

SURGICAL CRICOTHYROTOMY PROCEDURE

1. Level: Flight Paramedic, Flight RN
2. Purpose: To obtain an advanced airway in a crash airway situation where all other means of oxygenation and ventilation have been exhausted.
3. Indication: A crash airway situation exists and the need for an advanced airway is needed and less invasive means of oxygenation and ventilation have failed or are considered futile.
 - 3.1. Failure of 2 attempts at oral intubation in patient in need of emergent airway intervention.
 - 3.2. Unable to secure airway with alternate airway device (Supraglottic Airway, nasal intubation).
 - 3.3. The above 2 indications must be met with one additional criteria as follows:
 - 3.3.1. Inability to ventilate.
 - 3.3.2. Inability to oxygenate.
 - 3.3.3. Inability to clear obstructed airway in a timely manner.
 - 3.3.4. Massive facial or oral swelling or trauma preventing BVM, intubation, or alternate airway placement as indicated by situation.
4. Contraindications:
 - 4.1. Age < 12 years old.
 - 4.2. Relative Contraindications:
 - 4.2.1. Able to ventilate successfully with BVM or other alternative method.
 - 4.2.2. Inability to identify landmarks/anatomical structures.
 - 4.2.2.1. Obesity leading to the inability to identify landmarks/anatomical structures.
 - 4.2.2.2. Trauma or burns to the area causing an inability to identify landmarks/anatomical structures.
 - 4.2.3. Transection or obstruction of the trachea distal to the cricothyroid membrane.
 - 4.2.4. Hematoma to the incision area.
 - 4.2.5. Previous history of surgery or radiation therapy to the incision area.
5. Procedure – Surgical Cricothyrotomy:
 - 5.1. Assure all supplies and assistance are readily available and prepared for procedure.
 - 5.1.1. Assistant, scalpel, bougie, ET tube size 6.0-6.5 as backup tube (may be cut down to level just above pilot balloon inflation tubing and then reattach BVM connector), 10 cc syringe, suction, oxygen, BVM, method to secure tube.
 - 5.2. Prepare suction and cricothyrotomy equipment.
 - 5.3. Place the patient into neutral to sniffing position unless there is concern for trauma to c-spine.
 - 5.4. Preoxygenate the patient appropriately as you would before any advanced airway procedure.
 - 5.5. Clean area with alcohol prep.
 - 5.6. Identify the thyroid cartilage and stabilize it with your fingers until intubated.
 - 5.6.1. It is acceptable to mark the cricothyroid membrane with a marker prior to procedure.
 - 5.7. Using a finger, identify the cricothyroid membrane just below the thyroid cartilage and above the cricoid cartilage.
 - 5.8. Perform Surgical Cricothyrotomy
 - 5.8.1. Dissect the skin and tissue with a 1-2 cm vertical incision to expose the cricothyroid membrane.

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- 5.8.2. Make a horizontal incision through the cricothyroid membrane into the trachea, being careful not to puncture through the trachea and into the esophagus.
- 5.8.3. Spread incision with finger or hemostats if available and needed.
- 5.8.4. Pass a bougie through the incision, feeling for tracheal rings. Pass a 6.0-6.5 ET tube over bougie and into the trachea until the cuff of the tube is just past the incision.
- 5.8.5. Inflate the ET tube cuff and remove the bougie.
- 5.8.6. Secure tube in place and begin to ventilate with BVM and 100% O₂.
- 5.9. Confirm tube placement and proceed to post intubation management protocol.
 - 5.9.1. Waveform capnography must be performed to confirm tube placement as well as auscultation of all lung fields to confirm adequate air exchange, and bilateral symmetrical expansion of the thorax.