

PURPOSE:

To provide the procedural steps to establish a patent airway using cricothyroidotomy techniques

STAKEHOLDERS:

MedEvac transport personnel:

SCOPE: Paramedic/Critical Care Paramedic/RN

PROVISIONS (POLICY / CONTENT / PROCEDURAL STEPS):

NEEDLE CRICOTHYROTOMY

I. EQUIPMENT:

- A. Alcohol/Betadine swabs
- B. 14 gauge insyte IV catheter
- C. Tape
- D. 20cc syringe
- E. 3.0 Endotracheal tube adapter

II. PROCEDURE:

- A. Identify cricothyroid membrane between the thyroid and cricoid cartilage.
- B. Prepare the site with alcohol swab.
- C. Attach a syringe to a 14 gauge intravenous catheter.
- D. Puncture the skin in the midline directly over the cricothyroid membrane.
- E. Direct the needle through the membrane at a 45-degree angle caudally (toward the feet). Aspirate while advancing the needle.
- F. Aspiration of air and/or the sensation of a "pop" signifying entry into the trachea; advance the catheter over the needle.
- G. Recheck the position of the catheter by aspirating with the syringe. Proceed with the ventilation using a BVM and high flow oxygen. The hub of the catheter may be attached to a 3.0 or 3.5 mm pediatric ET tube adapter.

Note: This technique is only a temporary airway and the patient should be transported emergently to the nearest appropriate facility.

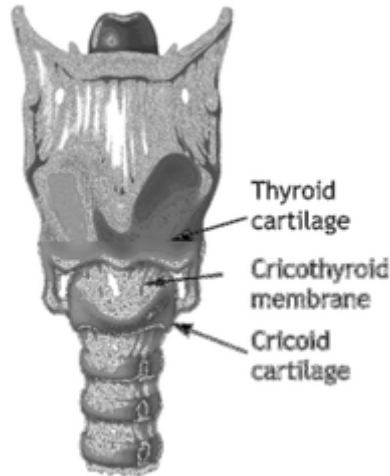
Surgical Airway Equipment:

- **Control Cric Kit -OR-**
- **Instrument Kit**
 - Alcohol / Betadine swabs (or other disinfectant)
 - Scalpel
 - Tracheal Hook (Optional)
 - Cuffed ET Tube
 - Tape
 - Elastic bougie introducer
 - Appropriate sized ET Tube
 - 20ml syringe

- Hemostat

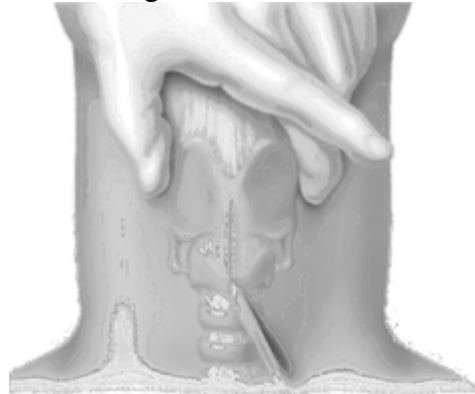
Surgical Cricothyrotomy Procedure:

- I. Preferably place the patient in the supine position with the head in the sniffing position (except in



suspected C-spine injury)

- II. Prep the site with disinfectant.
- III. Palpate the cricothyroid membrane with the index finger and stabilize the cricoid cartilage between the thumb and middle finger. Maintain hold until hole in cricothyroid membrane is secure.
- IV. If the patient is capable of sensing pain, consider injecting 3-5 cc of Lidocaine 1 or 2% (with or without epi) subcutaneously at the anticipated incision site. Also, consider aggressive intravenous pain and sedation medications.
- V. Make a midline (or Vertical) skin incision approximately 2.5 cm in length to expose the cricothyroid membrane.
- VI. Carefully incise horizontally through the cricothyroid membrane. Do not cut cartilage.
- VII. Control Cric Kit
 1. Advance Tracheal Hook from Cric-Knife (ensure the hook is located on the cranial side of the scalpel blade)
 2. Remove the Cric-Knife scalpel and maintain control of the trachea with the tracheal hook
 3. Insert Cric-key using gentle pressure until the cric-tube airway is seated, monitor for tactile feedback of tracheal rings during insertion
- VIII. Instrument Kit
 1. Optional: Insert tracheal hook to stabilize trachea and incision during elastic gum-bougie insertion. Alternatively, dilate the incision with a hemostat.
 2. Insert elastic gum-bougie introducer into the incised cricothyroid membrane. Leave the introducer in place so as not to lose track until the ET tube is in place.
 3. Advance Gum-bougie introducer until resistance is felt at the carina, approximately 15cm



in adults

4. Load ET Tube over the gum-bougie introducer and advance the cuffed ET tube or trach tube into the cricothyroid space, directing the tube distally into the trachea.
- IX. Inflate the cuff, remove gum-bougie (or control cric) introducer and ventilate the patient with

- BVM or Ventilator.
- X. Confirm appropriate tube placement and secure ET tube.
 - XI. Provide adequate O₂ via mechanical ventilation or BVM.
 - XII. Closely monitor pulse oximetry and ETCO₂.
 - XIII. Immediately transport to the nearest facility with available airway stabilization assistance.
 - XIV. Continue sedation and paralysis as appropriate.

Footnote:

Reference:

<http://ncecc.net/wp-content/uploads/2012/03/igel-protocol-2017-03.pdf>

https://www.dhhs.saccounty.net/PRI/EMS/Documents/MAC%20OAC/November%2010.%202016/EMS_GEN_Rusch_QuickTrach_Compentency_AI_MC-000581%20NA.pdf