

## PARAMEDIC STANDING ORDERS – ADULT & PEDIATRIC

### INDICATIONS

- Apnea/respiratory failure, impending respiratory failure, impaired or absent gag reflex.
- Inadequate ventilation/oxygenation with basic airway procedures.
  - The appropriate method of airway management should be determined based on patient condition. If basic procedures are deemed inappropriate or have proven to be inadequate then more advanced methods should be used.

### CONTRAINDICATION

- Epiglottitis.
- Facial or neck injuries that prohibit visualization of airway anatomy (relative).

### PROCEDURE

#### Direct Laryngoscopy or Direct Video Laryngoscopy:

1. Place patient in ear to sternal notch position and elevate head to 30° if possible. Ensure all preparation and planning steps are complete.
2. Insertion: Open the mouth fully and insert the tip of the blade into the mouth to the right and sweeping the tongue to midline. The laryngoscope should be gripped lightly as no significant force is needed until later steps. It is helpful, especially if there are substantial secretions, to lead with the suction catheter and suction as the laryngoscope is advanced.
3. Epiglottoscopy: SLOWLY advance the blade down the tongue at the midline until the epiglottis is seen. Be sure to control the tongue leaving space to the right for tube delivery. Keep the tip of the blade along the tongue and avoid allowing the laryngoscope to fall posterior.
4. Valleculoscopy: Gradually advance the blade until it is seated in the vallecula. The blade must engage the hypoepiglottic ligament in order to adequately lift the epiglottis. The ligament lies directly within the vallecula. If using a Miller blade pass tip of blade under the epiglottis to control it directly.
5. Laryngoscopy: Once the tip of Mac blade is seated in the vallecula or tip of Miller blade has passed the epiglottis lifting force should be applied forward and upward without rotating the handle backward. The epiglottis will lift or be displaced and the larynx will be exposed
6. If using bougie: Once an optimal view is obtained pass the bougie through the cords. Tracheal rings may be felt if the coude tip remains pointing upright. Advance the bougie slowly until it lodges in the proximal bronchi. Be careful not to advance with too much force as tracheobronchial trauma may occur. If the bougie does not stop advancing this is suggestive of esophageal placement. Advance the lubricated endotracheal tube over the bougie without removing the laryngoscope. If the tube cannot be advanced through the cords rotate it 60° counterclockwise. Visualize the tube passing through the cords if possible and stop advancing once the cuff is past the cords. Remove the laryngoscope, hold tube firmly, and remove the bougie.
7. If using stylette: Ensure stylette is bent in “straight-to-cuff” fashion with 30° bend angle and tube cuff is lubricated. Once an optimal view is obtained pass the tube to the right and below the line-of-sight to the cords. The tube must be visualized passing through the cords. Advance tube until the cuff is seen passing through the cords. If resistance is felt rotate the tube clockwise. Once the tube is in place hold it firmly and remove the stylette.
8. Inflate ETT cuff with 5 - 10 mL of air and adjust inflation pressure if necessary. The pilot balloon should feel inflated but be easily compressible and not too hard.
9. Confirm tube placement via continued waveform capnography, presence of bilateral lung sounds, and absence of epigastric sounds.

Protocol Continues

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# 5.7

# Orotracheal Intubation

Protocol Continues

## PARAMEDIC STANDING ORDERS – ADULT & PEDIATRIC

10. Secure ETT and continue to monitor waveform capnography. Frequently reassess tube placement.

### Indirect Video Laryngoscopy

(Devices such as Glidescope and King Vision that cannot be used for direct laryngoscopy)

1. Place patient in ear to sternal notch position and elevate head to 30° if possible. Ensure all preparation and planning steps are complete.
2. Insertion: Open mouth fully and insert blade at the midline. It is helpful, especially if there are substantial secretions, to lead with the suction catheter and suction as the laryngoscope is advanced.
3. Epiglottoscopy: Gradually advance the blade by rotating handle backward and allowing the tip of the blade to follow the tongue until the epiglottis is seen.
4. Valleculoscopy: Advance the tip of the blade until it is seated in the vallecula. DO NOT go to too deep. The tip of the blade may need to be slightly above the vallecula in order to facilitate tube passage. If you can see the cricoid ring through the cords you are too deep.
5. Laryngoscopy: Lift the jaw straight up with the blade exposing the larynx fully.
6. Tube passage for non-channeled devices: A lubricated ET tube loaded on a rigid or standard stylette should be used. The stylette should have a gradual curve at the end to almost a 90° angle. Pass the tube into the mouth from the right side. The tip should enter view from the bottom of the screen and toward the larynx. When the tube has just begun entering the cords the stylette should be popped up out of the tube slightly using your right thumb or with the help of an assistant. This will allow the tip of the tube to fall between the cords at the correct angle. Pass the tube until the cuff is past the cords.  
**Note**: It is not recommended to use a bougie with a non-channeled IVL laryngoscope as they are not easily maneuvered around the steep angle that is present.
7. Tube passage for channeled devices: Line up view on camera with the cords. Advance lubricated ETT down channel and visualize it passing through the cords. It may be helpful to preload a bougie in the tube and advance it through the cords first.
8. Inflate ETT cuff with 5 - 10 mL of air and adjust inflation pressure if necessary. The pilot balloon should feel inflated but easily compressible and not too hard.
9. Confirm tube placement via continued waveform capnography, presence of bilateral lung sounds, and absence of epigastric sounds.
10. Secure ET tube and continue to monitor waveform capnography. Frequently reassess tube placement.

**If intubation attempt is unsuccessful, ETT placement cannot be verified or ETT becomes dislodged:**

Monitor oxygen saturation and end-tidal CO<sub>2</sub> **AND**

Ventilate the patient with 100% oxygen via a BVM until ready to attempt intubation again. Consider insertion of supraglottic airway if additional intubation attempts are unlikely to be successful.

Techniques to improve laryngeal view:

- **Head Elevation**: Elevate the head by lifting with the laryngoscope or having an assistant lift the head from underneath.
- **External Laryngeal Manipulation (ELM)**: The person intubating uses their right hand to manipulate the larynx to a position that is suitable. An assistant then holds the larynx in that position. Note: BURP and cricoid pressure are no longer recommended.
- **Jaw Thrust**: An assistant performs a jaw thrust to assist with tissue displacement.

Protocol Continues



## PARAMEDIC STANDING ORDERS – ADULT & PEDIATRIC

If continued intubation attempts are unsuccessful (maximum of 3 attempts per patient) consider Cricothyrotomy. See [Cricothyrotomy Procedure 5.2 OR 7.5](#).

### POST TUBE PLACEMENT CARE – ADULT

#### Option 1:

- Ketamine 1 mg/kg ideal body weight (IBW) IV every 5 – 15 minutes, as needed.

#### Option 2:

- Fentanyl 50 - 100 mcg IV every 5-10 minutes, as needed.

#### AND

- Midazolam 2 - 5 mg IV every 5 – 10 minutes as needed **OR**
- Lorazepam 1 - 2 mg every 15 minutes as needed (maximum total 10 mg)

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### POST TUBE PLACEMENT CARE – PEDIATRIC

#### Option 1:

- Ketamine 1 mg/kg IV every 5 - 15 minutes, as needed.

#### Option 2:

- Fentanyl 2 - 3 mcg/kg IV every 5 - 10 minutes as needed.

#### AND

- Midazolam 0.1 mg/kg IV (maximum single dose 2.5 mg) every 5 - 10 minutes as needed **OR**
- Lorazepam 0.1 mg/kg IV (maximum single dose 2 mg) every 15 minutes as needed (maximum total 10 mg)

### Documentation

Document each attempt as a separate procedure so it can be time stamped in the ePCR. An attempt is defined as placement of the blade into the patient's mouth. For each attempt, document the time, provider, placement success, preoxygenation, airway grade, ETT size, placement depth, placement landmark (e.g. cm at the patient's teeth), and confirmation of tube placement including chest rise, bilateral equal breath sounds, absence of epigastric sounds and capnography readings.

### Intubation Checklist (Non-RSI)

New Hampshire Bureau of EMS

**PEARL:**

- An intubation attempt is defined as a blade being introduced into the mouth.

