TRACHEAL SUCTION - OPEN SYSTEM

POLICY:

RNs and LPNs may suction the trachea.

PURPOSE:

To maintain airway patency, remove tracheobronchial secretions, and mobilize tenacious secretions for removal in the patient with an endotracheal tube (ETT) or tracheostomy cannula. This promotes optimal exchange of O₂ and CO₂, prevents pneumonia that results from pooling of secretions and stimulates the cough reflex.

SUPPORTIVE DATA:

1. Use sterile technique throughout procedure.
2. Should be done to remove accumulated secretions based on by assessment of indications for suctioning.
3. Performed as frequently as the patients condition warrants but excessive suctioning is not a benign procedure. Take precautions to ensure patient comfort and safety.

EQUIPMENT LIST:

1. A #12 or #14 sterile suction catheter kit for adults (the diameter should be no larger than half of the inside diameter of the tracheostomy or ETT.)
2. Suction source
3. O₂ source
4. Sterile normal saline solution in 5cc-15cc plastic vials
5. Sterile gloves, drape, catheter (suction kit)
6. Ambu bag or mechanical ventilator with O₂ source.

CONTENT:

<table>
<thead>
<tr>
<th>Procedure Steps</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess VS and breath sounds and assess patient's need for endotracheal suctioning; indications include:</td>
<td>1. To establish a baseline for comparison after suctioning.</td>
</tr>
<tr>
<td>a. coarse adventitious sounds</td>
<td></td>
</tr>
<tr>
<td>b. coughing</td>
<td>2. Prevent cross contamination.</td>
</tr>
<tr>
<td>c. increasing inspiratory pressures for patients</td>
<td></td>
</tr>
<tr>
<td>receiving mechanical ventilation</td>
<td></td>
</tr>
<tr>
<td>2. Wash hands.</td>
<td></td>
</tr>
<tr>
<td>3. Assemble equipment.</td>
<td></td>
</tr>
<tr>
<td>4. Explain procedure to patient and continue to reassure the patient throughout the procedure. Assess patients comfort level throughout procedure and intervene appropriately.</td>
<td>4. To minimize anxiety, promote relation and the patient may then assist with deep breaths and coughing.</td>
</tr>
<tr>
<td>5. Clinician may want mask, goggles and gown to reduce potential for infection</td>
<td>5. Standard Precautions</td>
</tr>
</tbody>
</table>
6. Place the patient in semi-fowlers or high fowlers unless contradicted.
7. Open catheter package. A 14 Fr. cath is commonly used in adult patients.
8. Apply sterile gloves, maintain sterility of dominant hand throughout procedure.
9. Spread sterile drape provided in kit across patient's chest near ETT.
10. With non-dominant hand, pour sterile saline into cath kit container - to cover catheter.
11. Using sterile dominant hand, pick up catheter. Keep it coiled so it can't touch a non-sterile object. With non-sterile hand, pick up suction tubing and connect to suction catheter. Non-sterile hand controls suction port.
12. With non dominant hand, set the suction pressure to 80-120mmhg. Bend the suction catheter and occlude the suction port to assess suction pressure.
13. Dip the catheter tip in the saline solution and occlude the suction port suction a small amount of solution through the catheter.
14. With non-dominant hand, Preoxygenate patients with 100% O₂ for 3-6 breaths, or
   a. Use anesthesia bag connected to 100% O₂, or
   b. Change O₂ setting on mechanical ventilator to 100% (F₁O₂) for 3-6 breaths
15. With non-dominant hand, remove O₂ source or ventilator tubing from ETT, place end of tubing on sterile field, or have co-worker hold tubing.
16. 5 cc vial of sterile saline to be inserted into ETT to moisten secretions and facilitate removal
17. Using sterile gloved hand, gently insert catheter into ETT, until patient begins coughing, or resistance is met.
18. Apply intermittent suction by quickly covering and uncovering suction port with non-sterile thumb; withdraw catheter, using a rotating motion. Entire suctioning pass should not exceed 10 seconds in duration.
19. Reconnect ETT to ventilator tube or ambu bag and hyperventilate patient's lungs with 100% O₂.
20. Auscultate lung sounds to assess effectiveness of suctioning pass, observe secretions and let patient rest for a few minutes before next suctioning. If necessary, remove O₂ source with non-dominant hand and repeat steps 14-17.
21. When suctioning has been successfully completed, return F₁O₂ to prescribed settings.
22. Clear the connecting tubes by aspirating the remaining saline or water. Discard suction cath, drape, and gloves. Wash hands.
23. Assess patients comfort level and tolerance of procedure.

6. Promote lung expansion and productive coughing.
7. Maintain sterility. Catheters exceeding half the airway diameter increase the possibility of suction-induced hypoxia and atelectasis
8. Decrease incidence of contamination.
9. Provides sterile field.
10. To lubricate catheter; and to be available after suctioning to clear tubing.
11. This prevents contamination of ventilator tubing.
12. Higher pressures don’t enhance secretion removal and may cause traumatic injury.
13. To lubricate the outside and inside of the catheter, thus facilitating passage of secretions through it and to reduce trauma to tissues during insertion.
14. Preoxygenation may help minimize suction- induced hypoxia.
16. May suction immediately after inserting saline, or reconnect ventilator tubing or ambu bag, and give patient 1 or 2 deep breaths for deeper distribution of saline.
17. Do not force if an obstruction is encountered. No suction applied during insertion of catheter.
18. Intermittent suction minimizes tissue damage of tracheal mucosa. The rotating motion sweeps the cath tip against all sides of airway.
19. This re-expands sections of the lungs that may have been evacuated of air and collapsed, and minimizes hypoxemia.
20. Thick spectrum indicates dehydration. Watch for color variation white or translucent is normal; yellow indicates pus; green indicates retained secretions or pseudomonas; brown usually indicated old blood; red indicates fresh blood.
Tracheal Suction – Open System – Page 3

DOCUMENTATION:

Record the date and time of procedure, the reason for suctioning, patient tolerance, type and amount of secretions obtained, number of passes on nurse's notes.

REFERENCE:

Nursing Photobook: Providing Respiratory Care. Intermed Communications, 1990/
See Springhouse Nursing Procedures (3rd edition) pgs 455-460.

P:\CAREPT\cpt4.30r1.doc