

 NOR-CAL EMS	06-0108	Air Ambulance Providers Optional Scope of Practice – Pediatric Intubation
Nor-Cal EMS Policy & Procedure Manual	EMS Aircraft	
Effective Date: 04/23/2020	Next Revision: 04/23/2023	
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Authority

Health and Safety Code Division 2.5, California Code of Regulations, Title 22, Division 9.

Purpose

To serve as a patient treatment standard for Air Ambulance Provider Paramedics.

Do Not Miss!

Only Qualified paramedics meeting the requirements for this optional scope under the definitions may utilize this protocol.

Preparation

1. Ensure equipment is ready and functioning including suction.
2. Maintain oxygenation during the apneic period of intubation utilizing High Flow Nasal Canula O₂ @ 1 liter/kg, max=15 liters prior to initiating the procedure.
3. Establish an open airway – place as needed a NPA for conscious patients and/or OPA for unconscious patients.
4. Place a nasogastric or orogastric tube as needed.
5. Establish a contingency plan if intubation is unsuccessful.

Policy

Function

To secure a pediatric airway with orotracheal intubation when indicated.

Circumstances Under Which Paramedics Under Optional Scope May Perform Function

Setting: Qualified Transport Program Paramedic with Qualified Transport Program Nurse.

Indications

1. Respiratory failure (e.g., apnea or hypoventilation).
2. Hypoxia despite supplemental oxygen.
3. Combative with traumatic brain injury and GCS ≤ 8.
4. Inability to protect airway.
5. Anticipated imminent airway failure.

Contraindications

1. Complete airway obstruction (utilize obstructed airway policy).
2. Complete distortion of oropharyngeal anatomy such that landmarks for performing intubation are not present.

Cautions

1. Predicted difficult airway.
2. Adequate/functioning less invasive device in place (and no need for definitive airway protection).

Size Selection

1. Utilize a length or weight-based tape or application to select ETT size. Have a ½ size larger and smaller ETT also ready. Cuffed tubes are preferred excluding neonates.
2. Confirm laryngoscope size with a length or weight-based tape or application. A Miller (straight) blade may be required for smaller patients and video laryngoscopy (VL) should be utilized whenever possible.

Equipment

1. PPE.
2. Monitors.
3. Premedications (including high flow nasal canula O₂ per protocol).
4. Appropriate RSI Medications given Age/Weight/Diagnosis.
5. Suction.
6. Endotracheal tubes (Note: deflate the cuff prior to insertion).
7. Intubating Stylet (Pediatric Bougie).
8. Laryngoscope.
9. Lubricant.
10. Supraglottic Airway Device (SAD) as a rescue.
11. BVM.
12. Securing device.
13. Confirmation devices including Capnography.
14. Postintubation medications.

Procedure

1. Pre-oxygenate using a non-rebreather mask or BVM with a FiO₂ of 100% for at least 2-3 minutes; or 8 vital capacity breaths if patient is able.
 - A. If pulse oximetry of less than 95%, initiate ventilatory assistance with a BVM.
 - B. When using a BVM during pre-oxygenation, ventilate at a rate only to maintain oxygen saturation at 95%, and avoid hyperventilation.
 - C. Utilize passive oxygenation via NC at 1 liter/kg/min up to max 15 liters/min during apnea and intubation attempts.
2. Position patient. Apply in-line cervical spine stabilization (not traction) if indicated or sniffing if allowable.
3. Consider fluid bolus 20ml/kg if hypovolemic, asthmatic, COPD, or in shock.

4. Time Out !

Ensure:

- A. All equipment is ready.
- B. All practitioners are ready.
- C. What is the next step if this step fails.
- D. At what point will we stop and BVM the patient.
- E. If any questions remain regarding readiness, do not proceed until everyone and everything is ready.

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5. Administer premedication as indicated, 3-5 minutes prior if possible.
 - A. RSI medications: etomidate (0.3 mg/kg IV) or ketamine (2 mg/kg slow IV push over 2 minutes), then rocuronium (1mg/kg IV) – allow 60 seconds before placing laryngoscope).
 6. Position head appropriately given age and diagnosis (no extension in trauma).
 7. Suction oropharynx as required.
 8. Perform intubation, preferable with VL (DL and/or bougie if indicated).
 - A. Do not “lever” the blade.
 - B. Visualize the epiglottis/cords.
 - C. Pass the ETT to appropriate depth – note “tip to lip”.
 - D. Fill the cuff – Do not overfill!
 9. **Verify placement of endotracheal intubation using a minimum of 4 methods.**
 - A. Equal lung sounds bilaterally, chest rise and fall.
 - B. Mist present in ETT with exhalation.
 - C. Presence of ET_{CO}₂ wave form (ET_{CO}₂ capnography is the standard however in rare circumstances where ET_{CO}₂ not available, EMS clinicians may use appropriate color change on colorimetric ET_{CO}₂ device.
 - D. Normal SpO₂ reading.
 10. Secure the ETT with tape or a compatible commercial device.
 11. Monitor placement continuously:

- A. Monitor ETCO₂ and SpO₂ continuously.
 - B. Reconfirm placement using a minimum of 4 methods (chest rise, lung sounds, appropriate ETCO₂ reading, appropriate SpO₂ reading, mist in tube, tube depth based @ lipline) after every patient move.
12. To facilitate ventilation and avoid regurgitation, place an OG or NG tube.
 13. Perform post-intubation management.

Recordkeeping

1. Document full procedure note:
 - A. Procedural Time Out.
 - B. Appropriate times for intubation.
 - C. DL and ETT size and depth.
2. Document frequency of assisted ventilations and patient's respiratory rate (will be the same or higher if over-breathing).
3. Document VS, SpO₂, ETCO₂ and ETT placement confirmation at transfer of care.