

Percutaneous Tracheostomy Practice Management Guideline

Division of Trauma and Surgical Critical Care

Vanderbilt University Medical Center

Revised 2005

PREPARATION:

1. Consent should be obtained for "tracheostomy" (See Bedside Surgery protocol).

2. Medication pack:

Fentanyl 500 mcg

Vecuronium 20 mg

Versed 10 mg

Diprivan 50 cc vial (esp. CHI pts.)

The patient should be sedated with Versed / Diprivan and Fentanyl, followed by Vecuronium, inducing a general anesthesia.

NOTE: The ventilator must be adjusted appropriately when paralytics are administered, usually a **rate of 12, and a FiO₂ of 100%**. **Caution should be used when PEEP > 15.**

3. Equipment:

a. Indications for **Perc. Trach with Bronchoscopy**: Attending should be scrubbed for "High Risk Case".

1. Multiple Facial Fractures

2. Morbid Obesity

3. Surgeons preference

b. Trauma cart, to include:

Ciaglia percutaneous tracheostomy kit

1 pair - scissors

2 pair - curved hemostats

1 - Needle holder

1 - Scalpel

2 - Weitelanders

Trach tubes: (1) #8 Shiley and (1) Big boy

Sterile towels Gowns, gloves

Syringes Betadine solution

Suture 1 - large drape

Intubation set

Chemical CO₂ detector

Continuous BP monitor

PROCEDURE:

1. Medicate the patient.

2. After medications are administered, the neck is prepped and draped. The area is infiltrated with 1% Lidocaine with Epinephrine and a vertical incision is made. Dissection is carried down to the level of the trachea.

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3. The tapes holding the endotracheal tube are cut and the person at the head of the bed manipulates the ET tube while the surgeon palpates for its presence within the trachea. Tidal volumes should be closely monitored during this time. The tube is slowly withdrawn until the balloon can be palpated, and then withdrawn further until its tip is palpated at the level of the second tracheal ring.

Note: An air leak may be noted around the ET tube; however, as long as minute volumes measured on the expiratory limb of the ventilator are acceptable, this should not cause alarm.

4. The percutaneous tracheostomy is completed in the standard fashion.
5. The CO₂ monitor is connected to the tracheostomy tube and, once color change occurs and tidal volume is confirmed, the ET tube may be fully withdrawn. The tracheostomy tube is, then, sutured to the neck.
6. Chest x-ray is always obtained.
7. Ventilator settings are returned to prior levels after sedation and paralytics have worn off.