



Airway Management & Ventilation

Assessment

Pediatric Pearls:

- Use pediatric dosing of medications or electrical therapy for a pediatric patient < 37 kg and as defined by the PEDIA Tape.
- Avoid intubation of the pediatric patient when possible. OPA/NPA is preferred.
- Children compensate well initially but decompensate quickly with little warning.
- Most pediatric cardiac arrests are due to respiratory compromise.

Signs & Symptoms:

- Percentage of Glottic Opening
- Neck mobility
- Beard, may prevent mask seal
- Facial trauma/instability
- Foreign material in airway
- Swelling/Edema
- Respiratory effort
- Thyromental distance

Differential:

- Airway obstruction
- Pulmonary edema
- COPD/Asthma
- Stroke
- Drug overdose
- Cardiac arrest
- Head injury
- Anaphylaxis

Clinical Management Options

P	P	P	P	P	P	<ul style="list-style-type: none"> • BLS Foreign Body Airway Obstruction evaluation / removal • Place NPA and/or OPA and ventilate with BVM • Oxygen, including passive apneic oxygenation 25 lpm with NC • SpO₂ monitor
L	L	L	L	L	L	<ul style="list-style-type: none"> • BIAD (Cardiac Arrest Only) • ETCO₂ monitor • 12-lead ECG placement and acquisition
1	2	3	4	5	6	<ul style="list-style-type: none"> • IV / IO access as appropriate for patient condition • BIAD if patient is obtunded and without gag reflex • Direct laryngoscopy Foreign Body Airway Obstruction evaluation / removal. • Evaluate ECG • Gastric tube as needed
						<ul style="list-style-type: none"> • All advance airway procedures will include passive apneic oxygenation where possible • Continuous ETCO₂ is mandatory for all intubations • Video laryngoscopy for intubation (King Vision) • Direct laryngoscopy intubation with Gum Bougie • Nasotracheal intubation, consider using Hurricane-Cetacaine and/or Xylocaine • Post intubation medications: <ul style="list-style-type: none"> ○ Ketamine ○ Midazolam ○ Rocuronium • Surgical cricothyroidotomy if patient ≥ 10 years of age • Needle cricothyroidotomy for pediatric patients
						<ul style="list-style-type: none"> • Push dose Epinephrine for hypotension prior to intubation • Rocuronium for Rapid Sequence Induction • Use Airway Management Checklist for all Rapid Sequence Inductions

Consult Online Medical Control As Needed



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Pearls:

- Refer to drug formulary charts for all medication dosing for both adults and pediatric patients.
- Ask yourself if the patient needs the airway right now and, if you are the right person to secure it. Expect failure so you can prepare for it.
- Patients showing fatigue, increasing ETCO₂, slowing respirations, altered mental status, increased ventricular ectopy, and hypoxia may have impending respiratory failure. Manage aggressively and preemptively.
- Passive oxygen: High Flow Nasal Cannula (HFNC) at 25 LPM may be used with BVM, CPAP, or during BIAD and Intubation insertion attempts. Once BIAD or Intubation confirmed discontinue HFNC.
- Create a PACE plan (Primary, Alternate, Contingency, Emergency) and brief other members of the EMS crew before performing airway interventions. Have the tools available for your backup plans before the first intubation attempt.
- Positive pressure ventilation may worsen hypotension in the hemodynamically unstable patient.
- Avoid in trauma patients and consider push dose Epinephrine in any hypotensive patient getting intubated.
- Positive pressure ventilation may induce tension pneumothorax in the patient with simple pneumothorax. Difficulty ventilating or high airway pressures should lead you to suspect this.
- Elevating the head of the stretcher 15-30° may improve intubation success and limit desaturation, particularly in obese patients.
- For Direct Laryngoscopy remove cervical collar prior to attempting intubation, as the collar limits jaw movement.
- Manual inline cervical stabilization may decrease likelihood of airway management success. If necessary, for intubation success move the neck.
- No patient is to receive paralytics without receiving sedation first.
- Limit of 2 total intubation attempts in most patients, and subsequently a BIAD must be placed or, a BVM with OPA/NPA used. A third attempt may be undertaken in extraordinary circumstances but is strongly discouraged. Multiple intubation attempts maybe harmful.
- If the first attempt was unsuccessful, evaluate the reason for failure. Change technique or person attempting as indicated to increase the chance of success. Do not repeatedly try the same technique.
- Remember to try to match patient's respiration rate if tachypnea prior to intubation for (respiratory acidosis/buffering).