Surgical Airways
Surgical Airways

- A surgical airway is a standing-order, paramedic level skill designed for the viable patient whose airway cannot be successfully managed by any other means.

- The Rusch QuickTrach, surgical cricothyrotomy, and needle jet insufflation are included in this presentation.
Rusch QuickTrach

- A fast, safe alternative to cricothyrotomy when an emergency airway is needed.
- The size is equivalent to a 4.0 ET tube.
Rusch QuickTrach

Indications
1. Massive facial trauma
2. Foreign body aspiration
3. Laryngoedema
4. Laryngospasms
5. Airway burns
6. Laryngeal fracture
7. Epiglottitis

Contraindicated in any situation where a BLS airway will provide adequate oxygenation or ventilation.

Complications include severe bleeding, vocal cord injury, and failure to place the catheter into the trachea.
Fracture of the Larynx
Rusch QuickTrach Procedure:

1. Place the patient in a supine position. With trauma, maintain the head in a neutral position, otherwise the neck can be hyper-extended to provide better access.
2. Secure the larynx between the thumb and forefinger and identify the cricothyroid membrane puncture site.
3. Cleanse the area with betadine.
4. Firmly hold and introduce the device at a 90° angle to the trachea.
5. Correct placement in the trachea should be determined by aspiration of air into the syringe.
6. Adjust to 60° caudally and advance the device to the level of the stopper.
7. Remove the stopper and advance the plastic catheter off the needle until the flange is resting on the patient’s neck. Remove the needle and syringe and confirm placement.
8. Secure the device with the provided neck strap.
Surgical Cricothyrotomy Procedure

1. Place the patient in a supine position. With trauma, maintain the head in a neutral position, otherwise hyperextend the neck.
2. Secure the larynx between the thumb and forefinger and identify the cricothyroid membrane puncture site.
3. Cleanse the area with betadine.
4. With a scalpel, make a shallow vertical incision of the skin. Use the fingers to apply mild to moderate spreading pressure for visualization of the cricothyroid membrane. Have 4 x 4s ready for control of bleeding.
5. With the cricothyroid membrane located, make a 1.0 cm horizontal puncture of the membrane.
6. Enlarge the incision with the handle of the scalpel or other appropriate surgical instrument.
7. Insert the appropriate size tracheostomy or endotracheal tube.
8. Confirm successful airway placement by observing chest rise with ventilation, auscultation of breath sounds, etCO2 and SpO2, and clinical improvement.
9. Secure the tube.
Review the Anatomy

Hyoid bone

Thyroid cartilage

Cricoid cartilage

Epiglottis

Cricothyroid membrane

Thyroid gland

Trachea
Locate cricothyroid membrane
Stabilize larynx and make a 1–2 cm skin incision over cricothyroid membrane.
Make a 1 cm horizontal incision through the cricothyroid membrane.
Using the handle of the scalpel or a curved hemostat, spread membrane incision open.
Insert an ET tube (6.0) or Shiley tracheostomy tube (6.0)
Inflate the cuff
Confirm placement
Tracheostomy Cannulae
Also called: Needle Cricothyrotomy
Percutaneous Transtracheal Ventilation

- When the airway cannot be managed by manual measures, and in patients who cannot be intubated by oral or nasal means, such as:
  - Edema of the glottis
  - Fracture of the larynx
  - Severe oropharyngeal hemorrhage
Questions?