not a routine procedure. It should be used based on clinical judgment of the infant’s respiratory status and character and amount of secretions. NACL used for thick secretions should be instilled directly into the lumen of the ETT and then reattach infant to ventilator for at least 20 seconds until oxygen saturation, heart rate and colour have stabilized.

8. Apply suction while withdrawing the catheter (using a rotating motion). Limit suction duration to 5-10 seconds. Loss of lung volume can occur with suctioning, leading to atelectasis and can result in severe hypoxia.
9. Ventilate between suction passes while monitoring vital signs, oxygen saturation and chest wall movement. Infant may be ventilated by hand or by providing manual breaths from the ventilator.

10. Reattach infant to ventilator. Enclose the length of the suction catheter into gloved hand to maintain aseptic technique.

11. Rinse suction catheter with normal saline.

12. Observe color, amount and consistency of ETT secretions. Repeat catheter passes, if necessary, until secretions are removed. Most secretions can be cleared in one to two passes. Do not repeat a catheter pass until the infant's color, heart rate, and oxygen saturation have stabilized.

13. If suctioning is not tolerated, two caregivers performing suctioning may minimize the adverse responses and shorten the procedure time (one person provides positive pressure ventilation between suction passes).

14. If secretions are very thick, it may be necessary to repeat the suctioning procedure. Leave the infant on the ventilator for at least 2-3 minutes before repeating the procedure (double suctioning).

15. Gently suction the oral cavity as far back as the nasopharynx using a #8, #10 or #12 Fr. catheter. Do not aspirate the esophagus or stomach. Observe color, amount and consistency of secretions.

16. Once the infant has stabilized following the procedure, reset ventilator rate and inspired oxygen (if changed), to pre-suctioning settings. Some infants may require gradual weaning of ventilator rate and oxygen settings over several minutes.

17. Reposition the infant and adjust ventilator tubes to avoid undue tensions on the endotracheal tube.


19. Perform respiratory assessment. Ensure the infant is stable and well oxygenated before any other activities are done.

E. SUPPLEMENTAL REFERENCES


F. AUTHORS/CONSULTANTS/REVIEWERS

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