



# Cricothyrotomy - Surgical

## I. Indications:

- Surgical Cricothyrotomy is used to secure an airway in a patient 8 years old or greater in need of airway management in whom an airway cannot be established by traditional methods.

## II. Equipment:

- BVM
- Alcohol or betadine prep
- Pulse oximeter
- End tidal CO2 detector
- Cardiac Monitor
- Control Cric Kit
  - Cric-Knife with integrated tracheal hook
  - Cric-Key: 5.5mm soft cric-tube with cuff and integrated stylet
  - Syringe
  - Neck strap
  - Extension tube
- Suction device
- Gauze pads

## **EMERGENCY MEDICAL RESPONDER (EMR)/EMERGENCY MEDICAL TECHNICIAN (EMT)/ADVANCED EMT (AEMT)/ INTERMEDIATE**

- Procedure not applicable at these certification levels

## **PARAMEDIC/CRITICAL CARE PARAMEDIC/REGISTERED NURSE**

## III. Procedure

- A. Verify all equipment is available and ready for use.
- B. Assure proper landmarks by direct palpation of the cricothyroid membrane. With patient's head in neutral position, membrane is approximately three finger widths above the sternal notch. The prominent landmark you will palpate is the cricoid cartilage. The cricothyroid membrane is just superior to this landmark. The proper location is between the cricoid and thyroid cartilage in the cricothyroid membrane.
- C. Place the neck in an extended position unless c-spine protection is indicated. The procedure should then be performed with in line stabilization present. The procedure can be performed in a sitting patient.
- D. Stabilize the larynx with the thumb and middle finger of your non-dominant hand.
- E. Swab the area with alcohol/betadine prep in a circular motion from the center rotating outward.



- F. Palpate and locate the cricothyroid membrane and make horizontal incision with with Cric-Knife with Tracheal Hook facing the head using a stabbing motion
    - 1. For patient with excess subcutaneous soft tissue, a vertical incision may be needed to better isolate the thyroid and cricoid cartilage.
  - G. Insert the Tracheal Hook by sliding the hook down from the Cric-Knife. Remove the scalpel portion of the Cric-Knife.
  - H. Insert Cric-Key utilizing the integrated stylet. Cricoid rings should be felt through stylet.
    - 1. Firm pressure will be needed to facilitate cric-tube placement through incision.
  - I. Advance the Cric-Key until the securing flange is flush with the skin
  - J. Inflate endotracheal tube cuff with 7-10 mL air.
  - K. Attach Extension Tube then attach to BVM
  - L. Secure the Cric-tube with the included neck strap or equivalent
- IV. Confirmation of ETT Placement.
- A. Absence of sounds on auscultation of the stomach.
  - B. Presence of bilateral breath sounds.
  - C. Confirm placement with an end tidal CO<sub>2</sub> (ETCO<sub>2</sub>) detector or continuous waveform capnography.
    - 1. ETCO<sub>2</sub> detector may be falsely negative with a patient in cardiac arrest or low perfusion state.
    - 2. Maintain ETCO<sub>2</sub> detector until after delivering the sixth breath.
  - D. Continuous ETCO<sub>2</sub> will be monitored on all ventilated patients.
    - 1. A strip with the patient's EKG, SPO<sub>2</sub> and ETCO<sub>2</sub> waveform will be documented upon transferring patient care at the receiving facility.
- Consider analgesia administration (*Refer to **Analgesia/Sedation** protocol*).

Contraindications include:

- Patient age of less than 8 years old due to size of cricothyroid membrane
- Suspected inability to successfully complete procedure
  - Predictor of difficult surgical airway include (SHORT):
    - Surgery
    - Hematoma
    - Obesity
    - Tumor

**APPROVED BY:**

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