Clinical Guideline
Bronchiolitis

Pediatric Emergency & Hospital Medicine

Inclusion criteria: Ages 2-24 months, first episode of wheezing and bronchiolitis as primary diagnosis

Exclusion Criteria: Ages <2 months or >24 months, premature birth: <38 weeks gestational age, BPD, chronic lung disease or active cardiac disease present prior to episode, toxic appearance or severe disease needing ICU

This guideline serves as a guide and does not replace clinical judgment.

To classify severity of disease utilize the modified respiratory distress tool. Classifications are mild, moderate or severe (next page).

In ED:
- Suction nares
- Provide supplemental Oxygen for SpO2 <90%
- Place NG/IV if indicated
- Classify severity of disease
- No routine steroids or albuterol

Mild
Transition to Pediatric CDU (observation unit)
- or
Consider discharge home if criteria are met (see below)

Moderate
Admit to Medical Surgical Unit or consider Pediatric CDU (if no more than one moderate criteria present)

Admission criteria:
- Room air SpO2 <90%
- Moderate respiratory disease scoring
- Dehydration or poor oral intake
- History of apnea and/or cyanosis
- Concern for inadequate outpatient treatment

Severe
Admit to PCU or PICU Consider HFNC

Supportive Care
- Nasal saline and bulb suction PRN
- Nasopharyngeal suction only for upper airway obstruction causing distress
- NG/IV for poor oral intake
- Family education
- Reposition PRN

Monitoring
- Vitals every 4 hours
- Respiratory Distress score every 4 hours - Strict I/O q8h, Daily weights
- Intermittent SpO2 monitoring

Treatments
- Nasal oxygen for SpO2 <90%
- Wean oxygen for >94%
- IV fluid bolus for dehydration
- Respiratory Therapy consult for HFNC

Clinical Deterioration
- PICU consult or RRT
- Blood gas for pCO2
- Chest film
- Make NPO-IV or NG feeds

Stable or Improving
Continue present care until patient meets discharge

Discharge Criteria
- Room air SpO2 >90% for > 4 hours and 1 feeding
- Minimal distress or tachypnea
- Adequate oral hydration without IV fluids - Family education complete
- Outpatient treatment reliable
- Outpatient follow up with PCP delineated

Inclusion criteria:

Exclusion Criteria:

Supportive Care:

Monitoring:

Treatments:

Clinical Deterioration:

Stable or Improving:

Discharge Criteria:

The following are NOT routine tests or treatments for bronchiolitis:

- Chest film
- Chest physiotherapy
- Albuterol, epinephrine, 3% NaCl or Steroids
- Viral testing while not routine is acceptable for admitted patients when cohorting is needed.

For questions concerning this guideline, contact: choralclinicalguidelines@vcuhealth.org

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Modified Respiratory Assessment Score (from Children’s Hospital of Philadelphia)

Respiratory Rate (RR), Work of Breathing and Oxygen Requirement have been shown to predict admission versus discharge, mental state has no such correlation in the literature. This is not a validated assessment tool but is based on consensus.

The highest assessment in any one category dictates or designates the severity of the disease. For example, a 2 month old with RR of 48, head bobbing and no oxygen requirement with agitated state would be classified as having severe disease based on the head bobbing alone. Same patient with only intercostal retractions (no head bobbing) would be classified as moderate disease.

<table>
<thead>
<tr>
<th>Clinical Signs</th>
<th>Age</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Rate</td>
<td>2-12 Months</td>
<td>&lt;50</td>
<td>51-70</td>
<td>&gt;70</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>12-24 Months</td>
<td>&lt; 40</td>
<td>41-60</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Work of Breathing</td>
<td>None</td>
<td>Intercostal or Subcostal Retractions</td>
<td>Nasal flaring, grunting, head bobbing or suprasternal retractions</td>
<td></td>
</tr>
<tr>
<td>Oxygen Requirement</td>
<td>None</td>
<td>&lt; 1.5 Liters per minute</td>
<td>&gt; 1.5 liters per minute</td>
<td></td>
</tr>
<tr>
<td>Mental Status</td>
<td>None</td>
<td>Agitated</td>
<td>Lethargic or inconsolable</td>
<td></td>
</tr>
</tbody>
</table>

The goal is to assess for severity of disease to discriminate from those patients needing more support and probable admission. This tool can be used sequentially to trend the severity over time.

We sought to simplify the assessment, not requiring an actual numerical scoring system and to confirm or support the processes and evaluations already used by the nursing and provider staff.
Bronchiolitis Guideline

Executive Summary

Children’s Hospital of Richmond at VCU Bronchiolitis Workgroup

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References

Children’s National Medical Center: 2014 Bronchiolitis Clinical Care Guideline
Children’s Hospital Colorado: 2011 Bronchiolitis Clinical Care Guideline
Cincinnati Children’s Hospital Medical Center, Bronchiolitis Guideline Team: Evidence-based care guideline for management of bronchiolitis in infants 1 year of age or less with a first time episode, Bronchiolitis Pediatric Evidence-Based Care Guidelines, Cincinnati Children’s Hospital Medical Center, Guideline 1, pages 1-16, 2010.
Ralston S, Hill V, Martinez M, Nebulized hypertonic saline without adjunctive bronchodilators for children with bronchiolitis. Pediatrics. 2010;126(3)
Ravin KA, RSV Infection, AudioDigest Pediatrics 2015; 61(3)

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Executive Summary

Citation

Title: Bronchiolitis Guideline

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Retrieval website: http://www.chrichmond.org/clinical-pathway-bronchiolitis

Example:
Children's Hospital of Richmond at VCU, Marcello D, Carlton J, Silverman J, Hanson C. Migraine Guideline. Available from: http://www.chrichmond.org/clinicalguideline-bronchiolitis

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