Patient admitted with symptoms of pneumonia.

Does patient meet PICU criteria?

- Admit to PICU
  - Consider ID consult
  - Endotracheal aspirate for cell count & diff and culture at time of intubation
  - Continue or start Initial Antimicrobial Recommendations
  - IVF as needed
  - Respiratory support

PICU Admit Criteria
- Mechanical ventilation
- Noninvasive positive pressure ventilation
- Impending/concerns for respiratory failure or sepsis
- SpO2 < 88% on FiO2 ≥ 50%
- Altered mental status

Were previous blood cultures collected?

- Yes
  - Refer to BCID Therapeutic Guide and/or culture and susceptibility report for treatment guidance

Were results positive?

- Yes
  - Refer to BCID Therapeutic Guide and/or culture and susceptibility report for treatment guidance

- No
  - Manage off pathway

Is patient clinically improving in 48 – 72 hours?

- Yes
  - Discharge Criteria
  - Overall, clinical improvement x 12-24 hours
  - Improved level of activity
  - Improved appetite
  - Improved fever
  - Consistent SpO2 ≥ 88% on room air x 12-24 hours
  - Stable/baseline mental status
  - Tolerating home anti-infective regimen (IV or PO) and home O2 (if applicable) and caregiver able to demonstrate administration
  - ID consult if anticipating outpatient parenteral therapy

- No
  - Has patient met discharge criteria?

- Yes
  - Discharge Instructions
    - Treat for 5-10 days total based on illness severity
    - Follow-up with PCP in 2-3 days

- No
  - Consider ID involvement or CXR to assess for empyema or moderate – large pleural effusion

Inclusion Criteria
- ≥ 3 months old

Exclusion Criteria
- Empyema or moderate-large pleural effusion (≥¼ thorax opacified)
- Immunocompromised patient (HIV, SCID, cancer, chemotherapy, autoimmune disease requiring biologic therapy, etc.)
- Home invasive or non-invasive mechanical ventilation
- Underlying lung disease other than asthma (CF, BPD, patients with tracheostomies, etc.)
- Risk of aspiration pneumonia (neuromuscular disorder, etc.)

Discharge Criteria
- Overall, clinical improvement x 12-24 hours
- Improved level of activity
- Improved appetite
- Improved fever
- Consistent SpO2 ≥ 88% on room air x 12-24 hours
- Stable/baseline mental status
- Tolerating home anti-infective regimen (IV or PO) and home O2 (if applicable) and caregiver able to demonstrate administration
- ID consult if anticipating outpatient parenteral therapy

Discharge Instructions
- Treat for 5-10 days total based on illness severity
- Follow-up with PCP in 2-3 days

ChildrensNebraska.org/Pathways
Updated 02/2023
## Community Acquired Pneumonia (SIMPLE) Clinical Pathway

### Inpatient

#### Community Acquired Pneumonia Etiology Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Viral Pneumonia</th>
<th>Bacterial Pneumonia</th>
<th>Atypical Bacterial Pneumonia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Etiologies</strong></td>
<td>RSV, hMPV, rhinovirus, parainfluenza, influenza, coronaviruses, adenoviruses</td>
<td>Streptococcus pneumoniae, Haemophilus influenzae</td>
<td>Mycoplasma pneumoniae, Chlamydia pneumoniae</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>All ages; most common etiology in children &lt; 5 years</td>
<td>All ages</td>
<td>Most common in ages &gt; 5 years</td>
</tr>
<tr>
<td><strong>Onset</strong></td>
<td>Gradual</td>
<td>Abrupt, rapid progression</td>
<td>Gradual, slow progression</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>Non-productive cough typically preceded by URI symptoms (coryza, pharyngitis, mild fever, etc.)</td>
<td>Fever, chills, cough (± productive), ± localized chest pain</td>
<td>Non-productive, irritative cough, typically preceded by headache, malaise, pharyngitis</td>
</tr>
<tr>
<td><strong>Physical Exam Findings</strong></td>
<td>Non-toxic appearing; diffuse, bilateral auscultatory findings of wheezing or crackles</td>
<td>Ill appearance, tachypnea, respiratory distress, focal auscultatory findings of rales or “tubular” breath sounds; dullness to precussion over the involved lung area</td>
<td>Well-appearing; diffuse rales, crackles, rhonchi, or wheezes</td>
</tr>
<tr>
<td><strong>Radiographic Findings</strong></td>
<td>Diffuse, bilateral interstitial infiltrates</td>
<td>Alveolar infiltrates, lobar, or segmental consolidation, “round pneumonia”, complications may include pleural effusion, empyema, lung abscess, necrotizing pneumonia or pneumatocele</td>
<td>Diffuse, bilateral interstitial infiltrates</td>
</tr>
</tbody>
</table>

### Disclaimer:
Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement, and taking into account individual patient and family circumstances.