Pediatric Airway

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

YES

Supplemental oxygen Goal oxygen saturation ≥ 94%

Exit to Appropriate Protocol

NO

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

Spinal Immobilization Procedure if indicated

Consider AMS Protocol

Airway Foreign Body Obstruction Procedure

NO

Direct Laryngoscopy

Airway Patent

YES

Supplemental oxygen BVM
Maintain Oxygen Saturation ≥ 90 %

Breathing / Oxygenation Support needed

YES

Monitor / Reassess Supplemental Oxygen if indicated

Exit to Appropriate Protocol

NO

Complete Obstruction Unable to Clear

NO

Airway Cricothyrotomy Needle Procedure
See Pearls Section

Unable to Ventilate and Oxygenate ≥ 90% during or after one (1) or more unsuccessful intubation attempts .

Anatomy inconsistent with continued attempts.

Three (3) unsuccessful attempts by most experienced EMT-P/I.

Exit to Pediatric Failed Airway Protocol

YES

Airway Blind Insertion Device Procedure

Airway Cricothyrotomy Needle Procedure
See Pearls Section

Notify Destination or Contact Medical Control

Oral-Tracheal Intubation Procedure

Consider Sedation If BIAD or ETT in place

Midazolam
0.1mg/kg IV/IO
0.2 mg/kg IM/IN/Rectal

BVM / Oxygen Effective

YES

Tension Pneumothorax

NO

Chest Decompression Procedure

NO

BVM

Pediatric General Section Protocols

Pediatric Airway Protocol

This protocol has been altered from the original 2012 NCCEP Protocol by the Johnston County EMS System Medical Director 2012
Pediatric Airway

Pearls

- For this protocol, pediatric is defined as less than ≤ 11 years of age or any patient which can be measured within the Broselow-Luten tape.
- 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.
- 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 instead of using a BIAD or intubation.
- 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.
- Ventilatory rate should be 30 for Neonates, 25 for Toddlers, 20 for School Age, and for Adolescents the normal Adult rate of 12 per minute. Maintain a EtCO2 between 35 and 45 and avoid hyperventilation.
- Hyperventilation in deteriorating head trauma should only be done to maintain a pCO2 of 30-35.
- It is strongly encouraged to complete an Airway Evaluation Form with any BIAD or Intubation procedure.
- Do not attempt intubation in patients who maintain a gag reflex.
- Paramedics should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- Cricoid pressure and BURP maneuver may be used to assist with difficult intubations. They may worsen view in some cases.
- 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 its 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.