Jackson Hole Fire/EMS Operations Manual

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Title: **Procedure Guidelines: QuickTrach™**
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PERCUTANEOUS TRANTRACHEAL VENTILLATION- QuickTrach™ (Procedure Guidelines)

SCOPE OF PRACTICE

All Paramedics shall operate within their authorized Scope of Practice as limited to those skills and medications approved for use by the Physician Medical Director and Physician Task Force on Pre-Hospital Care as approved and authorized by the Wyoming Board of Medicine

Scope of Practice: Paramedic

INDICATIONS:

The only indication for cricothyrotomy is the inability to secure an airway by other procedures such as endotracheal intubation or multi-lumen airways (i.e. cervical spine trauma, maxillofacial trauma, oropharyngeal obstruction caused by foreign bodies, infections, or edema resulting from allergic reactions or inhalation injury).

CONTRAINDICATIONS:

- The possibility of rapidly establishing an easier and less invasive airway
- Acute laryngeal disorders such as laryngeal fractures that cause distortion or obliteration of landmarks
- Patient less than 10kg (22 lbs.)

ADVANTAGES:

- Percutaneous transtracheal ventilation is a viable alternative to surgical cricothyrotomy and may be more suitable in the prehospital setting

DISADVANTAGES:

- A definitive airway such as surgical cricothyrotomy must still be established

COMPLICATIONS:

- Pneumothorax
- Subcutaneous emphysema
- Catheter dislodgement
- Hemorrhage
- Esophageal or mediastinal injury
- Hypercarbia

PROCEDURE:

- Observe appropriate body substance isolation
- Select correct sized device:
  - 4.0 mm 35 kg (77 lbs. and higher)
  - 2.0 mm 10 kg to 35 kg (22 lbs. to 77 lbs.)
- Place the patient supine and hyperextend the head and neck (maintain neutral position if you suspect cervical spine injury). Position yourself at the patient's side. Manage the patient's airway with basic maneuvers and supplemental oxygen while preparing the equipment
- Gently palpate the inferior portion of the thyroid cartilage and the cricoid cartilage. The indention between the two is the cricothyroid membrane
- Prepare the anterior neck with antiseptic swabs. Firmly grasp the laryngeal cartilages and reconfirm the site of the cricothyroid membrane
- Firmly hold and introduce the device at a 90 degree angle into the trachea
- After puncturing the cricoid space, check the entry of the needle into the trachea by aspirating air through the syringe. If air is present, the needle is within the trachea
  - Should no aspiration of air be possible because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made
- Change the angle to 60 degrees caudally and advance the device into the trachea to the level of the stopper
- Remove the stopper. Be careful not to advance the device further with the needle still attached
- Hold the needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck
- Remove the syringe and needle
- Secure the device in place and connect ventilation device tubing to 15 mm connector
- Continue ventilatory support, assessing for adequacy of ventilations and looking for the development of any potential complications