

EL DORADO COUNTY EMS AGENCY

FIELD PROCEDURES

Effective: July 1, 2009

Reviewed: April 2011

Revised: July 1, 2016

Scope: ALS – Adult and Pediatric



EMS Agency Medical Director

ENDOTRACHEAL INTUBATION

PURPOSE:

To provide an advanced airway in an adult or pediatric patient via the orotracheal route.

INDICATIONS:

- Emergency control of compromised airway in breathing/non-breathing patients
- Control ventilation and provide airway protection
- Respiratory depression secondary to ETOH, OD, CVA
- Respiratory distress secondary to smoke inhalation, asthma, emphysema
- Patients with head injuries and GCS of 8 or less
- Other clinical settings deemed appropriate by base station

COMPLICATIONS:

- Emesis can be induced in patients further compromising the airway
- Damage to dental structures
- Esophageal intubation
- Laryngeal trauma
- Hypoxia during prolonged intubation attempts
- Cervical cord damage in patients with unsuspected cervical-spine injury
- Cervical spine fracture in patients with arthritis/poor cervical mobility
- Ventricular arrhythmias in hypothermic patients
- Induction of pneumothorax (forceful bagging, traumatic insertion, etc.)

CONTRAINDICATIONS:

- Suspected epiglottitis
- Suspected oropharyngeal abscess
- Anatomic disruption of the oropharynx

PRECAUTIONS:

- Maintain in-line stabilization in all patients with suspected cervical spine injury
- Recheck tube placement whenever patient is moved. Consider using a cervical-collar to help ensure consistent tube position
- Always have suction ready
- Intubation attempts should never exceed 30 seconds. If visualization of vocal cords is difficult, stop and re-ventilate the patient before trying again

PROCEDURE FOR ADULTS:

1. Patients should be pre-oxygenated with 100% O₂. BLS airway and ventilation procedures should be instituted. Monitor oxygen saturation before, during, and after intubation attempt(s).
2. In head injured patients* requiring intubation, administer lidocaine 1.5 mg/kg IV/IO. (Max. 100 mg).
3. Assemble equipment while continuing BLS airway/ventilation procedures:
 - a. Choose tube size and check cuff for patency.
 - b. Lubricate cuff with sterile water-based lubricant.

- c. Have ET introducer (Bougie) readily available.
 - d. Assemble laryngoscope and check bulb.
 - e. Connect and check suction.
4. Insert laryngoscope blade to the right of centerline, then move blade to the midline displacing tongue to the left.
 5. Lift straight up on blade, no levering.
 6. Identify epiglottis and vocal cords. If vocal cords are not visible, paramedic may attempt to insert ET Introducer (Bougie) and identify tracheal rings by feel**.
 7. Insert tube from right side of mouth and pass through vocal cords under direct visualization.
 8. Advance ET tube so cuff is appropriate distance past cords and then remove stylet.
 9. Inflate cuff with enough air to prevent air leakage.
 10. Verification of proper tube placement as per VERIFICATION OF ADVANCED AIRWAY PLACEMENT policy.
 11. Note position of tube and secure in place.

***Lidocaine should be administered in head injury patients only. If feasible, administer lidocaine 2 minutes prior to intubation attempt.**

****Endotracheal Introducer (Bougie) Guidelines:**

- a. ***Confirmation that the Bougie is in the trachea may be obtained by feeling tracheal rings and by a firm stop to the passage of the Bougie within 40 cm. If no rings are felt and the Bougie can be advanced without a firm stop then it is likely in the esophagus.***
- b. **Utilize second person to advance ET tube over the Bougie and through the vocal cords so cuff is appropriate distance past cords, and then remove the Bougie.**

PROCEDURE FOR PEDIATRICS:

1. Patients should be pre-oxygenated with 100% O₂. BLS airway and ventilation procedures should be instituted.
2. In head injured patients* requiring intubation, administer **lidocaine** 1 mg/kg IV/IO. (Max. 50 mg.)
3. Assemble equipment while continuing BLS airway/ventilation procedures:
 - f. Choose tube size and check cuff for patency. (Pediatric tube size: (16 + age in years) / 4).
 - g. Lubricate cuff with sterile water-based lubricant
 - h. Insert stylette to within ½" of end of ET tube.
 - i. Assemble laryngoscope and check bulb. Straight blades are preferred for patients <4 years of age.
 - j. Connect and check suction.
4. Insert laryngoscope blade to the right of centerline, then move blade to the midline displacing tongue to the left.
5. Lift straight up on blade, no levering.
6. Identify epiglottis and vocal cords.
7. Insert tube from right side of mouth and pass through vocal cords under direct visualization.
8. Advance tube so cuff is appropriate distance past cords and remove stylet, then inflate

cuff with enough air to prevent air leakage.

9. Verification of proper tube placement as per VERIFICATION OF ADVANCED AIRWAY PLACEMENT policy.
10. Note position of tube and secure in place.

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