Management of Community-Acquired Pneumonia

Community-Acquired Pneumonia (CAP) is pneumonia that develops outside the hospital or within 48 hours of hospital admission. See ASP website for detailed guidance.

Outpatient

**No Comorbidities**
- Amoxicillin OR Doxycycline

**Comorbidities**
- Malignancy, alcoholism, asplenia, diabetes, chronic heart/lung/liver/renal disease
  - Amoxicillin/Clavulanate OR Cefuroxime PLUS Azithromycin OR Doxycycline
  - Severe beta-lactam allergy: Levofloxacin

Inpatient

**DO NOT** routinely add broad spectrum antibiotics. Evaluate risk factors first.

Risk Factors for Resistance in CAP

<table>
<thead>
<tr>
<th>Risk Factors for MRSA</th>
<th>Risk factors for resistant Gram-negative rods (Pseudomonas, etc.)</th>
<th>Risk factors for MRSA and resistant Gram-negative rods</th>
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</thead>
<tbody>
<tr>
<td>History of MRSA sputum colonization (within 1 year)</td>
<td>History of sputum colonization with Pseudomonas or Gram-negative rod resistant to typical CAP therapy (within 1 year)</td>
<td>Recently hospitalized (last 90 days) and treated with broad spectrum antibiotics for at least 5 days (both required)</td>
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<tr>
<td>Post-influenza pneumonia</td>
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<tr>
<td>Severe necrotizing pneumonia</td>
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Assess Severity

**Non-Severe**
- **Preferred:** Ampicillin/Sulbactam OR Ceftriaxone PLUS Azithromycin OR Doxycycline
- Alternative: Levofloxacin
- No risk factors for resistance → no diagnostic testing
- Any risk factor → obtain sputum culture:
  - Positive MRSA → consider adding Vancomycin or Linezolid
  - Positive Pseudomonas → consider use of Piperacillin/Tazobactam** OR Cefepime
  - If patient improves on typical CAP therapy, no antibiotic adjustments needed

**Severe**
- Always obtain respiratory tract diagnostic testing and modify therapy based on results
- Ampicillin/Sulbactam OR Ceftriaxone PLUS Azithromycin* (OR Levofloxacin)
- Beta-lactam allergy → Levofloxacin
- If MRSA risk factors → consider adding Vancomycin or Linezolid
- If resistant GNR risk factors → consider Piperacillin/Tazobactam** OR Cefepime PLUS Azithromycin*
- If recent hospital stay with use of IV antibiotics:
  - Consider addition of Vancomycin or Linezolid PLUS Piperacillin/Tazobactam** OR Cefepime PLUS Azithromycin*

Treat most patients five (5) days only

*Azithromycin preferred. If azithromycin cannot be used, use levofloxacin. If neither levofloxacin nor azithromycin can be used, doxycycline can be substituted.
**Avoid use of vancomycin in combination with piperacillin/tazobactam

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