

I. **PURPOSE**

The “Melker Emergency Cricothyrotomy Set” is designed to establish emergency airway access when endotracheal intubation cannot be performed and other ventilatory techniques are not effective.

II. **INDICATIONS**

Inability to adequately ventilate the patient by any other means.

III. **SIGNS & SYMPTOMS**

- A. The need for definitive airway control must be established (to reduce morbidity or mortality).
- B. Conventional airway and ventilatory practices, including endotracheal intubation, have failed to successfully provide an airway or adequate ventilation.

IV. **INITIAL ASSESSMENT**

Rapid patient assessment with special attention to:

- A. Presence of potential spinal injuries
- B. Degree of respiratory distress
- C. Cyanosis
- D. Breath sounds

V. **PROCEDURE**

- A. Identify the cricothyroid membrane between the cricoid and thyroid cartilage. Palpate the trachea anteriorly for the prominent thyroid notch. The next prominence inferiorly is the cricoid cartilage. The small space between the cricoid cartilage and the thyroid cartilage is the cricothyroid membrane.
- B. Identify the location of the syringe, catheter, guide wire, scalpel and cloth tie. Advance the handled dilator, tapered end first, into the connector end of the airway catheter until the handle stops against the connector. The use of lubrication on the surface of the dilator (distal, pointed end) may enhance the fit and placement of the emergency airway catheter.
- C. Carefully palpate the cricothyroid membrane and thoroughly cleanse the site. While stabilizing the cartilage, make a vertical incision in the midline using scalpel blade (supplied or additional). Incise through skin and subcutaneous tissue only.

NOTE: An adequate incision eases introduction of the dilator and airway.

- D. With the supplied 6 cc syringe attached to the 18G, over the needle catheter introducer needle, advance it through the incision into the airway at a 45 degree angle to the frontal plane in the midline in a caudal (toward the feet) direction. **When advancing the needle forward, verification of entrance into the airway can be confirmed by aspiration on the syringe resulting in free air return.**
- E. Remove the syringe and needle, leaving the catheter in place. Advance the soft, flexible end of the wire guide through the catheter and into the airway several centimeters.
- F. Remove the catheter, leaving the wire guide in place by holding the end of the wire guide until the catheter tip is clear from skin; then grasp the wire guide at entrance to skin.
- G. Advance the emergency airway access assembly (pointed end first, 15 mm fitting last) over the wire guide until the proximal stiff end of the wire guide is completely through and visible protruding from the handle end of the dilator.

NOTE: IT IS IMPORTANT TO ALWAYS VISUALIZE THE PROXIMAL END OF THE WIRE GUIDE DURING THE AIRWAY INSERTION PROCEDURE TO PREVENT ITS INADVERTENT LOSS INTO THE TRACHEA.

- H. Maintaining the wire guide position, carefully and gently advance the emergency airway access assembly over the wire guide and into the trachea.

NOTE: CARE SHOULD BE TAKEN NOT TO ADVANCE THE TIP OF THE DILATOR BEYOND THE TIP OF THE WIRE GUIDE WITHIN THE TRACHEA.

- I. Remove the wire guide and dilator simultaneously, leaving the airway in place.
- J. Fix the emergency airway catheter in place with the cloth tracheostomy tie in a standard fashion.
- K. Connect the emergency airway catheter, using its standard 15 mm adapter to an appropriate ventilatory device and 100% oxygen.
- L. Reassess adequacy of ventilations.