

**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 slowing.
- 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.
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