

**SECTION: PM-02**

**PROTOCOL TITLE: PEDIATRIC RESPIRATORY EMERGENCIES**

**REVISED: November 1, 2017**

**GENERAL COMMENTS:** This protocol covers a wide variety of pediatric respiratory emergencies, particularly asthma, respiratory infections, and croup.

**BLS SPECIFIC CARE: See General Pediatric Care Protocol PM-1**

Determine patient's weight or color category on length based resuscitation tape (ACCESS Pediatric Tape)

### **Bronchodilators**

- Nebulizer
  - Albuterol 2.5 mg / Atrovent 0.5 mg nebulized
    - May use DuoNeb™ preparation for initial nebulizer
  - Repeat as needed with Albuterol 2.5 mg
  - Do not dilute
- *As an alternative* May Assist the patient (or family) with his prescribed "rescue" inhaler. Use a spacer if the patient is prescribed one and has it available
  - Assisted Inhaler: 2 puffs or number of puffs as prescribed by the patient's MD
  - Repeat every 5-10 minutes or as prescribed by the patients MD
  - Use a spacer if available
  - Hold for HR >200/min
- *As an alternative*, the patient (or his family) may be allowed to use their own nebulized medication
  - Hook up oxygen in lieu of a room air "condenser" and run at 6-8 LPM with the patients Hand Held Nebulizer (HHN). The patient (or family) must prepare it themselves

### *Stridor*

- Determine patient's color category on length based resuscitation tape (ACCESS Pediatric Tape)
- Allow patient to remain in his/her position of comfort as they have assumed this position to maximize the effectiveness of their own respirations
- Avoid agitating the patient as doing so can cause further deterioration of the respiratory status

**AEMT/O.M. SPECIFIC CARE: See General Pediatric Care Protocol PM-1**

*Respiratory Support (if appropriate and available)*

- Consider Assisted/Intermittent Positive Pressure Ventilation
- CPAP (if available and feasible) : See also *Appendix 6*
  - **Medical Control Required if BP less than 90 systolic.**
  - Initial setting at 5 cmH2O, **MAX: 10 cmH2O**

**ALS SPECIFIC CARE: See General Pediatric Care Protocol PM-1**

*Bronchodilators*

- Epinephrine 1:1000 for patients in severe distress
  - IM 0.01 mg/kg for severe refractory bronchospasm
- Magnesium Sulfate (if worsening after above medications)
  - 25-50 mg/kg in 100 ml infused over 2-5 min
  - Max 2 g

*Corticosteroid Therapy*

- Solu-Medrol
  - 1-2 mg/kg IVP

*For stridor, suspected croup, and suspected epiglottitis*

- Epinephrine Neb (first line)
  - 3 mg (3 ml) epinephrine 1:1,000 nebulized diluted with 3ml NS for a total of 6 ml
  - Repeat x 2 as needed. Allow 2 minutes between doses.
- Epinephrine 1:1000 for patients in severe distress
  - IM 0.01 mg/kg for severe refractory stridor

**PHYSICIAN PEARLS:**

**All respiratory emergency patients shall have continuous ECG monitoring.**

It is important to note, “not all asthma wheezes” and “not all that wheezes is asthma.” The history and physical is key.

Magnesium Sulfate (IV/IO) and Epinephrine (IM/SQ) should be used only on severe patients who are refractory to initial treatments

The predominant cause for stridor in younger children is acute viral laryngotracheobronchitis (CROUP); although less common, epiglottitis should be considered as a life threatening cause of stridor however similarly, Albuterol and Atrovent will not provide benefit to these patients. As noted above, nebulized epinephrine is the first line treatment for field personnel for these conditions.

For severe respiratory distress (in the absence of congenital heart defects), normal saline fluid boluses should be administered early (after first nebulized treatment as beta agonists and epinephrine can cause increased tachycardia and secondary hypotension. Additionally, with tachypnea, patients can manifest dehydration secondary to insensible losses of respiration and from potential underlying illness. Therefore fluid boluses should be administered liberally with these patients.