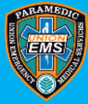


Pediatric Asthma Respiratory Distress

History
- Time of onset
- Possibility of foreign body
- Past Medical History
- Medications
- Fever / Illness
- Sick Contacts
- History of trauma
- History / possibility of choking
- Ingestion / OD
- Congenital heart disease

Signs and Symptoms
- Wheezing / Stridor / Crackles / Rales
- Nasal Flaring / Retractions / Grunting
- Increased Heart Rate
- AMS
- Anxiety
- Attentiveness / Distractability
- Cyanosis
- Poor feeding
- JVD / Frothy Sputum
- Hypotension

Differential
- Asthma / Reactive Airway Disease
- Aspiration
- Foreign body
- Upper or lower airway infection
- Congenital heart disease
- OD / Toxic ingestion / CHF
- Anaphylaxis
- Trauma

Pediatric Airway Protocol(s) 3, 5 - 7 ***as indicated***

Pediatric Allergic Reaction/ Anaphylaxis Protocol PM 1 ***as indicated***

B — 12 Lead ECG Procedure

IV or IO Access Protocol UP 6 ***if indicated***

P — Cardiac Monitor

Following Assessment

WHEEZING / Asthma

B — **ALBUTEROL NEBULIZER** **1.25 - 2.5 mg** (MAX OF 3 DOSES)

STRIDOR / Croup

B — **ALBUTEROL NEBULIZER** **1.25 - 2.5 mg** (MAX OF 3 DOSES)

A — **EPINEPHRINE NEBULIZER** **1 mg (1:1000) in 2 mL NS** May repeat x 1

Pediatric Airway Protocol(s) 3, 5 - 7 ***as indicated***

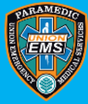
A — **ALBUTEROL NEBULIZER** **1.25 - 2.5 mg** **+/- IPRATROPIUM 0.5 mg (DuoNeb)** (MAX OF 3 DOSES) *Consider additional Albuterol doses as needed*

A — Consider **EPINEPHRINE 1:1000** **0.01 mg / kg IM** **(Maximum 0.3 mg)**

P — **METHYLPREDNISOLONE** **2 mg / kg IV / IO / IM** **(Maximum 125 mg)**

P — **MAGNESIUM SULFATE** **40 mg/kg IV / IO** Infuse over 10 – 20 minutes **Maximum 2 gm**

Notify Destination or Contact Medical Control



Pediatric Asthma Respiratory Distress

Pediatric Patient General Considerations:

A pediatric patient is defined by fitting a Length-based Resuscitation Tape, Age ≤ 15, weight ≤ 49 kg.
Patients off the Length-based resuscitation tape should have weight based medications until age ≥ 16 or weight ≥ 50 kg. Special needs children may require continued use of Pediatric based protocols regardless of age and weight. Initial assessment should utilize the Pediatric Assessment Triangle which encompasses Appearance, Work of Breathing and Circulation to skin.
The order of assessment may require alteration dependent on the developmental state of the pediatric patient. Generally the child or infant should not be separated from the caregiver unless absolutely necessary during assessment and treatment.

PEDIATRIC MAGNESIUM SULFATE INFUSION INSTRUCTIONS

DOSE: 40 mg/kg infused over 10-20 minutes
Packaged 4 g/100 mL BAG (40 mg/mL) or 5 g/10 ml VIAL

- Withdraw weight-based, desired dose of Magnesium Sulfate from 100 mL bag **OR** 10 mL vial
- Remove this same volume from a 50 mL bag of Normal Saline
- Inject the withdrawn weight-based, desired dose of Magnesium Sulfate into the adjusted bag of Normal Saline to total 50 mL
- Using a 10 gtt IV set, administer:
  - 50 gtt/minute (for 10 minutes)
  - 25 gtt/minute (for 20 minutes)

Pearls

- **Recommended Exam: Mental Status, HEENT, Skin, Neck, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Items in Red Text are key performance measures used to evaluate protocol compliance and care.**
- **This protocol includes all patients with respiratory distress, Asthma, Reactive Airway Disease, croup, or bronchospasm.**
- **Patients may also have wheezing and respiratory distress with viral upper respiratory tract infections and pneumonia.**
- **Pulse oximetry should be monitored continuously and consider End-tidal CO2 monitoring if available.**
- **Combination nebulizers containing albuterol and ipratropium (DuoNeb):**
  Patients may require more than 3 nebulizer treatments, treatments should continue until improvement.
  Following 3 combination nebulizers (DuoNeb), it is preferable to continue albuterol solely with subsequent treatments as there is no proven benefit to continual use of ipratropium.
- **Epinephrine:**
  If allergic reaction or anaphylaxis is suspected, give immediately and repeat until improvement.
  If allergic reaction is not suspected, administer with no improvement and/ or impending respiratory failure.
- **Consider Magnesium Sulfate with impending respiratory failure and/ or no improvement.**
- **Consider IV access when Pulse oximetry remains ≤ 92 % after first beta-agonist nebulizer treatment.**
- **Do not force a child into a position, allow them to assume position of comfort, typically the tripod position.**
- Bronchiolitis is a viral infection typically affecting infants which results in wheezing which may not respond to beta-agonists. Consider Epinephrine nebulizer if patient < 18 months and not responding to initial beta-agonist treatment.
- Croup typically affects children < 2 years of age. It is viral, possible fever, gradual onset, no drooling is noted.
- Epiglottitis typically affects children > 2 years of age. It is bacterial, with fever, rapid onset, possible stridor, patient wants to sit up to keep airway open, drooling is common. Airway manipulation may worsen the condition.
- In patients using levalbuterol (Xopenex) you may use Albuterol for the first treatment then use the patient's supply for repeat nebulizers or agency's supply.
- A silent chest in respiratory distress is a pre-respiratory arrest sign.
- **EMR/ EMT:**
  The use of Epinephrine IM is limited to the treatment of anaphylaxis and may be given only by autoinjector, unless manual draw-up is approved by the Agency Medical Director and the NC office of EMS.
  Administration of diphenhydramine is limited to the oral route only.
- **EMT administration of beta-agonist is limited to only patients currently prescribed the medication,** unless approved by the Agency Medical Director and the NC office of EMS.
- Agency Medical Director may require contact of medical control prior to EMT/ EMR administering any medication(s).