Objectives

1. Learn what a tracheostomy is and why it is performed
2. Learn the different parts of a tracheostomy tube
3. Learn how to clean and take care of a tracheostomy
4. Understand how to manage common complications
Brief Introduction To Tracheostomies
What is a Tracheostomy?

- Opening through the neck into the trachea (windpipe)
True or False: A tracheostomy is always permanent

• Tracheostomy is only needed as long as the patient requires it
  • May be temporary or permanent
  • Depends on the reason for initial tracheostomy placement
Why would someone need a tracheotomy?

1. Obstruction in the mouth, larynx (voice box), or upper trachea (wind pipe)

2. Prolonged intubation/Inability to be taken off the ventilator

3. Pulmonary Hygiene: improved cleaning of the lungs (i.e. manage secretions)
Bypass Obstruction
Pulmonary Hygiene

- Removal of secretions and protection of lungs

![Diagram of respiratory care procedure](image-url)
Respiratory Failure/Prolonged Intubation
Surgical Anatomy
Surgical Anatomy
The Parts of the Tracheostomy Tube
Tracheostomy Components

Outer cannula

Inner cannula

Obturator

Plug

Cuff

Cuff inflation line

Pilot balloon

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Tracheostomy Component Functions

- **Outer cannula:** Main portion of the tracheostomy, serves as connection between trachea and skin.
- **Inner cannula:** Removable tubing that sits in the outer cannula. Allows easy removal for cleaning and care.
- **Cuff/Balloon:** Required in patient requires ventilator. Ensures ventilator air goes to lungs.
- **Pilot balloon:** Assesses how much air is in the cuff (external).
- **Obturator:** Placed in outer cannula when replacing a tracheostomy, allows easy passage into tracheostomy stoma.
- **Plug:** In select patients, can help with speaking and eventual tracheostomy removal.
Differences in Tracheostomy Tubes

• **Cuffed Tracheostomy Tubes:**
  - Patients requiring a ventilator
  - Cuff (balloon) blocks air from moving around the tube

• **Cuffless Tracheostomy Tubes**
  - Patients who require a tracheostomy but don’t need a ventilator assistance
  - Without cuff, it allows air to pass around the trachea through the voice box so that patients can speak
  - More comfortable
Tracheostomy Types

Cuffed

Uncuffed

Fenestrated
Standard Tracheostomy Care
Standard Supplies Required

- Tracheostomy cleaning kits
- Humidification and tracheostomy collar
- Suction set up
- Replacement tracheostomy tube (same size or one size smaller)
How to Secure the Tracheostomy

1. 
2. 
3. 

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Cleaning The Tracheostomy
Suctioning the Tracheostomy

When to Suction:
- As indicated by your physician and as needed
- Unable to cough up secretions on your own
- Change in breathing or becomes harder to breathe
- Coughing more than normal
Tracheostomy Humidification

- **Humidification is important:**
  - Prevents thickening of secretions and crusting
  - Most important in first month or so after surgery
    - Body needs to adjust to tracheostomy tube
    - Usually the nose and mouth humidify air, but tracheostomy bypasses these structures and allows dry air to reach lungs

- **Several ways to humidify:**
  - Trach humidification – machine with a mask placed near tracheostomy
  - Room humidifier
  - Fluid intake – important to stay hydrated
Talking with a Tracheostomy

1. **Finger-Occlusion**: place a finger over the tracheostomy site and speak with finger blocking trach hole.

2. **Speaking valve (Passy-Muir Valve)**: one way valve, which allows breathing in through the tracheostomy site and breathing out/speaking through the voice box.
Removal of Tracheostomy

- **Capping trial (DO NOT TRY WITHOUT APPROVAL FROM DOCTOR):**
  - Speak with your doctor if you feel you no longer require your tracheostomy tube
  - During trial, you will test your ability to breathe with the tracheostomy capped (blocking the tracheostomy).
  - If able to tolerate capping for 24-48 hours without need for cap removal, then it is possible the tracheostomy can be removed
Management of Common Complications
Difficulty Breathing

- A plug or partially plugged trach will make it hard to breath
  - Most often due to thickened secretions or crusting

- If this happens, try to stay calm and follow these steps:
  - Remove the inner cannula
  - Forcefully cough several times
  - Suction the tracheostomy
  - Forcefully cough again
  - Squirt saline into trach
  - Suction and cough again

- If continue to have difficulty breathing, call 911
Dislodged Tracheostomy

- By the time you leave the hospital, the tracheostomy stoma will be well formed and will not close immediately.

- You can breathe through the stoma itself and try to replace the trach. Try to replace with the following steps:
  - Tilt your head back slightly to make the stoma hole more open
  - Remove the inner cannula and place the obturator inside the tracheostomy tube
  - Apply a small amount of lubricant or saline on the tip
  - Guide the tracheostomy tube back into the stoma
  - Hold the tracheostomy tube in place
  - Pull out the obturator, replace the inner cannula
  - Attach new tracheostomy ties
  - Note: if the tracheostomy will not go back in, try a small tracheostomy tube

- Call 911 immediately if you cannot get the tube back into place or if you are having difficulty breathing.
When to call your doctor?

- Bleeding from the tracheostomy
- Reddened or swollen skin around the stoma site
- More mucous than is usual, or if the mucous becomes yellow, green, or brown
- Foul-smelling mucous
- Fever of 101F or higher
Video Demonstrations

- **Orientation to Tracheostomy Tubes:**
  https://www.youtube.com/watch?v=UePM5wr2rH8

- **Tracheostomy cleaning:**
  https://www.youtube.com/watch?v=xV27o__B6Is

- **Tracheostomy suctioning, managing mucous, and changing the inner cannula:**
  https://www.youtube.com/watch?v=nob7E5WkIMI

- **Tracheostomy Tie Replacement:**
  https://www.youtube.com/watch?v=YPoCffgwkg
# Tracheostomy Skills Checklist

<table>
<thead>
<tr>
<th>RN teaching</th>
<th>Return demonstration</th>
<th>Return demonstration</th>
<th>Skill</th>
<th>Teaching complete</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<td>Describe the type and parts of tracheostomy tube</td>
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<td>Demonstrate ability to set up for trach care</td>
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<td>Perform stoma site care</td>
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<td>Describe potential problems, signs/symptoms</td>
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<td>Clean/change inner cannula</td>
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<td>Suctioning</td>
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<td>Instill NS (if appropriate)</td>
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<td>Change trach ties</td>
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<td>Use of PMV or trach cap (if appropriate)</td>
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<td>Humidification delivery, equipment care</td>
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<td>Knows how to reinsert dislodged trach</td>
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<td>When to call provider/when to call 911</td>
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Tracheostomy Supplies Checklist

- Below is a list of supplies you may need at time of discharge. Confirm with the team that you have all the correct supplies for discharge.

<table>
<thead>
<tr>
<th>Item</th>
<th>Type:</th>
<th>Size:</th>
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<tbody>
<tr>
<td>Trach tube</td>
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<tr>
<td>Inner Cannula</td>
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<tr>
<td>Suction Catheter</td>
<td>Non-sterile cotton tip</td>
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<tr>
<td>Size:</td>
<td>applicators</td>
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<tr>
<td>Trach Mask</td>
<td>4x4 non-sterile gauze</td>
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<tr>
<td>Trach Ties</td>
<td>4x4 split gauze</td>
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<tr>
<td>Stationary Suction Canister</td>
<td>Lyofoam dressing</td>
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<td>Portable Suction Machine</td>
<td>Trach brushes</td>
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<tr>
<td>Portable Suction Canister</td>
<td>Normal Saline (bottles)</td>
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<td>Suction tubing (72 inch)</td>
<td>Saline fish</td>
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<td>Yankeur</td>
<td>Sterile water (bottles)</td>
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<td>Oxygen tubing</td>
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<td>Humidification system</td>
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<td>Heat Moisture Exchange (HME)</td>
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Questions?