SUBJECT: Emergency Airway Guideline **PAGE:** 1 of 3
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PROCEDURE:

Awake Intubation for Difficult Airways

- **Medications to consider:**
  - Zofran 4mg IV
  - Glycopyrrolate 0.2mg IV OR Atropine 0.01mg/kg IV
  - Viscous Lidocaine 2% gargled
  - Nebulized Lidocaine 5L/min (4mL of 4% OR 8mL of 2%) OR Atomized lidocaine 2%
  - Ketamine 20mg aliquots IV
  - Succinylcholine 150mg IV
- **Equipment to consider:**
  - Fiberoptic Bronchoscope, C-MAC, Glidescope, McGrath
  - Direct Laryngoscope blade ready for backup
  - Endotracheal Tube (ETT) 8-0, have 7-0 & 6-0 ready as well. If nasal fiberoptic intubation, then use preformed nasal ETT
  - ETT Stylet- If using Fiberoptic scope not needed, if using Glidescope use rigid Glidescope Stylet, otherwise disposable green stylet used
  - Yankauer hooked up to suction cannister
  - Boujie
  - 3-0 Silk stay suture for enlarged tongue
  - Patient Restraints
  - Nasal Cannula (NC) & Non-Rebreather (NRB) for preoxygenation

Procedure: Awake Intubation

- **Fiberoptic Nasal Approach (should use if able, avoid in significant facial trauma). If 10-15min available to prep start at #1. if minimal prep time attempt as many of #1-5 as possible but can skip to #6.**
  1. Ensure patient has 2x PIV's. Have respiratory therapist (RT) and 2x nurses present (1 to push meds, 1 to provide gentle patient restraint)
  2. Administer Zofran 4mg IV to blunt gag reflex (ideally 15 min prior)
  3. Administer Glycopyrrolate 0.2mg IV (preferred) OR Atropine 0.01mg/kg IV (ideally 15 min prior to dry secretions)
  4. Ask RT to administer Nebulized Lidocaine OR Lidocaine in syringe with atomizer administered 5-10x during inspiration for both oral & nasal passages (anesthetizes posterior oropharynx). May also ask patient to gargle viscous lidocaine if able.
  5. Apply NC at 6L AND NRB at flush rate to preoxygenate 10 min prior to procedure.
  6. Preload Nasal ETT onto Fiberoptic Scope (consider lubricating ETT with jelly) with 10cc syringe attached to inflate cuff, patient should be positioned sitting upright ~100-120° with clinician attempting airway standing facing patient. Video monitor should be positioned across from clinician so that both patient and video monitor are easily viewable.
  7. Instruct one nurse to have 100mg Ketamine & 150mg Succinylcholine in hand and ready. Ask second nurse to pull patient's hands down if patient reaches for airway (may place restraints on 1 or both hands to assist if patient agreeable). Make sure Yankauer suction readily available.
  8. Push 20mg Ketamine IV to lightly sedate (may repeat dose PRN), advance pre-loaded fiberoptic bronchoscope into nostril with non-dominant hand and hold control with dominant hand. If unable to advance, try other nostril.

9. Visualize cords, note they will be moving as patient not paralyzed (may push additional ketamine 20mg dose if cough/gag), with cords visualized ask nurse to administer 150mg Succinylcholine to paralyze vocal cords, advance fiberoptic bronchoscope past cords then thread ETT over and inflate cuff. Tightly hold ETT until secured with tape or ETT holder.

- **Oral Approach**
  1. Perform Fiberoptic Nasal Approach steps #1-5 if time allows.
  2. If enlarged tongue, consider placing 3-0 silk stay suture in tongue and asking someone to retract tongue during procedure.
  3. Position patient sitting up during preoxygenation, lay flat just before airway attempt.
  4. Have video laryngoscope (C-MAC, Glidescope, McGrath) ready and ETT loaded with appropriate stylet, with 10cc syringe attached to inflate cuff. Consider lubricating ETT with jelly. Airway clinician should be at head of bed with video monitor of laryngoscope in clear view so both patient and video monitor are viewable.
  5. Make sure Yankaeur suction readily available.
  6. Instruct one nurse to have 100mg Ketamine, 150mg Succinylcholine in hand ready. Ask second nurse to pull patient's hands down if reaches for airway (may place restraints on 1 or both hands to assist if patient agreeable).
  7. Push 20mg Ketamine IV, lay patient flat, attempt laryngoscope blade placement with non-dominant hand while scissoring mouth open with dominant hand (may repeat Ketamine dose PRN). With cords visualized, ask nurse to administer 150mg Succinylcholine to paralyze vocal cords, then advance ETT beyond cords and inflate cuff. Tightly hold ETT until secured with tape or ETT holder.

Surgical Airway - Emergency cricothyroidotomy

- **Patient selection:**
  1. Inability to secure endotracheal tube or oral airway
  2. Inability to maintain adequate SPO2.

- **Anticipate needing a surgical airway before it is needed so you can be prepared.**

- **Equipment:**
  - Betadine prep
  - Scalpel (10 or 15 blade)
  - Bougie
  - 6-0 cuffed endotracheal tube
  - lubrication
  - Needle driver
  - 0 permanent suture

- **Surgical Airway Procedure:**
  1. Ensure the patient is a GCS 3 or has received sedation, analgesia, & neuromuscular blockade
  2. Position a surgeon on both sides of the neck with the arms at the patient's side
  3. Splash with betadine
  4. Vertical incision over the cricothyroid membrane
  5. Sharp or blunt dissection to the cricothyroid membrane
  6. Transverse incision through the cricothyroid membrane
  7. Rotate the scalpel 90 degrees to the cutting edge is facing the patient's head
  8. Slide coude tip of bougie along the blade into the trachea
  9. Ensure the bougie is going into the trachea

10. Introduce the lubricated 6-0 endotracheal tube over the bougie
11. Remove the bougie
12. Connect ETT to bag valve connector or ventilator
13. Listen for breath sounds (the ETT is likely too deep)
14. Get an immediate CXR or performed an immediate bronchoscopy to confirm the ETT is in the right mainstem bronchus.
15. Secure tube from top and bottom.
16. Gain hemostasis

REFERENCES:

1. Life in the Fast Lane
   - https://litfl.com/awake-intubation/
   - https://litfl.com/nasal-intubation/
2. EMdocs
   - http://www.emdocs.net/awake-endotracheal-intubation/
3. EM Ottawa Blog
   - https://emottawablog.com/2019/10/wake-up-awake-intubation-in-the-ed//