

## **Asthma**

### **HISTORY:**

New diagnosis? Maintenance medications, previous hospitalizations- level of care required (especially PICU and/or intubations).

### **SIGNS & SYMPTOMS:**

Tachypnea, grunting, accessory muscles, prolonged or forced exhalation, difficulty verbalizing due to SOB, wheezing, decreased or absent breath sounds. Hypoxia may cause agitation/confusion. Asymmetry of breath sounds suggests atelectasis, pneumo, or foreign body.

### **CXR:**

Hyperinflation. May have atelectasis and/or pneumo (pneumothorax or pneumomediastinum), bronchial thickening. May have infiltrate. Heart size normal to small due to hyperinflation.

### **ABG:**

Hypoxemic, initially hypocapnia, With Fatigue = Normocapnia or Hypercapnia.

### **TREATMENT:**

1. O2 to correct hypoxemia/maintain saturation
2. Albuterol 0.1-2cc SVN (0.1-0.15mg/kg/dose) Or (0.03 x kg = cc of Albuterol)(Consider Continuous as per protocol)
3. Atrovent 250-500mcg SVN (Three consecutive doses then Q6)
4. Solu-Medrol (Methylprednisolone) 2mg/kg IV (consider even if patient has had PO steroids)
5. Levalbuterol (Xopenex) 0.63mg SVN (can use 1.25mg SVN for older children)
6. IV hydration (consider fluid bolus and 1.5 maintenance)
7. Aminophylline 5mg/kg, then 0.5-1.5mg/kg/hr (Not Used much)
8. Magnesium Sulfate 20-40mg/kg IV bolus over 20 minutes
9. Consider PICU if patient needs: Helium, Terbutaline IV, is on a 100% Non-rebreather mask, or is Intubated.
10. FOR INTUBATION CONSIDER KETAMINE 1mg/kg

### **Asthma Severity Score:**

1. Oxygen Saturation in Room Air
  - a. >95% = 1
  - b. 90 – 95% = 2
  - c. <90% = 3
2. Alertness
  - a. Normal = 1
  - b. Decreased = 2
3. Retractions
  - a. None/Abdominal = 1
  - b. Abdominal/Intercostal = 2
  - c. Intercostal/Supracostal = 3

4. Auscultations
  - a. Clear/Wheezing = 1
  - b. Wheezing with decreased breath sounds = 2
  - c. Inaudible = 3
5. Color
  - a. Normal = 1
  - b. Pale = 2
  - c. Cyanotic = 3
6. Score =
  - a. Mild:  $<7$  = think about medical unit
  - b. Moderate: 8-11 = think about Intermediate Care Unit
  - c. Severe:  $>12$  = Pediatric Intensive Care Unit
    - i. Or if they need Helium Therapy

**REMEMBER ALL THAT WHEEZES IS NOT ASTHMA**

Consider in differential:

1. Congestive Heart Failure
  - a. CXR-normal to large size heart
  - b. Tachycardia and poor perfusion out of proportion to respiratory symptoms
  - c. Status worsening with respiratory treatments
2. Foreign Body Aspiration
  - a. Ask in history