Emergency Department Guideline
Bronchiolitis

Objective: To evaluate and rapidly begin treatment for children presenting to the ED with wheezing and respiratory difficulty from Bronchiolitis.

Indication:
1. Infants <2 years of age, who present to the ED with respiratory difficulty, hypoxia, wheezing, retractions, tachypnea, or cough.
2. Consider including infants <6 months of age with history of apnea, or an Apparent Life-Threatening Event (ALTE).

Evaluation/Intervention:
1. Check vital signs, weight in kg, rectal temperature (or tympanic if >6 months of age) and pulse oximetry.
2. Place infants with oxygen saturation <92%, or clinical evidence of respiratory distress, on supplemental oxygen.
3. For temperature >38.0 in infant <3 months, or >38.5 if ≥3 months of age, give acetaminophen 15mg/kg PO/PR, if none previously given, or if >4 hours since last dose. Consider ibuprofen 10 mg/kg PO for infants >6 months of age.
5. Grade severity and therapy according to Bronchiolitis Score (below) from 0-7.

Recognize that nebulized breathing treatments generally do not improve the majority of bronchiolitis patients, they are not the mainstay of therapy, and they may temporarily worsen their hypoxia.

a. Mild bronchiolitis: Score 0-3; Deep nasal suctioning, consider neb if not improved.
   b. Moderate bronchiolitis: Score 4-5; Deep nasal suctioning, give neb and consider hospital admission if not improved
   c. Severe bronchiolitis: Score = 6-7: Deep nasal suctioning, neb and hospital admission, possible additional airway support
   d. Classify term infants <4 weeks of age, pre-term infants <8 weeks (if born premature <37 weeks gestational age) and those with a history of apnea or ALTE as Severe, and admit for inpatient monitoring.

(From: Willwerth BM, Harper MB, Greenes DS. Identifying hospitalized infants who have bronchiolitis and are at high risk for apnea. Ann Emerg Med 2006;48:441)

6. Treatment
   a. Albuterol nebulization: 2.5mg/neb
b. Consider Racemic epinephrine nebulization for age >3 months: 0.25ml/ neb (1:1000)

**Documentation:**
1. Triage vital signs, weight, pulse oximetry. Classify bronchiolitis severity by Bronchiolitis Score as below.
2. Vital signs after each intervention, including oximetry and Bronchiolitis Score.
3. Time of each intervention

**Treatment Recommended for Bronchiolitis Score > 3**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Date</th>
<th>Time</th>
<th>Score</th>
<th>Score</th>
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<tbody>
<tr>
<td><strong>Respiratory Rate</strong></td>
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<tr>
<td>0 – 20-40 for age 0-1 yr; 15-30 for ages 1-2 yrs</td>
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<td>1 – 41-55 for age 0-1 yr; 31-45 for ages 1-2 yrs</td>
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<tr>
<td>2 – &gt;55 for age 0-1 yr; &gt;45 for ages 1-2 yrs</td>
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<td><strong>Air Exchange</strong></td>
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<td>0 – Present in all 8 lung fields</td>
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<td>1 – Present in 4 or more lung fields</td>
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<td>2 – Present in less than 4 lung fields</td>
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<tr>
<td><strong>Wheeze</strong></td>
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<tr>
<td>0 – None or End Expiratory</td>
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<td>1 – Expiratory phase only</td>
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<tr>
<td>2 – Inspiratory and Expiratory phases</td>
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<tr>
<td><strong>Accessory Muscles</strong></td>
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<tr>
<td>0 – Normal</td>
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<tr>
<td>1 – Retractions/Sternal/Intercostal</td>
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<tr>
<td>2 – Use of neck or Abdominal Muscles</td>
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*Pre/Post Intervention Score: Total*


*Smith, S; Batty, J; Hodge, D. Validation of the pulmonary score: As asthma severity score for children. Academic Emergency Medicine, 2002 Feb. Vol 9(2): 99-104*

<table>
<thead>
<tr>
<th>Age</th>
<th>Normal RR for age</th>
<th>Tachypnea Threshold</th>
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<tbody>
<tr>
<td>0-6 mo</td>
<td>30-50</td>
<td>&gt; 60</td>
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<tr>
<td>6-18 mo</td>
<td>25-40</td>
<td>&gt; 50</td>
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<tr>
<td>18-24 mo</td>
<td>20-35</td>
<td>&gt; 45</td>
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