



# Community Acquired Pneumonia Pathway

**Includes:** Patients  $\geq$  3 month corrected age, up to date with vaccines for age  
**Excludes:** Neonates < 3 month corrected age, hospitalization within past 30 days, under-immunized (<2 Hib), evidence of lung abscess or empyema, children with known immunodeficiency, history of cystic fibrosis, tracheostomy, neuromuscular disease or suspicion for aspiration, concern for sepsis

### When to suspect pneumonia:

- Fever
- Tachypnea (RR > 50 in children less than 1 year old; RR > 40 in children greater than 1 year old)
- Hypoxemia
- Dyspnea: Retractions, nasal flaring, grunting, head bobbing
- WBC > 20,000 with any pulmonary symptoms
- Abdominal pain or vomiting
- NOT clinically bronchiolitis or viral etiology (especially if child < 2 years old)

### Diagnostic workup:

- CXR if diagnosis uncertain or if moderate/severe illness
- Consider: CBC/diff, influenza PCR (if flu season), respiratory viral panel, mycoplasma PCR
- For severe illness: Obtain blood culture, consider sputum culture (if child able)

### Mild

Absence of:

- Retractions
- Grunting
- Nasal flaring
- Apnea

Pulse oximetry > 90% RA  
 Non-toxic appearing  
 Tolerates oral medications

### Moderate

Dyspnea (retractions, grunting, nasal flaring, head bobbing)  
 Pulse oximetry < 90% RA  
 Lethargy or dehydration  
 Outpatient treatment failure  
 Vomiting / not tolerating PO

### Severe

Needs CPAP, BiPAP or mechanical ventilation  
 Apnea  
 Hypoxemia despite supplemental O2:

- 100% FiO2 on non-rebreather
- 40% FiO2 on high flow NC
- 50% FiO2 via face mask

Altered mental status  
 Hemodynamic instability

### Outpatient Treatment

**No CXR required**  
**No routine laboratory workup**

**Antibiotics**  
**First line therapy:**  
 Amoxicillin 45 mg/kg/DOSE BID (max 4 g/day) x 7 days  
**If beta lactam allergy:**  
 Clindamycin 10 mg/kg/DOSE q8h (max 1.8 g/day) x 7 days  
 Outpatient f/u in 2-3 days

### Consider Inpatient

**Antibiotics**  
 Ampicillin 50 mg/kg/DOSE q6h (max 2g/dose)

**Considerations:**

- Beta lactam allergy or MRSA history: Clindamycin 14 mg/kg/DOSE q8h (max 900 mg/dose)
- Under-immunized (< 2 Hib): Ceftriaxone 100mg/kg/DOSE q24h (max 2g/dose)

### Consider PICU

**Stabilization**

- ABC's
- 20 mL/kg NS bolus
- VBG

**Antibiotics**

- Vancomycin 15 mg/kg/DOSE q6h (max 500 mg/dose) **AND**
- Ceftriaxone 100 mg/kg q24h (max 2 g/24 hours)

### Complicated pneumonia:

- If more than small effusion or if dyspneic/hypoxemic, consult pediatric pulmonologist for transfer and drainage procedure
- Obtain blood culture
- Antibiotics: Ceftriaxone and vancomycin if severe, otherwise ceftriaxone and clindamycin

**Consider** adding azithromycin to cover mycoplasma if atypical pneumonia suspected (bilateral, interstitial, school-age children)  
**Dosing:** 10 mg/kg once then 5 mg/kg subsequent days – max 500 mg loading dose and 250 mg daily dose. Do NOT use as monotherapy as it does not cover S. pneumo or S. aureus.