

**Respiratory Care Services  
John Dempsey Hospital  
Policy and Procedure Manual**

**Subject:** Inflation and Deflation of Cuffed Tracheostomy Tube

**Rationale:** The delivery of mechanical ventilation support to a patient with a tracheotomy requires the use of a cuffed tracheostomy tube. The cuff should be kept inflated when using the ventilator or kept deflated at all other times unless a written order is obtained stating otherwise.

**Equipment:** Stethoscope  
Sterile examination gloves  
Sterile control suction catheter  
Vacuum source and connecting tube

- Recommended vacuum settings: Adult 80-120 mm Hg  
Children 80-100 mm Hg  
Infants 60-100 mm Hg

10 cc syringe  
Tracheal manometer (optional)

**Indications:**

1. To prevent irritation of the tracheal wall
2. To prevent gross aspiration while eating or drinking
3. To provide adequate ventilation

**Hazards / Potential Complications:**

1. Airway occlusion
2. Cuff herniation
3. Tracheal erosion, stenosis, granuloma, malacia
4. Infection
5. Tracheostomy tube displacement
6. Subcutaneous emphysema
7. Tracheal hemorrhage
8. Cuff tear on tracheostomy tube removal
9. Difficulty upon reinsertion of tracheostomy tube

**Procedure:**

1. Review patient's order sheet for the doctor's specific instructions.
2. Obtain the necessary equipment and assemble equipment at patient's bedside. Explain to patient what you are about to do. Be reassuring.
3. Wash your hands. Observe universal precautions.
4. For cuff deflation:

- A. Thoroughly suction the nasopharynx, oropharynx and above the cuff to prevent aspirations of secretions which may collect around the cuff while it is inflated.

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- B. Remove all the air from the cuff:
1. Insert the tip of the syringe with the plunger set at “0” into the balloon port
  2. Pull back on the plunger until the balloon is flat. (Note the # of cc’s of air removed from the cuff during deflation and record appropriately on the ventilator flowsheet)
  3. Remove the syringe from the balloon port. Return syringe to proper location area at patient’s bedside

For cuff inflation:

- A. Thoroughly suction to remove any stagnant secretions which may have collected in the patient’s throat and tracheostomy tube
- B. Inflate the cuff
1. The syringe plunger should initially be pulled back to reflect the # of cc’s of air originally removed from the cuff during deflation and recorded on the ventilator flowsheet
  2. Insert the tip of the syringe into the balloon port. Push the plunger inward until the plunger is set at “0”. You will see the balloon inflate (bulge).
  3. Check by touch to see if the balloon is inflated. Verify by monitoring cuff pressure with manometer, minimal leak technique (MLT), or minimal occlusion technique (MOT) that cuff is sufficiently inflated. Introduce any additional cc’s of air required for cuff as needed. Document procedure as well as verification process on ventilator flowsheet.  
Store syringe at patient’s designated bedside area.

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