NASOTRACHEAL INTUBATION
EMMCO WEST ALS GUIDELINE

Criteria:

A. Breathing patient, either awake or comatose, that has inadequate ventilation or oxygenation despite maximal treatment with non-intubation alternatives. Examples include:
   1. Patient’s predicted to be difficult to intubate by orotracheal route (e.g. extremely obese, short neck, inability to widely open jaw, severe tongue edema, etc.)
   2. Patient’s who are poor candidate for drug-facilitated intubation with etomidate or care by ALS service’s that do not perform this optional skill.
   3. Patient’s entrapped in a sitting or other position that precludes direct laryngoscopy.

B. Asthma, pulmonary edema, and respiratory distress situations where patient is anxious and sitting upright and resists laying back.

Exclusion Criteria:

A. Apneic patients.
B. Patients with significant nasal or craniofacial trauma.
C. In general, this technique is not used in children.

Procedure:

A. All Patients:
   1. Assemble equipment while providing high-flow oxygen by NRB mask, CPAP device or by assisting patient’s ventilations with BVM.
      a. Choose correct ET tube size (slightly smaller than diameter of nasal passage, about 7 mm in adult).
      b. Connect and check suction.
   2. Position patient with head in midline, neutral position (cervical collar may be in place, or assistant may hold in-line stabilization in trauma patients).
   3. Lubricate ET tube with Xylocaine jelly or other water-soluble lubricant.
   4. With gentle, steady pressure, advance the tube through the nose to the posterior pharynx. Use the patient’s larger nostril. ¹
      a. If using the left nostril, pass the first few cm of ETT upside down to avoid driving bevel into nasal septum, then rotate the tube after partial insertion. This may avoid a nosebleed from the fragile septum.
   5. Keeping the curve of the tube exactly in midline, continue advancing slowly.
   6. There will be a slight resistance just before entering the trachea. Wait for an inspiratory effort before final advance into trachea. Patient may also cough or buck just before breath.
   7. Continue advancing until air is exchanging through the tube.
   8. Advance about 3-5cm further, then inflate cuff.
   9. Confirm placement by assuring that patient’s natural respirations are exiting through, and not around tube.
   10. Confirm placement and adequate ventilation using the Confirmation of Airway Placement Protocol- See protocol # 2032.
   11. Secure tube using woven twill tape or commercial device.
   12. Reconfirm tube placement per protocol # 2032, but especially after any patient movement. ²

Notes:

1. An intubation attempt is defined by the insertion of the tip of the tube into the nostril. The number of attempts must be documented.
2. Adjuncts to improve success rate include:
   a. using a “trigger tube” or Endotrol ETT that has a trigger to pull the distal tube anteriorly when near the glottis.
   b. attaching a BAAM device to the end of the ETT to provide a whistle sound during exhalation when the tube tip is at the glottis.
3. If a patient’s condition deteriorates, consider possible complications, such as:
   a. Esophageal intubation: particularly common when tube not visualized as it passes through cords. The greatest danger is in not recognizing the error. Auscultation over stomach during
trial ventilations should reveal air gurgling through gastric contents with esophageal placement.
b. Intubation of the right mainstem bronchus: be sure to listen to chest bilaterally.
c. Nosebleed can lead to brisk hemorrhaging.
d. Vomiting and aspiration during traumatic intubation or intubation of patient with intact gag reflex.
e. Hypoxia due to prolonged intubation attempt.
f. Induction of pneumothorax, either from overzealous ventilation or aggravation of underlying pneumothorax.