Upper Airways - Terms

- Endotracheal Intubation (ETT)
  - Oral-tracheal
  - Naso-tracheal
- Tracheostomy (trach)

Indications for Tracheostomy

Ineffective Airway Clearance r/t
- upper airway obstruction
  - inability to remove secretions
  - congenital abnormality
  - Severe neck or mouth injuries
Ineffective Breathing Pattern
- Long-term mechanical ventilation

Desired outcomes of suctioning

- Maintain a patent airway
- Demonstrate a reduced work of breathing
- Stimulate cough reflex
- Prevent aspiration of blood & gastric fluids
- Prevent infection & atelectasis

Basic Principles

- Sterile technique
- Hyperoxygenation and hyperinflation
- Keep it short
  - Adult: <15 sec
  - Peds: <5 sec

Indications for Suctioning (CMs lower airway obstruction)

- Hear secretions in airway
- Inspiratory wheezes, expiratory crackles
- Restlessness, esp. when accompanied by decreased O2 saturation
- Decreased LOC/change in mental status
- Ineffective coughing
- Tachypnea
- Tachycardia or bradycardia
- Diminished ability to cough up secretions
- Client asks

Nursing Care (critical elements)

- Assess q2h, Suction prn
- Sterility
- Systemic hydration, humidification of inspired air
- Safety measures – prevent decannulation
- Obturator & new trach at bedside
- Cuff – minimal pressure
Technical Considerations

- Duration < 15 sec
- Preoxygenate
- Rest between passes
- No suction when going in
- Intermittent suction coming out
- Appropriate catheter size & length
- Saline lavage – controversial!!!
- Replace supplemental oxygen

Which Catheter? How Much Suction?

<table>
<thead>
<tr>
<th>Suction (mm/Hg)</th>
<th>Catheter Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult 100-120</td>
<td>5-14 French</td>
</tr>
<tr>
<td>Infant/Child: 50-75 (Craven &amp; Hirnle)</td>
<td>½ diameter of trach tube</td>
</tr>
<tr>
<td>Neonate: 60-80 (McKinney)</td>
<td></td>
</tr>
</tbody>
</table>

Inner Cannula-disposable

- Purpose: secretion accumulation can cause obstruction
- Get replacement inner cannula
- Non-sterile glove
- Usually suction first
- Usually once/day
- Remove old
- Put in new, and tighten

Site Care

- Usually once/shift
- NS or ½ strength H₂O₂
- Clean inferior portion under faceplate, then superior section
- Rinse H₂O₂, then dry.
- Pre-cut dressing

Risk for Infection

- Hospital-acquired pneumonia
- Stoma infection
- Interventions:

Risk for airway obstruction

- r/t thick secretions or mucus plug
- cuff overinflation
Accidental decannulation

- Forceful cough
- While changing trach ties

Tracheal wall necrosis or stenosis

- Overinflation of cuff
- Long term cuff against tracheal wall
- NG tube

Other complications

Subcutaneous emphysema
- Air in subcut tissues
- Not dangerous: watch for increase
- Inform MD if new

Ineffective Communication
- Word board
- Often can write
- Allow time – frustrating!
- “talking trach”