Pediatric Airway

Assess Respiratory Rate, Effort, Oxygenation
Is Airway / Breathing Adequate?

YES → Supplemental oxygen
Goal oxygen saturation ≥ 90%
Preferably ≥ 94%

Exit to Appropriate Protocol(s)

NO

Basic Maneuvers First
-open airway chin lift / jaw thrust
-nasal or oral airway
-Bag-valve mask (BVM)

Spinal Motion Restriction Procedure / Protocol TB 8 ***if indicated***

Consider AMS Protocol UP 4

Respiratory Distress with a Tracheostomy Tube Protocol UP 13 ***if indicated***

Airway Obstructed

YES →
- Airway Foreign Body Obstruction Procedure
- **A** Direct Laryngoscopy
- **P** Airway Cricothyrotomy Needle Procedure **See Pearls Section**

NO

Breathing / Oxygenation Support needed

YES →
- Supplemental Oxygen BVM Maintain Oxygen Saturation ≥ 90 % Preferably ≥ 94 %
- **B** Airway BIAD Device Procedure ***if indicated***
- **A** Oral / Tracheal Intubation Procedure
- **P** Chest Decompression Procedure ***if indicated***
- **P** Consider Airway Drug Assisted Protocol AR 3 ***if available***
- **P** Post-intubation / BIAD Management Protocol AR 8 ***if indicated***

NO → Monitor /Reassess Supplemental Oxygen ***if indicated***

Exit to Appropriate Protocol(s)

Unable to Ventilate and Oxygenate ≥ 90% during or after one (1) or more unsuccessful intubation attempts .
and/or
Anatomy inconsistent with continued attempts.
and/or
Three (3) unsuccessful attempts by most experienced Paramedic/AEMT.

Exit to Pediatric Failed Airway Protocol AR 6

Notify Destination or Contact Medical Control

Airway Respiratory Protocol Section

Pediatric Airway

Pearls

- **For this protocol, pediatric is defined as any patient which can be measured within the Broselow-Luten tape.**
- **If an effective airway is being maintained by BVM with continuous pulse oximetry values of ≥ 90%, it is acceptable to continue with basic airway measures.**
- **For the purposes of this protocol a secure airway is when the patient is receiving appropriate oxygenation and ventilation.**
- **An intubation attempt is defined as passing the laryngoscope blade or endotracheal tube past the teeth or inserted into the nasal passage.**
- **Capnometry (color) or capnography is mandatory with all methods of intubation. Document results.**
- **Continuous capnography (EtCO2) is strongly recommended with BIAD or endotracheal tube use though this is not validated and may prove impossible in the neonatal population (verification by two (2) other means is recommended).**
- **Ventilatory rate: 30 for Neonates, 25 for Toddlers, 20 for School Age, and for Adolescents the normal Adult rate of 8 - 10 per minute. Maintain a EtCO2 between 35 and 45 and avoid hyperventilation.**
- **Ketamine may be used during airway management of patients who FIT on the Broselow-Luten Tape with a DIRECT, ONLINE MEDICAL ORDER, by the system MEDICAL DIRECTOR OR ASSISTANT MEDICAL DIRECTOR ONLY. Specific use in this population of patients must also be for use in individual agencies by the NC OEMS State Medical Director prior to use.**
- **Agencies utilizing Ketamine must submit a local systems plan to State Medical Director detailing how the drug is used in your program.**
  - **Ketamine may be used with and without a paralytic agent in conjunction with either a OP, NP, BIAD or endotracheal tube.**
  - **Ketamine may be used during the resuscitation of hypoxia or hypotension in conjunction with airway management.**
  - **Ketamine may be used in the dangerously combative patient requiring airway management IM. IV / IO should be established as soon as possible.**
  - **Ketamine may NOT be used for purposes of sedation only – it must be used only during airway management procedures.**
- **It is strongly encouraged to complete an Airway Evaluation Form with any BIAD or Intubation procedure.**
- AEMT and Paramedics should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- During intubation attempts use External Laryngeal Manipulation to improve view of glottis.
- Gastric tube placement should be considered in all intubated patients.
- It is important to secure the endotracheal tube well and consider c-collar (even in absence of trauma) to better maintain ETT placement. Manual stabilization of endotracheal tube should be used during all patient moves / transfers.
- **Airway Cricothyrotomy Needle Procedure:**
  - **Indicated as a lifesaving / last resort procedure in pediatric patients ≤ 11 years of age.**
  - **Very little evidence to support it's use and safety.**
  - **A variety of alternative pediatric airway devices now available make the use of this procedure rare.**
  - **Agencies who utilize this procedure must develop a written procedure, establish a training program, maintain equipment and submit procedure and training plan to the State Medical Director / Regional EMS Office.**
- **DOPE: D**isplaced tracheostomy tube / ETT, **O**bstructed tracheostomy tube / ETT, **P**neumothorax and **E**quipment failure.