

Children's National Hospital
Division of Nursing & Patient Services

Nursing Practice Guideline

Chapter: Respiratory 4

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Tracheostomy Management

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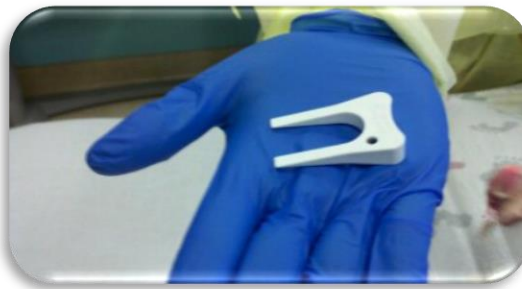
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I. INTRODUCTION

This guideline is intended to provide guidance to health care professionals regarding tracheostomy management for inpatient and outpatient/ambulatory settings.

II. DEFINITIONS

- A. Tracheotomy- a surgical procedure in which an opening in the neck is made in order to place a tube into the trachea to facilitate ventilation.
- B. Tracheostomy (trach) tube- an indwelling curved tube inserted through a tracheostomy stoma into the trachea to facilitate passage of air and secretions. May be temporary or permanent. Consists of three parts:
 - 1. Outer Cannula- main body of the tube which includes the flanges (neck plate) and is held in place with trach ties.
 - 2. Inner Cannula- a hollow tube that is inserted into the outer cannula of a tracheostomy in adult trachs. It is removed for cleaning and may be disposable or non-disposable.
 - 3. Obturator- a small piece inserted in to the inner lumen of the tracheostomy used to assist during trach insertion. The obturator is only used when inserting a trach tube, it must be removed as soon as the trach tube has been placed.
- C. Wedge Popper- a “U” shaped plastic disk used to emergently remove ventilator/humidified tubing from the tracheostomy tube.



- D. Aerosolized Generating Procedures (AGPs) – Any procedure that promotes or induces generation of aerosols. AGP Precautions are recommended for all tracheostomies, including patients undergoing capping trials and patients using a Passy-Muir Valve. Personal protective equipment (PPE) includes the use of a PAPR, or an N95 respirator and CNH approved eye protection. AGP precautions and recommendations may be updated per Centers For Disease Control and Prevention (CDC) guidelines. See [Precautions for Aerosol Generating Procedures](#) for more details and the Infection Control intranet page for up to date recommendations.

III. EQUIPMENT

- A. Emergency Equipment
 - 1. All areas: Bag-valve-mask connected to an oxygen source.
 - 1. Note: when bagging through the tracheostomy, remove facemask. If a complication arises that requires bagging over nose and mouth, use the face mask, and cover trach/stoma.
 - 2. All areas: working suction equipment
 - 3. Critical Care Areas:

1. Tracheostomy Tray on unit and accessible
 2. Laryngoscopy Tray on unit and accessible
- B. Ready-to-go-Bag**
1. Place all items inside of a bag and hang from IV pole
 2. For patients arriving with a pre-made ready-to-go bag, verify all contents of the bag are present, and add any missing items
 3. Contents of bag:
 1. One same size trach tube
 2. One size smaller trach or appropriate size ETT. ([See Suction Depth Chart](#))
 3. 8 Fr suction catheter for emergency decannulation
 4. Correct size inner cannula (if needed)
 5. Correct size suction catheters
 6. Extra velcro ties
 7. Surgical lubricant
 8. Scissors (may be in an unopened suture removal kit)
 9. Appropriate sized syringe to deflate cuff (if needed)
 10. Pre-filled 10ml saline syringes x1
 11. Obturator and wedge popper
 1. Place obturator, if an extra is available, and wedge popper in smaller bag.
 2. Use Kelly clamps to hang the bag from IV pole in front of ready-to-go bag.
- C. Bedside Equipment**
1. Signage
 1. Placed on the Ready-to-go-bag to allow for easy transition between units
 1. [I have a Tracheostomy sign](#)
 2. [Suction Depth Chart](#)
 3. Critical Airway sign (if applicable)
 2. Placed outside the room
 1. [Aerosolized Generating Procedure sign](#)
 2. Stethoscope
 3. Appropriate size sterile suction catheters
 4. Working suction apparatus with connected tubing, canister, and yankeur
 5. Unopened sterile water (250ml) for cleansing suction devices; if opened, obtain new sterile water container.
 6. Bandage scissors
 1. If using suture removal kit, kit should be unopened and used only once
 7. Cardio-Respiratory Monitor (CRM)
 8. Equipment provided by Respiratory Therapy
 1. Humidification system with trach collar, straight set-up, “L-shaped” elbow piece
 2. Oxygen set up/flow meter
 1. If applicable: adapter for metal/special trach tubes
- D. Routine Trach Care Supplies**
1. Velcro tracheostomy ties, either neonatal, pediatric, or adult size
 1. Twill trach ties to secure vent extension tubing, if applicable
 2. Inner Cannulas (if applicable)
 1. Disposable inner cannulas (DIC): ensure extra inner cannulas of the correct size are present
 3. Cleaning supplies for trach care:
 1. Absorbent pads, cotton tipped applicators, or [soft cloth](#)
 2. Wound cleanser for stoma and neck cleansing

3. Patient labels for documentation of trachs (place on trach containers)
4. Dressings (if applicable) or any powder needed around stoma site or under ties
- E. Trach Bear Bin Supply Rack
 1. There is a trach Bear Bin supply rack located on the 2nd floor, east tower, in the Pre-Operative department where tracheostomies can be obtained for patient use.
 2. If removing the last trach from the bin, place the bin on top of the cart for Supply Chain to replenish.
 3. If both bear bins are empty please call Central Supply for trachs. DO NOT CALL OR
 4. Custom trachs may be ordered through Materials Management with Purchase Request Form. This may take up to a week or longer to receive the order.

IV. ASSESSMENTS

- A. Safety Checks
 1. Appropriate emergency equipment, ready-to-go-bag, and bedside equipment
 2. Appropriate tracheostomy/critical airway signs hung at bedside
- B. Assess respiratory status/airway patency upon assuming responsibility for care
 1. Reassess and document the following (acute care minimally once a shift and critical care minimally every four hours, or as ordered, and PRN):
 1. Breath sounds
 2. Respiratory rate and effort
 3. Tracheal secretions: color, consistency, amount, odor
 4. Level and adequacy of humidification supplied
 5. Level of consciousness
 6. Current dressing, if applicable
 2. Assess the following every shift and PRN
 1. Skin under trach ties for skin irritation and breakdown
 2. Stoma site for granulomas or breakdown
- C. Monitor
 1. All patients with tracheostomies are to be on CRM and continuous pulse oximetry.
 1. Patients are only to be off CRM per LIP order and when monitored by CPR trained personnel, including caregivers. Patients cannot be left alone off CRM.
 2. Monitor settings will be individualized to each patient based on the patient's age and condition. The lower limit should not be lower than 90% as per [Cardiac/Respiratory and Pulse Oximetry Monitoring on Acute Care Units Policy \(CHPC:TM:03\)](#) unless patient's medical condition indicates otherwise.
 1. Any change in recommended alarm limit settings must be ordered by LIP and documented by the RN.
- D. Humidification
 1. Via trach collar/hospital approved humidification system (accordion style set-up or "L-shaped" elbow piece).
 2. May use Heat and Moisture Exchanger (HME) or "trach nose" if not requiring oxygen support. Change trach nose at least twice a day.

V. ROUTINE CARE

- A. Assessing Trach Care Routine
 1. If patient has *not* been home with a trach, establish routine for trach care at home.
 2. If patient has been home with a trach, assess family's routine trach care and schedule and update "[I have a Tracheostomy sign](#)".

B. Trach Tie Change

1. **Performed by 2 people:** RN, RT, MD, PCT, LPN, NT or trained caregivers (note: May not be performed by 2 PCTs or NTs; an RN/RT must be the other person. Two trained caregivers may perform).
2. Frequency: performed once a shift and PRN if soiled/damp
 1. Velcro ties are the standard tie used
 2. Use twill ties for safety or developmental concerns for decannulation.
3. Supplies:
 1. Trach ties, if template ties available, use template to pre-cut ties before tie change
 2. Suture removal kit or bandage scissors
 3. Mild soap and water or wound cleanser
 4. Absorbent pad sponges or a soft cloth
 5. Any dressings/skin care products
 6. **Shoulder Roll**
4. Procedure:
 1. Secure patient's head, neck & extremities as needed. **Use shoulder roll as needed**
 2. Assure that assistant holds trach tube in place by flanges until new ties are securely fastened
 3. Remove velcro ties/twill tape
 4. Cleanse neck and skin around stoma with mild soap and water, or wound cleanser using absorbent pad sponges or a soft cloth. Do not use commercial wipes.
 5. Observes for changes in skin integrity
 6. Dry the skin with dry absorbent pad sponges or a soft cloth
 7. Apply trach dressing if stoma drainage excessive or skin irritation present. Attach new trach ties, cutting non-velco ends to appropriate size, if necessary
 8. Assure secure fastening of trach ties prior to release of trach tube by assistant

C. Tracheostomy Change

1. **Performed by 2 people:** RN, RT, LIP, or trained caregivers
2. This is a clean procedure, not sterile
3. Frequency: change tracheostomy tubes weekly on Mondays
 1. Exceptions:
 1. Caregivers/home care schedule that falls on another day of the week
 2. Metal tracheostomies
 3. Patients s/p laryngotracheal reconstruction (LTRs)
 4. Post-op fresh trachs prior to ENT changing the first trach.
4. Supplies
 1. Suction catheter
 2. Bag-valve-mask
 3. Shoulder roll
 4. New trach ties
 5. Any dressings/skin care products
 6. Same size trach tube for insertion and size smaller trach available in case of an emergency
 7. Surgical lubricant
 8. Stethoscope

5. Procedure:

1. Prior to change:

1. When possible, perform when patient has been NPO for 30min
2. Perform suctioning/chest physiotherapy (CPT) as needed prior to change
3. Pre-oxygenate as appropriate
4. Assign roles: identify which person will be removing the dirty tracheostomy tube ("Remover") and who will be inserting the clean tracheostomy tube ("Insertter").

2. Procedure Time Out

1. Secure patient's neck/head prior to tube change; use shoulder roll as needed
2. Time Out taken prior to trach change. This is spoken out loud "Time Out. We are going to change (patient's name) trach".
 - i. Patient identified by name and last four digits of MRN verified with ID band.
 - ii. Trach size of trach being inserted is verified by BOTH people performing the trach change, even if that is with a trained family member.
 1. Both need to state out loud size of trach being inserted and compare to trach in patient and documented on trach sign.
 2. If inconsistency in trach size or type noted stop and verify what size should be inserted.
 3. If size or type of trach is changed, ensure trach sign and documentation is updated
3. For cuffed tubes, deflate the cuff prior to change via a syringe. NOTE- A deflated cuff will enlarge the outer diameter of trach tube and may make insertion and removal more difficult. Make sure to test new cuff of tracheostomy tube prior to change
 - i. The two types of trach cuffs available for the neonatal, pediatric, and adult patients: air cuff_and TTS (water) cuff.
 - A. The air uses air
 - C. Tight to shaft (TTS) cuff uses sterile water

3. Changing the tracheostomy

1. Secure patient's head, neck and extremities as needed
2. The "Remover" will hold trach in place until the procedure is complete.
3. The "Insertter" removes the ties.
4. The "Insertter" cleanses neck and skin around stoma with mild soap and water, or wound cleanser, using absorbent pad sponges or a soft cloth.
 - i. Steps 4-6 (neck/skin cleaning) may be completed either pre- or post-trach change. If cleansing is to occur following placement of the new trach tube, proceed with step 7, and perform cleaning prior to step 13 of the outlined process below.
5. The "Insertter" observes for changes in skin integrity around neck.
6. The "Insertter" dries the skin with dry absorbent pad sponges or a soft cloth.
7. The "Insertter" deflates the cuff, if applicable.
8. The "Insertter" will prepare clean tracheostomy tube with sterile surgical lubricant and notify "Remover" to be on stand-by for removal of tube.
9. When ready for trach change, the "Insertter" will audibly count to three, at which point the "Remover" will remove old tube by gently pulling it in an outward then upward motion.

10. The “Inserter” will quickly assess the condition of stoma and then insert the clean trach tube during inspiration, using an inward, then downward motion.
 11. The “Inserter” will remove the obturator as soon as the new tube is in place, using one hand to hold the obturator and the other to hold the tracheostomy tube in place.
 12. Insert inner cannula if applicable.
 13. Observe patient for baseline respiratory effort and auscultate for air exchange
 14. For cuffed trachs, re-inflate the cuff once correct trach placement is confirmed.
 15. The “Remover” will apply a trach dressing if stoma drainage excessive or skin irritation present
 16. The “Remover” will attach new trach ties, cutting non-Velcro end to appropriate size, if necessary
 17. The “Remover” will assure secure fastening of trach ties prior to release of trach tube by the “Inserter”
 18. Once secure, “Inserter” can release hold on tracheostomy tube.
 19. Suction patient as needed
 20. Follow non-disposable trach cleaning procedures as applicable (see below).
 21. Return obturator to a clean, dry container at bedside
 22. Discard used supplies appropriately
 23. Wash hands
6. Cleaning Tracheostomy Tubes
1. Shiley tracheostomy tubes
 1. Shiley trachs are single use and must be discarded after use
 2. Shiley trachs do not get sent to SPD (Sterile Processing Department)
 2. Bivona tracheostomy tubes
 1. Sterilized in SPD.
 2. Prior to sending to SPD, rinse trach with water to clean of any debris.
 3. Place trach and obturator in puncture-resistant bag.
 4. Then place the bagged trach and obturator into a biohazard lab specimen bag.
 5. **Three** patient labels are placed in pocket on biohazard bag.
 6. Bring double bagged trach and obturator to soiled utility room.
 7. Keeping trach in the bags, spray the trach and obturator with enzymatic foam spray and close the bags.
 - i. Wear nitrile gloves and a mask with a face shield or goggles when spraying
 8. Send trachs to SPD.
 - i. Nursing personnel is responsible for the transport of the trach to and from SPD. Three patient labels need to accompany trach.
 9. Trach may be used until deterioration (discoloration, nicks, fading of lettering/numbering) of trach itself is noted, usually 3 months.
 10. At home, the patient’s family uses boiling distilled water to cleanse the Bivona tracheostomy tube after each trach change. This is recommended to be done weekly. Refer to the parents’ handbook for specific instructions.
 11. Custom Bivona Flexextend tracheostomy tubes are packaged in a clear box with a fluorescent yellow label located on the front of the package. Once the package is opened, place the yellow label in the trach ready-to-go bag. DO

NOT discard the yellow label: It lists a reference number and specific re-ordering information for that particular patient. Contact the Trach PPS for assistance with ordering custom tracheostomies.

12. Bivona trachs are not compatible with MRI. All Bivona trachs must be changed to a comparable Shiley

D. Inner Cannula Change

1. Performed by: RN, RT, LIP, or trained caregivers
2. Frequency: BID, completed every shift and PRN
3. Supplies:
 1. Inner cannula
4. Procedure:
 1. Determine whether inner cannula is disposable or non-disposable
 1. Disposable inner cannulas (DIC) have a clear inner cannula that says “do not clean or reuse” in red. Replace with appropriate size DIC per routine trach care BID.
 - i. For Adult Shiley disposable: twist and remove

E. Suctioning

1. Performed by: RN, RT, LIP, or trained caregivers
2. Supplies:
 1. Suction catheter kit
 1. Use appropriate size catheter (See [Suction Depth Chart](#)). Do NOT use bulb syringe, yankauer, or suction tubing directly at tracheostomy
 2. Working suction equipment
3. Procedure:
 1. Pre-oxygenate prior to suctioning only if patient’s condition warrants
 2. Set suction pressures at lowest pressure possible to be able to suction secretions
 1. Neonates: 40-60 mm Hg
 2. Infants and children: 60-100 mm Hg
 3. Adolescents and Adults: 100-120 mm Hg
 3. Suction using STERILE technique (even if aseptic is utilized at home)
 1. Open sterile suction catheter kit
 2. Pour sterile saline into solution container from kit
 3. Don sterile gloves and use one sterile glove hand to attach catheter to suction connection tube
 - i. If patient requires a respiratory specimen, attach specimen trap between suction catheter and suction connection tube. Once suctioning procedure is complete, detach suction catheter and suction connection tube from specimen trap. Use lid to close specimen trap and place inside biohazard bag for transport.
 4. Gentle catheter insertion to a maximum depth of ¼ inch – ½ inch (0.5-1.25 cm) below the end of the trach tube. (See [Suction Depth Chart](#)).
 1. Use numeric markings on the suction catheter to control depth of insertion
 2. Add additional length for Flexend trachs to meet adequate suctioning lengths (See [Suction Depth Chart](#)).
 5. Sterile normal saline installation only indicated if mucus plugging suspected
 6. Twirling method upon suctioning reduces friction; may apply while both inserting and removing catheter

7. No more than 3 suction passes per suctioning event unless deterioration in patient's condition, and no longer than 5 seconds for infants and 10 seconds for children/adults down tracheostomy tube when suctioning
8. Provide rest time of at least 30-60 seconds between each suction pass.

F. Tracheostomy Skin Integrity

1. Prevention of Skin Breakdown

1. Keep skin clean and dry by performing routine care.
2. Excess moisture related to increased secretions around trach site or humidification:
 - i. Mild moisture: use skin protectant (e.g. Cavilon AP) with a foam dressing (e.g. Mepilex lite), may use a hydrocolloid dressing (e.g. DuoDerm) for initial post-op skin protection
 - ii. Moderate moisture: use skin protectant (e.g. Cavilon AP) and either a foam dressing (e.g. Mepilex foam) or a hydroconductive dressing (e.g. Drawtex); may consider a hydrocolloid dressing for initial post-op skin protection.
 - iii. Significant moisture: use skin protectant (e.g. Cavilon AP) and a hydroconductive dressing (e.g. Drawtex); may consider a hydrocolloid dressing for initial post-op skin protection.
 1. Note: Drawtex is not recommended for the neonatal trachs due to thickness of the dressing and possible dislodgement of trach.
3. May use foam dressing (ex: Mepilex Border) on neck in areas where trach ties are at high risk of pressure injury.
4. Abnormal neck/chin structures (e.g. patients with short necks/chins, or multiple skin folds), contact the Wound Team or Trach PPS for additional padding/prevention measures to reduce pressure/friction injuries.

2. Treatment for Skin Breakdown

1. Intact skin with erythema/irritation (pink/red skin):
 - i. Keep area clean and dry.
 - ii. Dressings: skin protectant (e.g. Cavilon AP)) and/or a foam dressing (e.g. Mepilex lite) may be utilized for moisture management at the site.
2. Non-intact skin
 - i. Partial thickness (shallow) skin loss of a small surface area:
 1. Keep area clean and dry.
 2. Dressings: skin protectant (e.g. Cavilon AP or No Sting Skin Prep), a foam dressing (e.g. Mepilex lite) may be utilized for moisture management at the site.
 - ii. Full thickness (deep) skin loss, dehisced surgical incisions near the stoma, or any partial thickness skin loss of a large surface area:
 1. Notify the primary team/Trach PPS/ENT/Wound Team for a patient specific wound treatment plan.

3. Dressing to Avoid Around Trach Stomas

1. Do not use Exu-Dry at any trach site because of the rough borders/edges of the dressing.
2. Do not place gauze sponges under or near the trach site because frayed fragments may be retained in the airway and moisture is retained around the site.

G. Tracheostomy Upsizing

1. Occasionally there is a need to place a tracheostomy tube that is larger than the one in place.
 1. ENT should evaluate when this is appropriate.
 2. Upsizing can only be performed by ENT.

VI. POST-OP TRACH CARE

A. Patient is to be admitted to a Critical Care Unit

B. See [Patients with Tracheostomies: Admission, Placement, Care and Monitoring for Inpatients Policy \(CHPC:TM:01\)](#).

1. Place signs at the bedside
 1. Critical airway sign
 2. Tracheostomy sign
2. Ensure that stay sutures are labeled (L) and (R) and taped to child's chest on respective sides in event of accidental decannulation
3. Keep patient midline with head slightly hyperextended on fluidized positioner or gel pad
4. Initiate routine trach care immediately post-operatively unless otherwise ordered
 1. Perform gentle chest PT as tolerated. Performed by RN or RT
 2. Suction PRN
 3. Cleanse stoma with wound cleanser every four hours
5. FIRST trach change is performed per ENT LIP 5-7 days post-op
 1. DO NOT change trach ties until after the first trach change.
 2. Notify ENT if trach ties too tight or skin breakdown noted
6. Place humidification system tubing midline, minimizing tension to stoma site and secure with velcro trach ties.
 1. DO NOT use humidification "L-shaped" elbow piece after surgery as it adds additional pressure to surgical incision at stoma site.
 2. Ensure that humidification tubing is not directly resting on patient's skin.
 3. Disconnect patient from humidification system tubing during repositioning to avoid trauma to stoma site
7. Preventative Skin Interventions
 1. Once returning from OR, apply a hydrocolloid dressing superior and inferior to trach stoma at pressure points where trach comes in contact with skin
 2. Assess skin under trach and trach ties every shift and prn.
 3. Notify primary team, ENT, or Trach Nurse if any skin breakdown or irritation is noted. Wound Team may be consulted if the wound has concern for infection or is deep.
8. Assess whether Speech and Language Consult appropriate for patient

VII. TRANSPORT AWAY FROM THE BEDSIDE

A. General Transport Considerations

1. Patient needs to be escorted by an RN with CRM, bag-valve-mask, Ready-to-go-bag, and humidification/trach nose/oxygen, portable suction and transport ventilator, as needed per patient condition.
2. RN needs to remain with patient with a tracheostomy
3. Observe for problems and intervene as necessary
4. Ensure that patient returns with proper equipment and emergency bag

B. MRI Considerations for Bivona Trachs

1. Bivona trachs are not MRI safe
2. Bivona trachs are to be changed to a Shiley of equivalent size (e.g.: 3.5 Peds Bivona changed to a 3.5 Peds Shiley) prior to transporting the patient to MRI.
3. After returning from MRI, replace the patient's Bivona trach.

VIII. EMERGENCY INTERVENTIONS

- A. For all emergencies, if unable to insert same size trach tube, insert smaller size trach
 1. Call for additional assistance using Staff Assist, Rapid Response Team (RRT), or Code Blue
 2. Reposition shoulder roll and neck hyperextension
 3. Attempt to place same size tube
 4. If unable to insert same size trach, reposition and attempt one more time
 5. If unable to insert same size trach after second attempt, insert smaller size trach
 6. Use 8Fr Suction catheter as last resort if unable to replace trachs (current size and size smaller) to maintain airway
- B. Respiratory distress:
 1. Attempt to suction trach
 2. Attempt to ventilate trach with bag-valve-mask
 3. Change trach if suctioning/ventilation unsuccessful
 1. Wedge popper available to assist removing ventilator tubing from trach if unable to remove
- C. No spontaneous respirations/cardiopulmonary arrest
 1. Press code blue button or call x2222
 2. Attempt to ventilate with bag-valve-mask
 3. If ventilation unsuccessful, suction trach tube. If patient remains obstructed, perform emergency trach change (emergency trach change occurs anytime it is not on the scheduled trach change day)
 4. Perform chest compressions/CPR if indicated
- D. Critical Care Post-op Decannulation
 1. Accidental decannulation with stay sutures still intact
 1. Call for help, e.g. "Staff Assist"
 2. Lift stay sutures off chest and maintain a gentle pulling pressure outward to open the stoma site
 3. Insert same size trach tube
- E. Accidental decannulation (without stay sutures):
 1. Call for help, e.g. "Staff Assist" or code blue
 2. Replace with trach of same size
 3. If new trach is NOT ready/available, wipe off decannulated tube, and replace tube in stoma. Replace with same size, clean trach ASAP
- F. Plugged Trach
 1. Attempt to suction trach to appropriate depth
 2. Give breaths with bag-valve mask
 3. If suction and breaths do not work, change trach

IX. CAPPING TRIALS AND PLANNED DECANNULATIONS

- A. All patients with scheduled capping trials or planned decannulation will be admitted to one of the critical care units for 24-48 hours.

1. Capping trial: ENT will insert the trach obturator in place secured with a piece of surgical tape or use of a “cap”. Follow ENT orders and special instructions regarding length of time for capping event
2. Assess for signs of respiratory distress.
 1. Signs of distress:
 1. Remove tape with obturator or cap immediately if patient is experiencing respiratory distress.
 2. May need breaths via bag-valve mask
 3. Notify ENT.
 4. Document amount of time patient tolerated capping event.
 5. Keep trach ready-to-go bag at patient’s bedside at all times
3. Decannulation
 1. ENT removes trach, and stoma is covered with a 2x2 absorbent pad sponge (NOT gauze) and secured with surgical tape, transparent dressing, or a non-adhering dressing. Keep area covered.
 2. Assess site every shift for signs and symptoms of skin excoriation.
 3. Change dressing when wet or soiled.
 4. Keep trach ready-to-go bag at bedside for emergency use
4. If the patient has signs of respiratory distress
 1. Remove the dressing and insert the downsized trach tube in stoma
 2. Notify ENT
 3. If unable to insert trach tube, initiate steps for patent airway
5. Inform patient/family that stoma tissue granulates daily and within one week, there will be an inability to pass trach tube. Within two weeks, epithelization has occurred at the stoma site.

X. REPORTABLE CONDITIONS TO LIP:

- A. Development/progression of respiratory distress
- B. Any partial/complete tracheostomy tube occlusion
- C. Accidental decannulation
- D. Any difficulty with/inability to reinsert trach tube
- E. Change in stoma or break in skin integrity
- F. Change in secretions (color, consistency, amount, odor)
- G. Any difficulty with/complication from trach care
- H. Changes in O2 requirements or mechanical ventilator settings

XI. PATIENT/FAMILY EDUCATION

- A. Trach Me Home Discharge Program (Spanish versions available on the Intranet)
 1. [Trach Me Home Guidelines & FAQ](#)
 2. [Trach Me Home Picture](#)
 3. [Trach Me Home Handout](#)
- B. Education divided into 4 components:
 1. Tracheostomy handouts, booklet/DVD (from vendor if applicable), GetWell Network provided to families
 2. “Trach me Home” education can be initiated by any RN caring for the patient during their admission. When appropriate, in preparation for discharge, the bedside RN should assist family members and the patient with providing trach care
 3. Emergency plan and procedures including CPR familiarization and teach back method with CPR doll taught by bedside RN.

4. For newly placed trachs, prior to discharge, the Trach PPS will hold a didactic session with the family/patient and reviewing general tracheostomy care.

XII. DOCUMENTATION

A. Assessments made:

1. Respiratory status/rate/effort/breath sounds (acute care: minimally once a shift, critical care: minimally every four hours, or as ordered, and PRN)
2. Tracheostomy secretions/color/consistency (every shift, as ordered, and PRN)
3. Stoma/skin condition (every shift, as ordered, and PRN)
4. Appropriate supplies/emergency equipment (assessed every shift and PRN)
5. Pre/post transport, if leaving your care
6. Type and size of trach (cuffed, inner cannula, or custom)
7. Changes made during shift, including air deflated from cuff via RN or RT

B. Interventions performed/patient response:

1. Suctioning
2. Trach care
3. Trach tie change
4. Trach tube change
5. Inner cannula change
6. Time Out for procedure (EHR: Ad Hoc, Paper: Nursing Note)
7. Transport activity
8. Emergency situations/reportable conditions/complications
9. Interdisciplinary Plan of Care (IPOC) each shift. Suggestions: Ineffective airway clearance, Ineffective respiratory effort, Interrupted family process, Impaired Communication)
10. Nursing Progress Note as for significant changes, adverse outcomes, concerns not addressed by IPOC.

C. Outpatient Documentation Requirements

1. "Nursing checklist for tracheostomy patients"
2. Complete a nursing note. Select "other" and describe care and education provided.

D. Safety Event Reporting System

1. A report should be made when there are any new alterations in skin integrity noted, including device related pressure ulcers.
2. Decannulation or any other safety concern

XIII. RESOURCES

- A. Tracheostomy Validation Checklists
- B. ["I have a Tracheostomy"](#) sign for bedside (See Appendix)
- C. [Cardiac/Respiratory and Pulse Oximetry Monitoring on Acute Care Units Policy \(CHPC:TM:03\).](#)
- D. [Patients with Tracheostomies: Admission, Placement, Care and Monitoring for Inpatients Policy \(CHPC:TM:01\).](#)
- E. [Guidelines for Discharging Patients On Home Monitors \(CHPC:TM:02\).](#)
- F. Trach Home Care Orders
- G. Tracheostomy Post-Op Care Order Set
- H. Patient/Family Education Books from Shiley/Smiths Medical
- I. Patient/Family Education DVD and Video from Shiley/Smiths Medical
- J. Teaching checklist (electronically on Cerner)
- K. Respiratory Card on ventilator addressing cuff inflation

L. Trach Me Home Trach Me Home Discharge Program

1. [Trach Me Home Guidelines & FAQ](#)
2. [Trach Me Home Picture](#)
3. [Trach Me Home Handout](#)

XIV. REFERENCES

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XV. REVIEWERS

- A.** Surgical Airway and Tracheostomy Professional Practice Specialist
- B.** Otolaryngology Division
- C.** Shared Nursing Leadership Point of Care Council – 7 East
- D.** Shared Nursing Leadership Practice Council – Systems Level
- E.** Wound Consult Team

XVI. LEGAL STATEMENT

The nursing practice guidelines are intended to serve as a reference for the nurses in their practice. The compilation of information provided is drawn from relevant literature research from juried, reliable and respected sources. The guidelines are not intended to replace individual judgment but instead to inform decision making. The material is updated approximately every 12-24 months.

XVII. APPROVAL

Senior Vice President & Chief Nursing Officer

Date

Original Date: 07/91

Revised Date: 04/96, 02/97, 11/97, 08/97, 08/01, 09/02, 07/03, 08/06, 10/06, 06/08, 06/09, 10/10, 1/11, 02/12, 09/13, 3/14, 1/16, 1/17, 7/17, 12/19, 11/21, 4/22

XVIII. APPENDICES

- A.** Table 1: Care of Trach Based on Brand
- B.** Table 2: Care of Trach Based on Type
- C.** I have a Tracheostomy Sign
- D.** Tracheostomy Suction Depth Chart

Table 1: Care of Trach Based on Brand

Types of Tracheostomy Tubes	Cleansing	Length of time used	Changing trach tube	Other
Shiley (Covidien)	Shiley is a single use	May be used up to 29 days before discarding	Change every week (every Monday or per home schedule)	
Bivona (Smith Medical)	Nursing needs to transport to and from SPD when inpatient status- put in container with 3 patient labels. SPD cleaning turn-around-time is 2-3 hours. RN responsible to contact SPD to retrieve trach to ensure correct trach returns to the correct patient's bedside and is placed in trach ready-to-go bag. SPD available for trach cleaning round-the-clock, 24 hours/day. At home, patient/family may boil in distilled water. Refer to home instruction book for reusing "Pediatric Fome-Cuff" Trach Tubes	May be used for months until condition of tube deteriorates from visual inspection, usually 2-3 months	Change every week (every Monday or per home schedule)	May be standard size or customized to meet patient needs. If necessary, order through Materials Management with Purchase Request Form- may take up to a week to receive. Sizes available in neonatal, pediatric, adult single cannula (Cuffed trachs available in air, foam, or TTS). Note: Flexextend trachs, both non-cuffed and air-cuffed are custom for CNH. Add additional cm to suction catheters for proper insertion lengths. Also, available in size 2.5 neonatal and pediatric non-cuffed and air-cuffed trachs.

*Note: All trachs and inner cannulas available in Trach Bear Bin Shelf located in AMSAC periop area. All nursing staff have access to retrieve trachs. If specific trach is unavailable in trach Bear Bin Shelf, contact Central Supply. If CNH custom trach unavailable, contact Trach PPS or ENT. Place order through Materials Management with Purchase Request Form-may take up to a week to receive order.

Table 2: Care of Trach Based on Type

Trach Specifics	Rational for placement	When does the entire trach get changed?	Trach Care Specifics	Other
<u>Non-Cuffed</u> Pediatric Tracheostomy	Conditions that would cause upper airway obstruction, respiratory failure or chronic aspiration – to provide and protect the airway	Q week (every Monday or per home schedule)	Trach ties and care performed bid and prn	Use mild soap and water or normal saline to clean site.
Cuffed Tracheostomy	Used when there is a risk of aspiration. Used with ventilators (leaks)	Q week (every Monday or per home schedule)	Trach ties and care performed bid and prn	Use <u>minimal leak technique</u> to determine amount of air/sterile water necessary.
Tracheostomy with inner cannula; determine whether inner cannula is disposable or not	Needed for older pediatric and adult patients	Q week (every Monday or per home schedule)	Trach ties and care performed BID and PRN. Inner cannula to be changed Q Shift	

CHILDREN'S NATIONAL HOSPITAL
DEPARTMENT OF NURSING STAFF DEVELOPMENT & RESEARCH
Competency Validation Checklist

NAME:	UNIT:
EMPLOYEE ID.:	DATE:

COMPETENCY TITLE: Tracheotomy Care with Tracheostomy Tie Change and Inner Cannula Change

COMPETENCY STATEMENT: Demonstrate the appropriate method of Tracheotomy Care with ties change and inner cannula change

Instructions: Please circle method of validation and initial each line

Performance Criteria	Method Validation	Validator Initials	Comments
1. Demonstrate universal precautions & washes hands	RD OB		
2. Gathers/ prepares needed supplies prior to beginning procedure	RD OB		
3. Explains procedure to patient/ parent	RD OB		
4. Demonstrates appropriate method of removing and cleansing an inner cannula if present by performing the following steps: <ul style="list-style-type: none"> • If disposable inner cannula, removes old cannula, replaces with new cannula and locks securely into place • If non-disposable, removes dirty cannula, replaces with clean cannula and locks securely into place. Cleans dirty cannula by soaking dirty cannula in sterile bowl containing ½ strength peroxide/sterile water or saline mixture and allows to air dry before storing it in sterile container. 	RD OB		
5. Identifies/ obtains help from appropriate assistant prior to beginning trach ties change	RD OB		
6. Demonstrates appropriate method of cleansing of skin around stoma with mild soap & water using absorbent pad sponges & pats dry	RD OB		
7. Demonstrates appropriate method of tracheostomy tie change by performing the following steps: <ul style="list-style-type: none"> • Secures patient's head, neck & extremities as needed • Assures that assistant holds trach tube in place by flanges until new ties are securely fastened • Removes twill tape/ Velcro ties • Washes entire neck with mild soap & water & pats dry • Observes for changes in skin integrity • Attaches new trach ties using slit tie, single tie or Velcro method • Assures secure fastening of trach ties prior to release of trach tube by assistant • Applies trach dressing if stoma drainage excessive or skin irritation present • Suctions tracheostomy as necessary • Discards used supplies appropriately • Washes hands 			
8. Demonstrates appropriate documentation of the procedure. Secretions (amt./ color/ consistency/ odor), skin/ stoma condition, patient response and problems encountered.			

Name(Please Print)	Initials	Name(Please Print)	Initials

Validation Key: **VF** = Verbal Feedback; **OB** = Observation; **D** = Discussion; **RD** = Return Demonstration

CHILDREN'S NATIONAL HOSPITAL
DEPARTMENT OF NURSING STAFF DEVELOPMENT & RESEARCH
Competency Validation Checklist

NAME:	UNIT:
EMPLOYEE ID.:	DATE:

COMPETENCY TITLE: Tracheostomy Suctioning

COMPETENCY STATEMENT: Demonstrate the appropriate method of tracheotomy suctioning

Instructions: Please circle method of validation and initial each line

Performance Criteria	Method Validation	Validator Initials	Comments
1. Demonstrate universal precautions & washes hands	RD OB		
2. Gathers needed supplies prior to beginning procedure (including ambu bag, suction catheters, suction set-up, sterile saline)	RD OB		
3. Explains procedure to patient/ parent	RD OB		
4. Demonstrate appropriate suctioning technique by performing the following: <ul style="list-style-type: none"> • Turns on suction • Opens suction catheter using sterile technique • Pours sterile irrigating saline from bottle into solution container using sterile technique • Applies sterile glove to dominant hand using sterile technique • Attaches suction catheter to suction connection tube with gloved hand • Removes paper covering suction catheter with ungloved hand while preserving catheter sterility • Gently inserts catheter without suction into trach opening to appropriate depth (tip of trach) • Immediately applies suction while rotating and withdrawing the catheter within 5 seconds for infants and 10 seconds for children • Identifies signs of respiratory distress during procedures and provides appropriate interventions • Flushes suction catheter with saline • Instills drops of sterile saline (from bullet) to loosen secretions if needed • Repeats suctioning procedure until secretions are cleared • Suctions nose and mouth if necessary, after completing tracheal suctioning • Comforts patient as necessary • Discards used supplies appropriately • Washes hands 	RD OB		
5. Demonstrates appropriate documentation of the procedure, secretions (amt./ color/ consistency/ odor), patient response and problems encountered.	RD OB		

Name(Please Print)	Initials	Name(Please Print)	Initials

Validation Key: VF = Verbal Feedback; OB = Observation; D = Discussion; RD = Return Demonstration

CHILDREN'S NATIONAL HOSPITAL
DEPARTMENT OF NURSING STAFF DEVELOPMENT & RESEARCH
Competency Validation Checklist

NAME:	UNIT:
EMPLOYEE ID.:	DATE:

COMPETENCY TITLE: Tracheostomy Tube Change

COMPETENCY STATEMENT: Demonstrate the appropriate method of tracheostomy tube change

Instructions: Please circle method of validation and initial each line

Performance Criteria	Method Validation	Validator Initials	Comments
1. Demonstrate universal precautions & washes hands	RD OB		
2. Gathers/ prepares needed supplies prior to beginning procedure	RD OB		
3. Obtains/ prepares new same size trach tube with ties (in addition to "ready to go" trach at bedside)	RD OB		
4. Explains procedure to patient/ parent	RD OB		
5. Identifies/ obtains help from appropriate assistant prior to beginning procedure	RD OB		
6. Demonstrates the appropriate method of tracheostomy tube change by performing the following steps: <ul style="list-style-type: none"> • Positions patient with roll under shoulders and neck slightly hyperextended • Suctions tracheostomy • If cuffed trach tube, deflate cuff with syringe • Secures patient's head, neck and extremities as needed • Assures that assistant holds trach tube in place during/ after cutting of trach ties • Cuts ties on both sides of tube in place near flanges • Asks assistant to remove old tube by gently pulling it outward • Observes the condition of stoma • Inserts new trach tube during inspiration, using an inward, then downward motion • Removes obturator as soon as new tube is in place • Observes patient for baseline respiratory effort and air exchange • Maintains placement of tube and secures the trach ties with assistance from assistant • Suctions patient as needed • Inserts inner cannula/ inflates cuff as appropriate • Places new obturator in sterile container and places at bedside • Discards used supplies appropriately • Washes hands 	RD OB		
7. Demonstrates appropriate documentation procedure, secretions (amt./ color/ consistency/ odor), skin/ stoma condition, patient response and problems encountered			

Name(Please Print)	Initials	Name(Please Print)	Initials

Validation Key: **VF** = Verbal Feedback; **OB** = Observation; **D** = Discussion; **RD** = Return Demonstration

I Have A Tracheostomy

Emergency Awareness:

- Patient is a critical airway (requires anesthesia or ENT (beeper # _____))
Yes No
- If tracheostomy tube cannot be replaced (same or downsize), intubate patient with _____ ETT.
- If patient cannot be intubated from above, mask, and call anesthesia and ENT (beeper # _____)

Change my tracheostomy

- ☐ Monday
- ☐ ENT will perform
- ☐ Other _____

Tracheostomy type

- ☐ Shiley
- ☐ Bivona: Non-Flextend / Flextend
- ☐ Other _____

Tracheostomy Size

- ☐ Neonatal
- ☐ Pediatric
- ☐ Adult
 - ☐ Disposable Inner Cannula
 - ☐ Non-Disposable Inner Cannula

Type of Cuff

- ☐ No Cuff
- ☐ Tight to Shaft (TTS-Clear/White)
 - ☐ Inflate with H2O _____ cc H2O
- ☐ Air
 - ☐ Bivona (Blue) _____ cc air
 - ☐ Shiley (Clear) _____ cc air

Stay Sutures

- ☐ Lateral
- ☐ Other: _____

Suction

- ☐ Suction catheter size _____
- ☐ Catheter insertion length _____

Patient is a candidate for speaking valve

Yes

No

- ☐ May use speaking valve for _____ hrs/day
- ☐ Use with speech only

** recall cuff must be down prior to placing speaking valve**

Ready to go Check List

- ☐ One same size trach tube _____
- ☐ One size smaller trach tube _____
- ☐ Obturator for trach tube currently in use
- ☐ Trach wedge/vent disconnect
- ☐ Correct size suction
- ☐ An 8 French suction catheter for emergency decannulation
- ☐ Correct size inner cannula, if appropriate (sizes 4,6,8 for adult trachs)
- ☐ Surgilube
- ☐ Suture removal kit (has scissors)
- ☐ Syringe for cuffed tubes
- ☐ Normal saline
- ☐ Extra Velcro ties
- ☐ 2x2 gauze

Suction Depth Chart for Shiley, Bivona, and Bivona Flextend

Trach size	Downsize	Suction catheter size	Suction depth 0.6cm below tip	Suction max 1.27 cm below tip	<i>Bivona Flextend depth</i>
Neo 2.5	5/6 Fr suction cath	5/6 Fr	5 cm	5.5 cm	8 cm
Neo 3.0	Neo 2.5	5/6 Fr or 8 Fr	5 cm	6 cm	8 cm
Neo 3.5	Neo 3.0	8 Fr	5.5 cm	6 cm	8.5 cm
Neo 4.0	Neo 3.5	8 Fr	5.75 cm	7 cm	9 cm
Neo 4.5	Neo 4.0	8 Fr	5.75 cm	6 cm	9.5 cm
Peds 2.5	5/6 Fr Suction cath	5/6 Fr	6 cm	6.25 cm	9.5 cm
Peds 3.0	Peds 2.5	5/6 Fr or 8 Fr	6.25 cm	6.75 cm	10 cm
Peds 3.5	Peds 3.0	8 Fr	6.5 cm	7 cm	10 cm
Peds 4.0	Peds 3.5	8 Fr	6.5 cm	7 cm	10.5 cm
Peds 4.5	Peds 4.0	8 Fr	6.5 cm	7 cm	11 cm
Peds 5.0	Peds 4.5	8 Fr	6.5 cm	7 cm	11.5 cm
Peds Long 5.0	Peds 4.5	8 Fr	7.5 cm	8 cm	N/A
Peds 5.5	Peds 5.0	8 Fr	7.5 cm	8 cm	12 cm
Peds Long 5.5	Peds Long 5.0	8 Fr	8 cm	8.5 cm	N/A
Peds Long 6.0	Peds Long 5.5	10 Fr	8 cm	8.5 cm	N/A
Peds Long 6.5	Peds Long 6.0	10 Fr	8.5 cm	9 cm	N/A
Adult 4 (Shiley)	Peds 5.0	10 Fr	10 cm	10.5 cm	N/A
Adult 6 (Shiley)	Adult 4 (Shiley)	12 Fr	10.5 cm	11 cm	N/A
Adult 8 (Shiley)	Adult 6 (Shiley)	14 Fr	11 cm	11.5 cm	N/A
Adult 5.0 (Bivona)	Bivona Peds 4.5	10 Fr	9.5 cm	10 cm	N/A
Adult 5.5 (Bivona)	Adult 5.0 (Bivona)	12 Fr	9.5 cm	10 cm	N/A
Adult 6.0 (Bivona)	Adult 5.0 (Bivona)	12 Fr	10 cm	10.5 cm	N/A
Adult 7.0 (Bivona)	Adult 6.0 (Bivona)	12 Fr	10 cm	10.5 cm	N/A
Adult 7.5 (Bivona)	Adult 7.0 (Bivona)	14 Fr	11 cm	11.5 cm	N/A
Adult 8.0 (Bivona)	Adult 7.0 (Bivona)	14 Fr	11 cm	11.5 cm	N/A
Adult 5 XLT Shiley	Peds Long 5.5	10 Fr	14 cm	14.5 cm	N/A
Adult 6 XLT Shiley	Adult 5 XLT Shiley	12 Fr	14.5 cm	15 cm	N/A
Adult 7 XLT Shiley	Adult 6 XLT Shiley	14 Fr	15 cm	15.5 cm	N/A
Adult 8 XLT Shiley	Adult 7 XLT Shiley	14 Fr	15.5 cm	16 cm	N/A

**For any trach not listed please measure appropriate length

Updated 4/2022