Tracheostomy Care

Site Applicability

Mount Saint Joseph Hospital, St. Paul's Hospital

Quick Links

Appendix A – Management of Tracheostomy Obstruction

Tracheostomy Care (See Elsevier Skills – Tracheostomy Care online, note PHC uses Clean Technique)

Assessment

Interventions

Practice/Skill Level

RN (Basic) and RT (shared responsibility)

LPN (with additional education) for well-established tracheotomies only

Policy

1. At a minimum, tracheostomy care will be performed at the frequencies indicated within this document, as well as PRN.
2. Patients with a tracheostomy tube in situ will be accompanied by a Nurse when on transport off the unit for procedures or diagnostic tests. The RT will also accompany and remain with the patient when any of the following are true:
    - Trach tube cuff is inflated
    - Patient requires frequent suctioning (every 2 hours or more)
    - Known history of airway difficulties (i.e. interstitial events)
    - High oxygen requirements (FiO_2 greater than 0.5)
    - Passy-Muir valve in situ
    - Trach tube has been in situ less than 1 week

    The tracheostomy emergency equipment bag should be with the patient at all times, including while on transport.

Need to Know

1. Bedside Emergency Equipment for Patients with Tracheostomy Tube in Situ:
    - Tracheostomy emergency equipment should be kept with the patient at all times
    - This includes: 5.0 XLT PROXIMAL (extra long) cuffed trach tube; trach dilators, scissors; 10 (or 12) mL syringe; resuscitation bag-valve-mask / AMBU bag

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2. Suture Removal:
    - Post tracheotomy procedure, sutures can be removed after 7 days – this is the approximate amount of time required to allow a new tract to establish
3. Frequency of Trach Care:
    - Trach care (stoma care, inner cannula clean/change) should **NOT** be performed for the first 24 hours after tracheotomy procedure – this includes cleaning the site and changing dressing. Tracheostomy tube ties should **NOT** be changed for the first 24 hours **UNLESS** the tube is not secure.
    - After the first 24 hours,
        - Tracheostomy stoma care should be performed Q12H and PRN
        - When performed stoma care is considered, at a minimum, a clean procedure
        - The inner cannula (if present) should be cleaned (if reusable) or changed (if disposable) Q12H and PRN
4. Suctioning:
    - Suctioning secretions via the tracheostomy tube should be done on an as needed basis only; routine suctioning is not recommended
    - Suctioning prior to tracheostomy care may be performed to avoid having to repeat care if the patient has a productive cough during the procedure
    - Note: The routine instilling of normal saline prior to suctioning is not recommended. If patient is experiencing thick tenacious secretions call RT for further assistance
5. Changing Tracheostomy Tube Ties:
    - Changing tracheostomy ties requires 2 people, unless the old ties are left in place until the new ties have secured the tube
6. Tracheostomy Dressing:
    - A gauze dressing should be used under the flanges of the tracheostomy tube to prevent pressure ulcers and skin breakdown over bony prominences and at areas of sustained pressure
    - An uncut gauze dressing that is free from loose fibers should be used
7. Cuff Pressures for Cuffed Tracheostomy Tubes:
    - Careful monitoring of cuff pressure is necessary for early detection of over inflation (which can lead to tracheomalica and tracheal stenosis)
    - Trach tube cuff pressure should be less than 25 mmHg (performed by RT – see also *Responsibilities*)

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Nurses and Respiratory Therapists have overlapping, but differing responsibilities when caring for a patient with a tracheostomy. The RN and the RT should liaise when caring for a patient with a tracheostomy.

Responsibilities:

What	Who	Frequency
Changing inner cannula	RT & RN LPN* for well established trachs only	Every 12 hours
Changing tracheostomy ties	RT & RN LPN* for well established trachs only	Every 24 hours & PRN (when soiled or trach tube not secure)
Changing Velcro trachestomy tube holder	RT & RN LPN* for well established trachs only	PRN only (when soiled or unable to secure Velcro)
Tracheostomy stoma care, dressing change	RT & RN LPN* for well established trachs only	Every 12 hours & PRN (when soiled)
Suctioning of tracheostomy	RT & RN LPN* for well established trachs only	PRN only
Cuff pressure maintenance & measurement	RT (includes documenting tidal & minute volume when cuff inflated)	Every 12 hours & PRN
Cuff deflation	RT *RN in emergency situations only*	NA
Corking the tracheostomy	RT	NA
Changing tracheostomies	RT (With Physicians Order)	
Use of Passy-Muir Valve ("speaking valve")	RT (and consult Speech-Language Pathologist)	
Trach tube suture removal	RT	

LPN's with additional education/training can care for well established trach (collaborate to determine if tracheostomy well established)

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8. Patients with a **laryngectomy** will have their larynx removed (usually as a result of cancer of the upper airway, but may be done for other reasons) and the circumference of the incised trachea stitched to the neck skin permanently. The stoma site becomes the patient's sole means of ventilation. There is no longer any connection of the mouth and nose to the lungs.
   - **Never** occlude the laryngectomy stoma – this is the patient's only means of ventilation
   - If the patient requires bag-mask ventilation, provide via a pediatric mask directly to the stoma
   - If the patient requires oxygen therapy, provide via a mask over the stoma site
   - The distance from the opening of the laryngectomy stoma and the carina is shorter than with a standard tracheotomy – if you have to suction the patient, you will not need to insert the suction catheter as far (insert catheter slowly only until the patient starts to cough)

9. A means of communication needs to be established with the patient. Consider: pencil & paper, magic slate, alphabet board, etc. Consult Speech Language Pathology.

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PRACTICE GUIDELINE

Assessment:

Respiratory	Tracheostomy Tube	Tracheo-Stoma	Equipment
• Q4H and PRN for tracheostomies less than 72 hours old • Q12H and PRN for tracheostomies greater than 72 hours old **Assessment includes:** • Vital signs • Respiratory rate • Auscultation • Oxygen saturation • Presence of shortness of breath • Tracheal secretions (amount, color, consistency, & odor) • Coughing • Decreased air entry • Use of accessory muscles • Skin tone/color • Palpation of the skin around trach site for any evidence of subcutaneous emphysema	• Q12H and PRN **Assessment includes:** • Size of tracheostomy tube • Type of tracheostomy tube; Shiley/other (cuffed, cuffless, fenestrated, etc.) • Cuff (if present) inflated or deflated • Ensure inner cannula is securely locked in place	• Q12H and PRN **Assessment includes:** • Assessing the stomal opening • Stomal discharge (amount, color, consistency, odor) • Check for pressure ulcers under tracheostomy ties and plate and at the back of the neck	• Q12H and PRN **Assessment includes:** • Spare inner cannula *Oxygen equipment:* • Correct equipment and flow rate • Humidification • *Suction equipment:* • Must be set up at the bedside • Suction equipment – connecting tubing, Yankauer suction, suction catheter kits (usually includes suction catheter, container, sterile glove/s), bottle of normal saline ***Emergency equipment*** *– must be with patient at all times (at bedside or while on transport)*

Tracheostomy Complications and Interventions:

Complication	Intervention	Rationale
Bleeding / hemorrhage	• All episodes other than minor oozing should be reported • Heavier bleeding may require the surgeon to pack the wound, or the patient may need to go to the OR for surgical hemostasis. • For acute hemorrhage: Get medical assistance **immediately** and page the RT **Call a CODE BLUE**	• Most episodes are identified and controlled during the tracheostomy procedure • After the procedure, the patient will likely have minimal oozing from the stoma, or some residual bloody secretions when suctioned • Bleeding should diminish and cease after 24 hours • See notes below under "Fistula Formation"
Fistula formation	In the event of major hemorrhage **call a CODE BLUE** • Approximately 50% of patients with tracheoinnominate artery fistula have an episode of minor bleeding several hours to several days before massive hemorrhage occurs. Recommendations have been made to suspect a tracheoinnominate artery fistula in any patient who has more than 10 mL of blood from the tracheostomy stoma or cannula 48 hours or more after tracheostomy	• From pressure necrosis • Risk factors include high cuff pressures, tubes with a low insertion site (below the 3rd or 4th tracheal ring), and conditions that contribute to poor wound healing such as sepsis, steroid use, hypotension, cancer, and radiation therapy • A fistula may also develop between the trachea and the esophagus. Pressure from the cuff or distal tip of the tube may erode the posterior wall of the trachea into the thin anterior wall of the esophagus. This is a greater risk if the patient has a firm nasogastric tube in the esophagus
Displaced Trach Tube	**CALL A CODE BLUE** **Patient is breathing:** • Monitor the patient's vital signs – provide supplemental oxygen to upper airway if patient displays signs of hypoxemia or respiratory distress • Stay with the patient – remain calm and provide reassurance • *Use of tracheal dilators shall be restricted to physicians or RT's*	• In the first 3 to 5 days immediately following tracheostomy insertion, accidental decannulation is potentially fatal because a tract has not yet formed between the edges of the skin and the trachea. • Tracheostomy tubes can come completely out of the stoma (visibly), or they can become dislodged from the trachea but not come out onto the neck, having been displaced into the pretracheal tissues (interstitial) • The distal portion of the tube may become occluded if the

Complication	Intervention	Rationale
	Patient is not breathing – intact upper airway: • Ventilate the patient via the trach with the resuscitation bag (AMBU bag) • If unsuccessful, occlude the trach/stoma and attempt to ventilate the patient via the mouth using the bag-valve-mask (AMBU bag) **Patient is not breathing – impaired upper airway:** • Place the bag-valve-mask (AMBU bag) over the stoma and create a seal against the neck, then ventilate directly over the stoma by squeezing the bag	tube is improperly positioned within the trachea • Risks for this complication include patient movement, excessive coughing, obese patients, patients with thick necks, and inadequately secured tubes
Trachestomy tube cuff malfunctions	**CALL A CODE BLUE** • Attempt to Deflate the cuff (may be performed by RN in emergency situations such as this) - this may restore airway • If a new trachestomy tube needs to be inserted, this will be performed by physician or RT	• May be caused by cuff rupture and cuff herniation • Can obstruct the airway by protruding over the distal portion of the tracheostomy tube
Trachestomy tube obstruction	Prevention requires diligent nursing care: • Keep patient well hydrated • Ensure patient is using humidified air or oxygen **For acute obstruction:** • Suction the patient • If unsuccessful, remove the inner cannula and replace - this may resolve obstruction, if not: • Suction the patient again • If unsuccessful, **call a CODE BLUE** and: • Deflate cuff (deflation of the cuff may be performed by an	• Most often caused by mucous plug or blood clot within or at the end of the trachestomy tube • Patient might initially make an attempt to clear the obstruction with vigorous coughing, and will then demonstrate signs of respiratory distress

Complication	Intervention	Rationale
	RN in emergency situations such as this) • Attempt to ventilate using bag-valve-mask as per **Cardiac Arrest Management** *See algorithm - Appendix A, Acute obstruction of Tracheostomy*	
Thick, copious secreations	• Ensure air or oxygen is humidified • Keep patient well hydrated • Regular mouth care with toothbrush and toothpaste. For patients who are unconscious or unable to expectorate; position patient or patient's head to side to aid with draining, remove excess moisture with a gauze/washcloth, use suction as needed • Suctioning is performed PRN, as indicated by assessment, *not* on a regular basis • Routine instillation with NS is contraindicated – restricted to RT's (instillation is primarily used for cough stimulation as secretions and NS are immiscible)	Indications for suctioning may include: • Patient coughing and unable to clear secretions • Respiratory distress • Patient request • Auscultation reveals: wheezes, diminished breath sounds, coarse crackles, especially if the quality changes with coughing • Audible gargling sounds • Secretions bubbling in tracheostomy tube • Restlessness • ↓ oxygen saturation
Swallowing complications	**Before the introduction of food and fluid, all patients with a tracheostomy must undergo dysphagia screening, followed by a dysphagia assessment from Speech-Language Pathology or Occupational Therapy.** • Assessment of a patient's ability to tolerate their secretions is always conducted *before* the introduction of food or fluid in patients with cuffed tracheostomy tubes • Swallowing assessment by OT or SLP can be completed on patients with a tracheostomy who are alert, able to sit upright, can manage oral secretions, tolerate cuff deflation, and who have no gastrointestinal contraindications to oral intake • An RT must be present during the dysphagia assessment	• The presence of a tracheostomy tube can have an adverse effect on swallowing and puts the patient at high risk for aspiration.

Complication	Intervention	Rationale
Skin breakdown	• Frequent and meticulous removal of secretions around the stoma and under the swivel plate will help minimize tissue maceration (i.e. change the tracheostomy dressing BID *and* PRN) • The ties or trach tube holder should be tight enough to allow one finger to be inserted between the tie and neck - a loosely tied tube will move freely in the stoma, eroding the surrounding tissue and enlarging the opening	• Look underneath the swivel plate and along the path of the tracheostomy ties • Close attention should be paid to the patient who has long hair or deep skin folds
Tracheomalacia	• Tracheal resection may be required to correct the problem • Regular oral-pharyngeal suctioning	• Is a softening of the trachea resulting from secretions pooling above the cuff and thinning the cartilage may also be caused by over-inflation or prolonged inflation of the cuff of the artificial airway. • This weakened section of trachea collapses on deep inspiration, impeding airflow
Subcutaneous emphysema	• Notify physician • More common following tracheostomy tube insertion, but may occur at any time	• Air can become trapped in the subcutaneous tissues of the thorax during tube insertion • Palpation of the surrounding tissue will feel and sound like “rice krispies”
Pneumonia	• Frequent oral hygiene-patient may be unaware of increased secretions at back of throat. • Regular oral-pharyngeal suctioning • Proper hand washing • Using proper technique while suctioning trach tube • Keep the patient’s bed elevated at least 30 degrees for patients that are at increased risk of aspiration	• The presence of a tracheostomy tube bypasses some of the patient’s natural clearing mechanisms

Cardiac Arrest Management:

Cuffed Tracheostomy Tube		Cuffless Trachestomy Tube	
Cuff Inflated	**Cuff Deflated**	**Intact Upper Airway**	**Impaired Upper Airway** (i.e. laryngectomy)
• Ventilate the patient via the tracheostomy using a resuscitation bag (AMBU bag)	• Remove cork (if necessary) • Slowly inflate the cuff using a syringe to a max of 10 mL of air • Ventilate the patient using a resuscitation bag (AMBU bag)	• Ventilate the patient via the tracheostomy using a resuscitation bag (AMBU bag) • If unsuccessful or ineffective, occlude the tracheostomy tube and attempt to ventilate the patient via mouth using bag-valve-mask resuscitation bag (AMBU bag)	• Ventilate the patient via the tracheostomy using resuscitation bag (AMBU bag)

Important:

- To ventilate the patient via tracheostomy, detach the mask from the resuscitation bag (AMBU bag) and attach to the tracheostomy as shown in the picture below
- To ventilate, gently squeeze the bag using one or two hands (just enough to see the chest rise)

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Site Specific Practices

PHC:

1. Tracheostomy Care Procedure: click here for a link to the PHC Nursing Home Page to access Elsevier Skills for tracheostomy care procedure.

Please note: PHC supports use of CLEAN procedure, not sterile as described in the text. Sterile procedure can be used but is not necessary for this procedure.

Additional information may be found in the following links to PHC guidelines for:

- **Hand washing**
- Face Protection: Mask, Goggles and Face Shields
- **Gloves**
- **Gowns**

2. Patient
   - Call bell should be within patient's reach at all times
   - Patient can be set as a "priority alert patient" within the nurse call bell system:

Dial Room Number and Bed	Press ☐ Priority **P** will appear after room and bed number	Press ☐ Cancel
☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐ #		

Example: to program room 6/bed 2, press 6, 2, and priority. Remember to cancel priority if patient moves beds or is discharged.

More information on the nurse call bell system can be found via this link: B-00-12-10002

Documentation

Tracheostomy care is routine care for patients with a tracheostomy. Routine care is documented on the 24-Hour Patient Care Flow sheet and in the Interdisciplinary Notes/Nurse's Notes.

Related Documents

1. Elsevier Skills
2. B-00-13-10194 – Transfer of Patients with Artificial Airways from Critical Care to Acute Care

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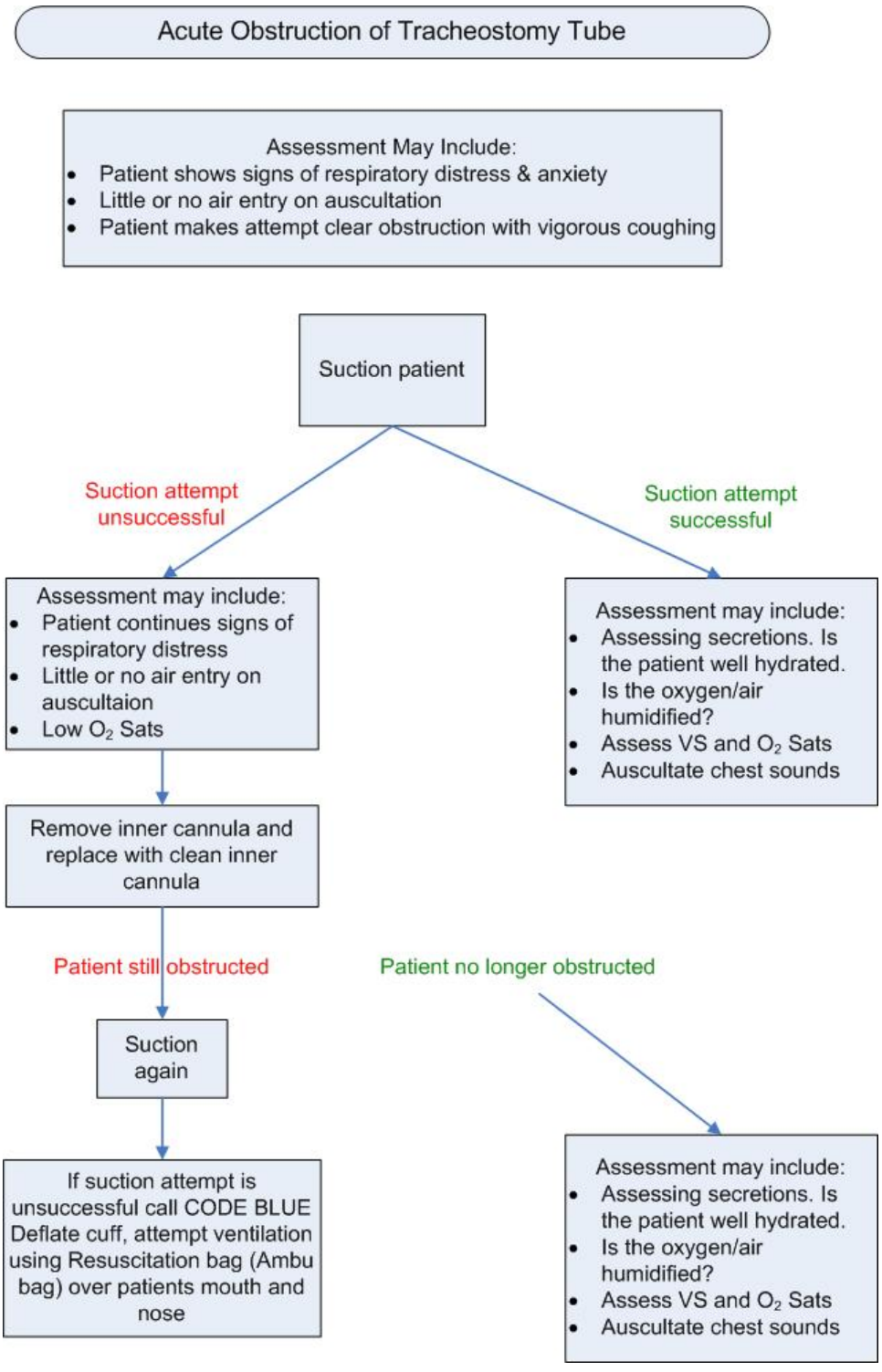
Appendix A: Algorithm for Management of Tracheostomy Tube Obstruction



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