

**PEORIA AREA EMS SYSTEM  
PREHOSPITAL CARE MANUAL**

**Advanced Airway Control  
Policy (ILS & ALS Only)**

Endotracheal intubation is the best method of securing the airway and ventilating a patient in situations that warrant aggressive airway and respiratory management. If endotracheal intubation is unsuccessful, basic airway control measures should be re-established without delay.

**Advanced Airway Control Procedure**

1. Endotracheal intubation may be attempted after assessing, opening and securing the airway in accordance with basic airway control procedures.
2. Select the proper tube size (based on patient size):
  - a) Adult females: 6.0 – 7.5 ETT
  - b) Adult males: 7.0 – 9.0 ETT
3. Attach a 10mL syringe and inflate the cuff to be sure it does not leak (the cuff must be deflated prior to insertion).
4. Insert stylet and bend to the approximate configuration of the pharynx.
5. Lubricate the ETT with a water-soluble lubricant.
6. Have suction, BVM, stethoscope, end-tidal CO<sub>2</sub> detector and commercial ETT holder readily available.
7. Pick up the laryngoscope handle with your left hand and the appropriate blade with your right hand.
8. Holding the blade parallel to the handle, attach the blade to the handle by inserting the U-shaped indentation of the blade into the small bar at the end of the handle. When the indentation is aligned with the bar, press the blade forward and snap into place.
9. Lower the blade until it is at a right angle to the handle. The light should come on. If it does not, see if the bulb is tight and/or the batteries need to be replaced (This should be done on a daily basis so you do not have to spend valuable time fixing it at the scene of a call).

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**Advanced Airway Control Procedure (continued)**

10. Suction the pharynx as needed.
11. Hyperventilate the patient with high concentration oxygen prior to each intubation attempt.
12. Insert the blade into the mouth on the right side, moving the tongue to the left. Follow the natural contour of the pharynx, lifting the tongue (not prying) until you can see the glottic opening.
  - a) If you are using a **straight blade** (Miller), insert it until you can see the epiglottis. With the tip of the blade, lift up on the epiglottis so that you can visualize the vocal cords and glottic opening. If needed, have someone gently press down on the cricoid cartilage (Sellick Maneuver) so that you can see the cords well.
  - b) If you are using a **curved blade** (Macintosh), insert the tip into the vallecula and lift up. This will lift the epiglottis and expose the vocal cords and glottic opening. If needed, have someone gently press down on the cricoid cartilage (Sellick Maneuver) so that you can see the cords well.
13. After visualizing the glottic opening, grasp the ETT with your right hand and advance the tube from the right corner of the mouth. Insert the tube into the glottic opening between the vocal cords, just far enough to pass the cuff of the tube past the opening.
14. Verify proper position by ventilating the patient through the tube with a bag-valve device while listening to each side of the chest with a stethoscope to be sure air is entering both lungs. Also, check for inadvertent esophageal intubation by listening for air movement in the epigastric area during ventilations.
15. Utilize an end-tidal CO<sub>2</sub> (ETCO<sub>2</sub>) detector.
16. If breath sounds are heard on both sides of the chest, no epigastric sounds are heard or there is a positive color change with the ETCO<sub>2</sub> detector, inflate the cuff with 10mL of air and secure the tube with a commercial ETT holder.

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**Advanced Airway Control Procedure (continued)**

- a) If you have inserted the ETT too far, it will usually go into the right main stem bronchus. Therefore, if you hear breath sounds only on the right, you should pull the tube back  $\frac{1}{2}$  inch at a time until you hear bilateral breath sounds. Inflate the cuff with 10mL of air and secure the ETT with a commercial holder.
- b) If you hear no breath sounds, you are in the esophagus and must remove the ETT immediately. Subsequent intubation attempts can be made after the patient has been hyperventilated with a BVM.

17. Frequently reassess breath sounds to be sure that the ETT is still in place.

18. Ventilate the patient at a rate of 12 times per minute.

19. If intubation is unsuccessful, refer to the *Esophageal Tracheal Combitube* protocol.

**Intubation of the Trauma Patient  
(Patient with Suspected C-Spine Injury)**

Any type of airway manipulation may be dangerous during airway control of the suspected spinal injury patient. The following procedure should be used to maintain in-line stabilization during intubation attempts of the suspected spinal injury patient.

1. A minimum of two (2) trained rescuers is needed to assure special attention to spinal precautions.
2. One rescuer will apply manual in-line stabilization by placing the rescuers hands about the patient's ears with the little fingers under the occipital skull and the thumbs on the face over the maxillary sinuses. Maintain stabilization of the neck in a neutral position. This should be done from below.
3. The rescuer performing the intubation should take a position at the patient's head that allows the rescuer to accomplish the intubation. The prone position is a posture commonly used. A position that results in the rescuer straddling the patient's head should not be used due to possible stabilization compromise.

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4. If a third rescuer is available, additional stabilization should be provided by grasping and stabilizing the parietal regions of the skull.
5. Once the rescuers are in position and the patient's cervical spine is stabilized, the technique for inserting the ETT should be followed without cervical manipulation.

**Prohibited Advanced Airway  
Procedures in the PAEMS System**

Attempting difficult and unfamiliar procedures poses a danger to the patients those procedures are being performed on. Certain procedures that are used in the hospital setting are **not approved** for prehospital personnel in the Peoria Area EMS System. These include:

- Extubation
- Nasotracheal Intubation
- Percutaneous Transtracheal Ventilation
- Cricothyrotomy/Surgical Airway

**Critical Thinking Elements**

- The greatest danger to the patient is wasting too much time attempting to intubate. Time is precious – if you cannot intubate in 2 attempts, use another method of airway control and do not delay transport.
- Intubation can cause arrhythmias produced by catecholamine release and from vagal stimulation, so monitor cardiac rhythm closely.
- Verification of proper ETT placement is of vital importance. Utilize multiple methods of verifying placement including direct visualization of the ETT passing through the cords, auscultation of bilateral breath sounds, absence of epigastric sounds during ventilation, and positive color change with an ETCO<sub>2</sub>.
- A curved blade is recommended for adolescents and adults. Use an appropriately sized straight blade to intubate pediatric patients (**ALS only**).