

Pediatric 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)

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*.

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