Protocol
9-10

SECTION: Pediatric General Medical Emergencies

PROTOCOL TITLE: Medical - Respiratory Distress/Asthma/ COPD/Croup/Reactive Airway
(Respiratory Distress – Asthma)
REVISED: 06/2017

RESPIRATORY DISTRESS/ASTHMA

OVERVIEW:
Respiratory distress is characterized by a clinically recognizable increase in work of breathing while respiratory failure is characterized by ineffective respirations with a decreased level of consciousness. Acute respiratory emergencies in the pediatric patient are common. When not properly treated, respiratory distress can result in significant morbidity and mortality. One of the common causes of respiratory distress is asthma. The treatment of patients in severe asthmaticus must be prompt and efficient. Decisive intervention is mandatory to insure the best outcome. Appearance of the child reflects the adequacy of oxygenation and ventilation. An increased effort to breathe may indicate an airway obstruction or lack of oxygenation. Decreased breathing effort may indicate impending respiratory failure.

HPI	Signs and Symptoms	Considerations
• Time of onset • Possibility of foreign body • Medical history • Medications • Fever or respiratory infection • Other sick siblings • History of trauma	• Wheezing or stridor • Respiratory retractions • See-saw respirations • Diaphoresis • Tripod position • Increased heart rate • Altered LOC • Anxious appearance	• Asthma • Aspiration • Foreign body • Infection • Pneumonia, croup, epiglottitis • Congenital heart disease • Medication or toxin • Trauma

	EMR	EMT	A	I	P
1. Perform general patient management.	•	•	•	•	•
2. Support life-threatening problems associated with airway, breathing, and circulation.	•	•	•	•	•
3. Administer oxygen to maintain SPO_2 94 - 99%. Support respirations as necessary with a BVM.	•	•	•	•	•
4. Place patient in a position of comfort, typically sitting upright.	•	•	•	•	•
5. If stridor present and croup is suspected, refer to *Croup & Epiglottitis Protocol 9-11*	•	•	•	•	•
6. Monitor Capnography, if available.			•	•	•
7. Assist patient with prescribed METERED DOSE INHALER (MDI). If no dosing schedule is prescribed, repeat in 5 to 10 minutes as needed.		•	•	•	•

Protocol 9-10 Continued

RESPIRATORY DISTRESS/ASTHMA

	EMR	EMT	A	I	P
8. If in critical respiratory distress, provide BVM ventilation with patient's spontaneous efforts. If patient becomes unresponsive, perform BVM ventilation with an airway adjunct. If BVM ventilation is inadequate, secure airway with an alternative airway or endotracheal tube [P only].		•	•	•	•
For patients in respiratory distress:					
9. Give *ALBUTEROL* via nebulizer: *Pt. <10kg*: use 2.5 mg *Pt > 10kg:* use 5.0 mg and *IPRATROPIUM* 0.5 mg via small volume nebulizer.		•	•	•	•
a. Greater than or equal to 4 years of age – nebulizer with mouthpiece or facemask.		•	•	•	•
b. Repeat *ALBUTEROL* every 10 minutes up to 4 treatments if respiratory distress persists and no contraindications develop. Note: *IPRATROPIUM* bromide is *only* administered with the 1st treatment.			•	•	•
10. Start an IV of normal saline.			•	•	•
11. If greater than 2 years of age and wheezing present, administer *DEXAMETHASONE* 0.6mg/kg IV/IM/PO to max of 10 mg.			•	•	•
12. Administer *CPAP* with 5 - 10 cm H_20 PEEP for moderate to severe dyspnea.		•	•	•	•
13. In the asthmatic patient, for severe respiratory distress that is non-responsive to standard medications, consider administration of *MAGNESIUM SULFATE* 40 mg / kg IV over 20 minutes (max dose of 2 grams).				•	•
14. In the asthmatic patient, for severe respiratory distress that is non-responsive to standard medications, consult Medical Control to consider administration of *EPINEPHRINE* 1:1,000 0.01 mg / kg up to 0.3 mg IM.				**MC**	**MC**
15. Place on cardiac monitor and obtain *12 lead ECG* per assessment.				•	•
16. Transport and perform ongoing assessment as indicated.		•	•	•	•

Age	Term	6 mos.	1 year	3 years	6 years	8 years	10 years	12 years	14 years
Weight (lb / kg)	6.6 lb 3 kg	17.6 lb 8 kg	22 lb 10 kg	30.8 lb 14 kg	44 lb 20 kg	55 lb 20 kg	75 lb 34 kg	88 lb 40 kg	110 lb 50 kg
Dexamethasone 0.6 mg / kg			6 mg	8.4mg	10mg	10mg	10mg	10mg	10mg
Magnesium Sulfate 40 – 45 mg / kg						800 mg	1.5 gm	1.5 gm	2.0 gm
Epinephrine 1:1,000 (1 mg / ml) 0.01 mg / kg	0.03 mg	0.08 mg	0.1 mg	0.14 mg	0.2 mg	0.25 mg	0.3 mg	0.3 mg	0.3 mg

PEARLS:

1. The most important component of respiratory distress is airway control.
2. Any pediatric patient presenting with substernal and intercostal retractions is in immediate need of treatment and transport. Do not delay on scene with treatments that can be completed enroute.
3. Intramuscular epinephrine administration assists with bronchodilation throughout lung tissue. In children < 8 years of age, it should be administered in the lateral thigh for optimal drug delivery. In children > 8 years of age, the deltoid can be used.
4. With repeated nebulized treatments, patients will become tachycardic. Benefits of further treatments should be weighed against the risks of tachycardia. Don't hesitate to call medical control for concerns or questions.
5. Dexamethasone can be diluted with a small amount of juice (3-5mL) when administered orally.

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