

**Guidelines for the Outpatient Management of  
Pediatric Community-Acquired Pneumonia  
Reviewed and approved, May 2013**

This protocol is a general guideline and does not represent the professional standard of care required of the health care provider.

This pathway should be modified as indicated, based on the health care provider's professional judgment, to meet the needs of individual patients.

## Guidelines for the Outpatient Management of Pediatric Community-Acquired Pneumonia

<b>Exclusions:</b>	
<ul style="list-style-type: none"> <li>Babies under 2-3 months of age (hospitalization recommended)</li> </ul>	<ul style="list-style-type: none"> <li>Clinically toxic children (require hospitalization)</li> </ul>
<ul style="list-style-type: none"> <li>O2 requirement (require hospitalization)</li> </ul>	<ul style="list-style-type: none"> <li>Likely aspiration (foreign body or stomach contents)</li> </ul>
<ul style="list-style-type: none"> <li>Chronic conditions such as Cystic Fibrosis</li> </ul>	<ul style="list-style-type: none"> <li>Persistence of neonatal cardiac or pulmonary disorder</li> </ul>
<ul style="list-style-type: none"> <li>Immunodeficiency (congenital)</li> </ul>	
<b>Historic items which may help determine diagnosis and etiology:</b>	
<ul style="list-style-type: none"> <li>Age</li> </ul>	<ul style="list-style-type: none"> <li>Season</li> </ul>
<ul style="list-style-type: none"> <li>Community prevalence</li> </ul>	<ul style="list-style-type: none"> <li>Vaccination status</li> </ul>
<b>Clinical findings which are more suggestive of pneumonia:</b>	
<ul style="list-style-type: none"> <li>Tachypnea (RR &gt;50 2-12 m, &gt;40 1-5 yrs, &gt;20 &gt;5 yrs of age)</li> </ul>	<ul style="list-style-type: none"> <li>Fever</li> </ul>
<ul style="list-style-type: none"> <li>Retractions/increased work of breathing</li> </ul>	<ul style="list-style-type: none"> <li>Nasal flaring</li> </ul>
<ul style="list-style-type: none"> <li>Abnormal breath sounds</li> </ul>	<ul style="list-style-type: none"> <li>O2 requirement</li> </ul>
<ul style="list-style-type: none"> <li>Altered mental status</li> </ul>	
<b>Notes:</b>	
<ul style="list-style-type: none"> <li>Children &lt;5 years of age may present without classical findings</li> </ul>	<ul style="list-style-type: none"> <li>Pulse oximetry should be performed in all children with pneumonia</li> </ul>
<ul style="list-style-type: none"> <li>Acutely ill and febrile children may present as pain referred to the abdomen or as a fever without a source</li> </ul>	

**Recommendations for the use of diagnostic studies:**

CXR (PA and Lateral)	CBC, diff, CRP	PPD placement	Blood culture, cultures or serologic tests for specific antigens	Rapid viral testing for influenza	Rapid blood testing for Mycoplasma IgM
<ul style="list-style-type: none"> <li>If clinical findings are ambiguous, complications such as pleural effusion is suspected, or pneumonia is prolonged and unresponsive to antimicrobial therapy</li> <li>Consider in children &lt;5 years of age with a high fever and, if obtained, a high WBC of uncertain etiology</li> <li>Recommended in children with hypoxemia or significant respiratory distress and in those with failed initial antibiotic therapy</li> </ul>	<p>Only if results will help decide whether to use antibiotics (not routinely recommended)</p>	<ul style="list-style-type: none"> <li>Unexplained cough for &gt; 4 weeks</li> <li>Unresponsiveness to antibiotics</li> <li>Persistent subacute presentation</li> <li>A child who has traveled to a country with endemic TB</li> <li>A child who has been exposed to someone who has traveled to a Tb endemic country</li> </ul>	<ul style="list-style-type: none"> <li>Not routinely recommended</li> <li>Blood cultures ARE recommended in children who fail to demonstrate clinical improvement or who experience clinical deterioration after initiation of antibiotic therapy</li> <li>Blood cultures are recommended for children who require hospitalization for moderate to severe pneumonia</li> </ul>	<p>Consider in children with compatible clinical findings as appropriate treatment is available (testing may be unnecessary during local widespread outbreaks)</p> <p>(Influenza antiviral therapy should be admin as soon as possible to children with moderate to severe illness consistent with influenza virus during widespread local outbreaks, particularly with clinically worsening disease)</p>	<p>Consider in children with compatible clinical findings</p> <p>(Non-severe cough &gt;3-5 days, malaise and low grade fever, sore throat, minimal to no rhinorrhea, bilateral rales)</p>

*\*When the historic, physical, radiological or laboratory findings are inconsistent, consider additional diagnostic studies and re-evaluate for alternative or coincidental conditions such as aspiration or immunodeficiency*

	< 6 months	6 months-<3 years	Preschool age (3-5 years) Previously healthy Appropriately immunized	5-17 years Previously healthy Appropriately immunized	
				Acute	Nonacute <ul style="list-style-type: none"> <li>• Non-severe cough &gt;3-5 days</li> <li>• Malaise and low grade fever</li> <li>• Sore throat</li> <li>• Minimal to no rhinorrhea</li> <li>• Bilateral rales</li> </ul>
First line tx	If treated as an outpatient, high dose amox <sup>1</sup> (80-90 mg/kg) divided BID x10 days	High dose amox (80-90 mg/kg) divided BID x10 days	Antimicrobial therapy is not routinely required as viral pathogens are responsible for the vast majority of clinical disease	High dose amox (80-90 mg/kg) divided BID x10 days, max dose 2 gms BID	Macrolide, such as azithromycin
Other considerations	Consider hospitalization in children under 6 months of age.		High dose amox is first line therapy if bacterial origin is suspected	If both M. pneumonia and S. pneumonia are considerations or if not responding, use both a macrolide AND high-dose amoxicillin	
Initial F/U	F/U office visit recommended within 24-72 hours				
Children not improving after 48-72 hours of	<ul style="list-style-type: none"> <li>• CXR PA&amp;Lateral</li> <li>• Blood culture</li> <li>• CBC, CRP, ESR</li> </ul>				

<sup>1</sup> Clinical reminder: Augmentin is not preferred therapy for pneumonia as non-encapsulated strains of H. flu, which can cause sinusitis or otitis media, do not cause lower respiratory tract infections.

antibiotics	<ul style="list-style-type: none"> <li>Consider PPD, viral respiratory screen, rapid mycoplasma screen</li> </ul>
-------------	---

<b>Follow-up CXR:</b>	
•	Not routinely recommended for children who recover uneventfully from an episode of CAP
•	Recommended 4-6 weeks after recurrent pneumonia involving the same lobe
•	Recommended after 4-6 weeks in patients with lobar collapse on the initial x-ray with suspicion of an anatomic anomaly, chest mass or foreign body aspiration
<b>Prevention of CAP:</b>	
•	Immunization of all children 6 weeks and older against <i>S. pneumoniae</i> , Hib and pertussis
•	Annual immunization all children 6 m and older against influenza
•	Immunization of parents and caregivers of children <6 months against influenza and pertussis
•	High risk infants should receive immune prophylaxis against RSV