PERCUTANEOUS TRACHEOSTOMY ASSIST

Effective Date: 1/20/2026
Retires Policy Dated: N/A
Original Effective Date: 03/01/2005
Updated Date: 12/22/2022

Affected Classifications

- Supervising Respiratory Care Practitioner (SRCP)
- Respiratory Care Practitioner (RCP) III

Management Implications

- **Intent**
  - To assist the physician in visualizing via electronic/video bronchoscope while performing a percutaneous tracheostomy at the bedside.
- **Training**
  - Training is accomplished on a one-on-one basis by experienced competent with a Surgical Attending with percutaneous tracheostomy privileges in direct supervision. Time allotted to achieve competency is variable due to the frequency of this procedure. The trainee will observe, then gradually assume more responsibility until they are declared competent to perform the procedure at the bedside independently.

Competency

- Complete competency is accomplished after three sign offs from a Surgical Attending with percutaneous tracheostomy privileges.

Ongoing Competency

- Competency will be validated by successful completion of at least 1 percutaneous tracheostomy assist per quarter. Each perc trach assist will be logged in the supervisors log to include patient number. Verification will be part of the annual work performance evaluation (WPE). Reports will be run quarterly to ensure compliance. If minimum ongoing competency is not met due to frequency, initial competency will be repeated.

Expected Outcomes

- Successful, controlled, placement of a percutaneuos tracheostomy.

Documentation Requirements

- The surgeon performs documentation of the surgical procedure. The SRCP/RCP/Assistant Director documents any medications given, as well as any steps taken to remedy any untoward effects. The patient /family education record must be completed prior to each procedure.

Learning Options

- Percutaneous Tracheostomy Overview; Indications, and Technique by Kathleen Williams D.O. Interventional Pulmonary Department, Tulane University
- World Anesthesia Issue 15 (2002) Article 16 Percutaneous Tracheostomy by Professor A Ruda, Calcutta National Medical College, India
- PicuBOOK an on-line resource for pediatric critical care. Tracheostomy Indications, Dr. Tarun Gera, Dr Joseph L. Mathew, Department of Pediatrics, LN Hospital, New Delhi, India

Knowledge Application

Indications

- Anticipated need for long term mechanical ventilation.
- Anticipated need for long term artificial airway.

Contraindications

➢ **Relative**

- An endotracheal tube (ETT) too small to accommodate the bronchoscope.

Note: Requires pediatric scope

- An anatomical obstruction at the tracheostomy site or one blocking visualization.
- Patient with a very thick neck. (To be assessed by the surgeon.)

Prominent artery crossing the tracheostomy site.

➢ **Coagulopathy**

➢ **Evidence of infection in the soft tissue of the neck at the prospective surgical site.**

Hazards

- Hypoxemia
- Atelectasis
- Hypotension
- Bronchospasm
- Bradycardia or other vagally-mediated phenomena
- Pneumothorax
- Hemoptisis
- Increased airway resistance

- Bleeding
- Infection
- Death

Necessary Equipment

- Electronic/Video Bronchoscope
- Bronchoscopy cart with video monitor /light source.
- Oral pharyngeal airway
- Percutaneous tracheostomy kit
- Percutaneous trach tube size 8.0 or 9 portex
- Sterile gowns
- Sterile gloves
- Hair covers
- Surgical masks with face shields
- 1-sterile bowl
- Suction tubing with canister
- ETT swivel adapter with bronchoscope port.
- 20ml syringe
- 12ml syringe
- Scissors
- Securing device / trach ties
- Enzymatic cleaning solution
- 1-liter normal saline
- 10 ml 2% lidocaine solution
- 1-15 ml 2% viscous lidocaine bottle
- Silkospray (lubrication spray for bronchoscope)
- Performance Demonstration

Procedure

Call the Sterile Processing Department and request the percutaneous tracheostomy cart with electronic/video 15 french bronchoscope (EB15 70).

- Obtain bronchoscopy cart from the clean equipment storage area and bring to the patient's bedside.
- Plug in power cord from bronchoscopy cart to a red power outlet.

Computer Setup

- Turn on UPS, computer, printer, light source and monitor.
- Launch Endopro software.
- Ensure the light source and monitors are turned "On." If either are not on, no picture will be displayed on the monitor.
- Click on "Today's Schedule."

- Click on the appropriate procedure time.
- Enter all required data, then click “Ok”.
- Right click on the scheduled appointment, select “In Room” from the drop-down menu.
- Verify patient information is accurate, otherwise edit information.
- Click on “Start procedure”

Set-Up

- Connect the bronchoscope to the light source.
  - Turn light source on.
  - Check that images appear on monitor.
  - Check that the camera functions appropriately.

- Place patient on volume guarantee with 100% FiO2.
  - Ensure tidal volume high limit is set appropriately to prevent volutrauma.
  - Caution is warranted with high FiO2’s. If cautery is needed, FiO2 must be minimized.
  - Position patient with a roll under the shoulders and head of bed at a15º angle.
  - Instill 6cc of 2% lidocaine down the ET tube.
  - Connect a 12-cc syringe to the pilot balloon.
  - Ensure that patient has received sedation then place oral airway.

Note: Oral airway must be used to prevent the patient from biting down on the scope through the ETT.

- Have a 20-cc syringe filled with normal saline available for lavage.
- Perform hand hygiene.
- Don hair cover, gown, gloves and mask.
- Suction patient below and above the cuff.
- Insert the scope into the adapter and advance to the end of the ETT when the surgeon is ready to make the incision.
- Deflate cuff and pull ET tube back by 2cm (pull ET tube and bronchoscope back in unison). Surgeon will observe site for presence of bronchoscope light. (Not always visible)
- Position bronchoscope to facilitate visualization of catheter insertion point.
- Capture image after final dilation, and as directed by surgeon.
- When tracheostomy tube is in place, press manual disconnect on ventilator. Disconnect the ventilator circuit from the ETT and connect it to the tracheostomy tube. Insert the bronchoscope into the adapter and advance the scope until the carina is in view.
- Capture the image of the carina post placement.

***Note: Do not remove the ETT until you have confirmed via direct visualization with the bronchoscope the tracheostomy tube is in place.**

- Withdraw the bronchoscope and remove the ETT.
- After the tracheostomy tube has been placed by the surgeon, place the securing device appropriately.

    - The surgeon performing the tracheostomy will place a suture on the flange to identify the fresh tracheostomy.
- Remove shoulder rolls and return patient to a comfortable position.

Ending procedure and Clean up

- Turn off light source.
- Remove suction, thumb port and biopsy valves and place in enzymatic cleaning solution.
- Wipe thoroughly and place in blue alcohol solution.
- Place patient end of the bronchoscope into enzymatic cleaning solution: wipe outside with 4X4 gauze.
- Suction blue alcohol solution through the bronchoscope.
- With cotton tipped applicator, clean both the suction and biopsy ports.
- Remove and discard suction tubing.
- Drain, secure in case.
- Discard all sharps appropriately.
- Gather and discard other equipment.
- Place bronchoscope and sterile bowl on top of percutaneous tracheostomy cart cover with plastic bag supplied and call the Sterile Processing Department to pick up cart and bronchoscope for restocking and processing.
- To annotate images
    - Use the mouse to select the image that you want
    - Right click on the image.
    - Select “Annotate”
- The following items must be identified
    - Ease of dilatation
    - Any broken cartilage
    - Use of scalpel
    - Visualization of carina post trach placement
- Click on the door icon to exit the program.
- Go to the start menu and shut down the computer.
- When shut down is complete, unplug the cart and return to the dirty equipment area.
- Wipe down cart using a disinfectant spray.
- Return cart to clean equipment area for storage.

Version Control Record			
Version	**Date**	**Author/Reviewer**	**Description of Changes**
1	1/20/26	Paul Wisniewski, D.O.	Initial review and update to reflect latest evidence/practice

Disclaimer for Evidence-Based Guidelines

The **Evidence-Based Guidelines** provided by **Cutting Edge Surgical Medical Group**, a division of **Paul J. Wisniewski, DO, Inc.**, are intended to offer general information and guidance based on current research, clinical best practices, and expert opinions in the medical field. These guidelines are designed to assist healthcare professionals in making informed decisions regarding patient care, but they are not a substitute for personalized medical advice, diagnosis, or treatment.

Important Notes:

- The guidelines are for informational purposes only and are not intended to replace professional medical judgment. They should be used as a reference and adapted to the specific needs of individual patients.
- Application of these guidelines should be made by healthcare providers, taking into account the unique medical history, condition, and circumstances of each patient.
- While **Cutting Edge Surgical Medical Group** strives to provide the most accurate, up-to-date, and evidence-based information, we cannot guarantee that all content on the website is free from errors, omissions, or outdated information. Medical knowledge evolves rapidly, and guidelines may be updated periodically.
- **Cutting Edge Surgical Medical Group** does not assume responsibility for the outcomes of any medical decision or intervention based on the use of these guidelines. The use of this information is at the user's own discretion.
- Healthcare providers are encouraged to consult the latest peer-reviewed research, professional standards, and individual patient assessments before making clinical decisions.

For specific medical concerns, treatment advice, or patient management, please consult directly with a qualified healthcare provider.