

	Department: Respiratory Services	Date Originated: September 1986 Date Revised: December 2012
CLINICAL PRACTICE GUIDELINE	Topic: <u>Critical Care</u> – Tracheostomy Tube Management - Changing Trach Tube; Elective and Emergent (Respiratory Therapy) Number: B-00-12-12041	Related Links:

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APPLICABLE SITES:

St. Paul's Hospital
 Mount Saint Joseph Hospital

GENERAL INFORMATION:

Routine (Non-Emergent) Tracheostomy Tube Change:

There is little evidence to guide decisions around when to electively change a trach tube. Additionally, there are risks to consider if trach tubes are changed too frequently (pain/discomfort, malposition on reinsertion), as well as if they are not changed frequently enough (granuloma formation, biofilm development/infection).

With this in mind, use the following guidelines in considering if the trach tube should be changed:

- Cuff pressure malfunction/failure (cuff leak, failure to seal, cuff pressure exceeds maximum limit)
- Faulty trach tube
- Requirement for a different size or type of trach tube
- Routine changes at 30 days as per manufacturer's recommendation for Shiley products with a disposable inner cannula (removal/change after 29 days)

Emergency Tracheostomy Tube Change:

Emergency replacement of a trach tube is necessary when there is:

- Accidental decannulation
- Occlusion of the outer lumen
- Malpositioning (i.e. trach tube in the pretracheal tissue)
- Cuff pressure malfunction/failure
- Faulty trach tube

POLICY STATEMENT(s):

1. Elective trach tube changes require a physician's order.
2. The first elective trach tube change should not be attempted until the tube has been in situ for a minimum of 7 days (to allow for tracheo-cutaneous tract to mature).
 - If the trach tube needs to be changed before the tracheo-cutaneous tract is mature, consider calling a code blue because endotracheal intubation may be necessary – this would be considered an emergency trach tube change.
3. Two persons must be in attendance during elective replacement of a trach tube, which may include a Respiratory Therapist, Nurse, or Physician.
4. When an elective trach tube change is anticipated to be difficult (i.e. obesity, increased neck circumference, etc.), someone skilled at airway management should be at the bedside during the change (for example, ENT or ICU physician).
5. For emergency trach tube changes, the #5.0 XLT PROXIMAL (extra long) cuffed trach tube from the emergency supply kit can be inserted on a temporary basis. After the patient is stable, this can be changed out as necessary according to the guidelines for elective trach tube changes.

EQUIPMENT:

- Personal protective equipment as appropriate
- Sterile dressing tray
- Sterile normal saline
- Sterile pre-cut 4x4 stoma dressing
- Disposable suction kit or in-line suction catheter (short length for trach tubes)
- 10 (or 12) mL syringe
- Tracheostomy twill ties
- Sterile water-soluble lubricant
- 1% lidocaine gel
- New trach tube (targeted size for change)
- Secondary trach tube (1-size smaller than new trach tube)
- Sterile basin or container
- Sterile cotton tipped applicators
- Resuscitation bag-valve-mask / AMBU bag
- Emergency trach tube supply kit

PROCEDURE for Elective Trach Tube Changes:

1. Wash hands and prepare equipment using sterile technique.
2. Don gloves and personal protective equipment as appropriate.

3. Position the patient low-fowlers (semi-recumbent) as tolerated with neck extended. Make sure site is free of any clothing that could obstruct stoma.
4. Pre-oxygenate and suction the patient via trach and oropharynx to prevent aspiration of secretions.
5. Pour sterile saline into the sterile basin or container.
6. For cuffed trach tubes: test the integrity of the replacement tube cuff by having an assistant inflate the cuff and immersing the cuff into the basin of sterile normal saline. Once the cuff integrity has been confirmed (no evidence of air bubbles) completely deflate the cuff.
7. Remove the disposable inner cannula from the replacement trach tube and set aside on sterile surface. Insert the obturator into the outer cannula of the trach tube.
8. Lubricate the replacement trach tube with water-soluble lubricant and prepare to insert into the stoma.
9. Have an assistant perform the following tasks:
 - a. Remove the stoma dressing and cut the ties securing the tracheostomy tube.
 - b. Fully deflate the cuff of the trach tube in situ (if applicable).
 - c. Instruct the patient to take a deep breath in and hold their breath
 - d. Remove the trach tube smoothly while the patient is performing the deep breath and hold.

NOTE: While removing the trach tube, assess whether the stoma track deviates from the mid-line skin incision.

NOTE: If it's difficult to remove the trach tube because of a tight stoma, lubricate stoma site/trach tube interface with 1% lido gel

10. Gently insert the replacement trach tube into the patient's stoma and remove the obturator.

NOTE: If unable to insert trach tube, insert the tracheal dilators if necessary to maintain stoma patency. Go to Procedure for Emergency Trach Tube Changes below.

11. Have an assistant hold the trach tube securely in place while performing the following steps.
12. Insert the disposable inner cannula into the tracheostomy tube.

NOTE: Ensure the side clips are locked to the tracheostomy tube.

13. Inflate the cuff of the replacement trach tube as applicable. Ensure cuff pressure is appropriate.

14. Attach ventilator circuitry or oxygen delivery device if applicable.
15. Clean the stoma site and secure the trach ties as per [B-00-07-10034](#).
16. Place the sterile stoma dressing by sliding it underneath the flange of the trach tube.
17. Assess the patient and document procedure on the Respiratory Flowsheet or Progress Notes of the patient record.

PROCEDURE for Emergency Trach Tube Changes:

1. Assess patient and situation. If patient is unstable, if trach stoma is less than 7 days mature, or if trach stoma appears to be closing, call a Code Blue.
 - If necessary, initiate bag-mask ventilation over mouth-nose
 - Use gauze to hold pressure over stoma site to allow for positive pressure ventilation
2. If patient is stable, follow steps 1 – 8 for Elective Trach Tube Change. Gently insert the replacement trach tube into the patient's stoma and remove the obturator.
3. If unable to insert trach tube, reassess patient and situation.
 - If patient is unstable or if trach stoma appears to be closing, insert the tracheal dilators to maintain stoma patency. Call a Code Blue as per step 1 for Emergency Trach Tube Change.
 - If patient remains stable, prepare smaller sized trach tube or the #5 XLT trach tube from the emergency supply kit as per steps 6 – 8 for Elective Trach Tube Change. Gently insert the replacement trach tube into the patient's stoma and immediately remove the obturator.
4. If unable to insert trach tube, reassess patient and situation.
 - If patient is unstable or if trach stoma appears to be closing, insert the tracheal dilators if necessary to maintain stoma patency. Call a Code Blue as per step 1 for Emergency Trach Tube Change.
 - If patient is stable, consider if the patient still requires trach tube – contact Medical Team for further orders and/or to assist with reinserting trach tube (if still required).

NOTE: repeated attempts to reinsert trach tube may result in formation of tracheo-cutaneous fistula or false lumen. If Medical Team not available, consider calling Code Blue for airway assistance (if necessary).
5. When successful reinserting trach tube, continue with steps 11 – 17 for Elective Trach Tube Change.

6. Replace emergency trach supply kit if used.

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3. Tabee A, Lando T, et al. *Practice patterns, safety, and rationale for tracheostomy tube changes: A survey of otolaryngology training programs*. Laryngoscope 2007; 117(4): 573-576.
4. Tyco Healthcare Shiley Disposable Inner Cannula (DCT) Tracheostomy Tube Product Insert.
5. White AC, Kher S, et al. *When to change a tracheostomy tube*. Respir Care 2010; 55(8): 1069-1075.
6. White AC, Purcell E, et al. *Accidental decannulation following placement of a tracheostomy tube*. Respir Care 2012; 57(12): 2019-2025.