Pediatric Asthma Exacerbation Protocol in the Emergency Department

Inclusion Criteria: 2 y/o or greater with history of asthma or recurrent wheezing presenting with acute onset of wheezing, cough, dyspnea, hypoxia, tachypnea etc.

Exclusion Criteria: < 2 years of age, Diagnosed with viral bronchiolitis or croup, History of Cystic Fibrosis, Chronic Lung Disease, Cardiac Disease, Airway Anomalies

1. Measure oxygen saturation and vital signs.
2. Identify risk factors: Previous intubation/ICU admission, 2+ admissions in past year, 3+ ED visits in last year, Prior ED/admission in last month, >2 canisters of SABA per month, poor perception of symptoms
3. Nurse to calculate Pediatric Asthma Score (PAS)
4. Notify Provider of PAS and begin appropriate order set based on PAS.

**Symptoms Persist / Patient Unstable - Admission**
- Admit – follow appropriate inpatient order set and flow sheet
- Continue bronchodilators
- Perform PAS prior to transfer to floor
- Consider adjunct therapy (magnesium, Heliox)
- Consider Pulmonary or PICU consult

**Symptoms Resolve / Patient Stable - Discharge**
- Contact PCP for follow up
- Education regarding proper medication administration
- Rx for albuterol Q4 hours for cough or worsening symptoms
- Rx for oral corticosteroids for 3-10 days
- Consider maintenance therapy (inhaled corticosteroids)
- Provide patient with Asthma Action Plan

**Hourly Reassessment**

**Mild Distress = PAS 1-2**
- (≤15kg) Albuterol MDI 4 puffs
- (>15kg) Albuterol MDI 4-8 puffs
  - Alternative: (≤15kg) Albuterol neb 2.5mg
  - (>15kg) Albuterol neb 5mg
  - Consider oral steroids
  - Repeat PAS 15 min after treatment (preferably by same provider)
  - May repeat at provider’s discretion

**Moderate Distress = PAS 3-5**
- (≤15kg) Albuterol MDI 4 puffs followed by ipratropium MDI 4 puffs **
  - Alternative: (≤15kg) Albuterol neb 2.5mg
  - (>15kg) Albuterol neb 5mg
  - Consider oral steroids
  - Repeat PAS 15 min after each treatment (preferably by same provider)

**Severe Distress = PAS 6-10**
- Albuterol neb 0.5mg/kg/hr (max of 20 mg) with ipratropium 0.5 mg to 1.5mg neb continuously for 1 hour.
  - Perform & document PAS every 15 min.
    - Alternative: (≤15kg) Albuterol neb 2.5mg with ipratropium 0.5mg neb
    - (>15kg) Albuterol neb 5mg with ipratropium 0.5mg neb
    - **May repeat up to 3 total doses in first hour**
    - Consider adjunct therapy (Mg**, Heliox, etc.)
    - Repeat PAS 15 min after each treatment (preferably by the same provider)

**Reassess PAS 1 hour post treatment.**

**Calculate PAS hourly. Plan disposition at 2 hrs. of presentation. Disposition decision no later than 4 hrs.**
1. PAS should be done prior to treatment and repeated 15 minutes afterward (preferably by the same provider).
2. Add elements into a single score.
3. Document score in Epic flowsheet

<table>
<thead>
<tr>
<th>Element</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1. <strong>Respiratory Rate</strong></td>
<td></td>
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<tr>
<td>Obtain over 30 sec and multiple by 2.</td>
<td></td>
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<tr>
<td>2-3 yrs</td>
<td>≤34</td>
</tr>
<tr>
<td>4-5 yrs</td>
<td>≤30</td>
</tr>
<tr>
<td>6-11 yrs</td>
<td>≤26</td>
</tr>
<tr>
<td>≥12 yrs</td>
<td>≤23</td>
</tr>
<tr>
<td>2. <strong>Auscultation</strong></td>
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<tr>
<td>Auscultate anterior and posterior lung fields. Assess air entry and presence of wheezing.</td>
<td>No Wheezes</td>
</tr>
<tr>
<td>3. <strong>Work of Breathing</strong></td>
<td></td>
</tr>
<tr>
<td>Assess for nasal flaring or retractions. (suprasternal, intercostal, subcostal)</td>
<td>≤1 sign</td>
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<tr>
<td>4. <strong>Dyspnea</strong>*</td>
<td></td>
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<tr>
<td>As developmentally appropriate. *If sleeping AND not showing physical signs of respiratory distress, score the patient 0 (zero) for this category.</td>
<td>Speaks full sentences, playful, AND takes PO well</td>
</tr>
<tr>
<td>5. <strong>O₂ Requirement</strong>**</td>
<td></td>
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<tr>
<td><strong>Do not take patients off supplemental oxygen to obtain score.</strong></td>
<td>≥92% on RA</td>
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</table>