1. Assess HCAP Criteria
- Hospitalized for > 48hrs in past 90 days
- Resident of SNF or extended care facility
- Received HD in past 30 days
- IV antibiotics or chemotherapy in past 30 days
- Home wound care
- Exposure to family member with MDR pathogen

2. Assess Pseudomonas/MDRO Risk Factors
- ≥7 days of continuous antibiotics in past 90 days
- Poor functional status (significant debilitation with incontinence and inability to perform ADLs)
- Hospitalized for > 48hrs in past 90 days
- Immunosuppression (ANC < 1000, congenital immunodeficiency, asplenia, HIV, hematologic malignancies, prednisone equivalent > 10 mg/day for 2+ weeks)
- Bronchiectasis/Structural lung disease

3. Choose Appropriate Category

**HCAP with 0-1 MDRO risk factors**
- Doxycycline 100 mg PO BID **PLUS** Ceftriaxone 1 gm (2 gm for BMI ≥ 30) IV daily
- Azithromycin 500mg IV daily **PLUS** Ceftriaxone 1 gm (2 gm for BMI ≥ 30) IV daily
- Levofloxacin 750 mg PO/IV daily
- **Add** Vancomycin per pharmacy for MRSA risk*
- **Aspiration**: See Addendum

**CAP or HCAP with 2+ MDRO risk factors**
- Ceftepime 1 gm IV q8hrs (2 gm for ICU/PCU or BMI ≥ 30) **OR** Pip/tazo 4.5 gm x1, then 3.375 gm IV q8hrs extended infusion
- **PLUS** Levofloxacin 750mg IV daily
- **PLUS** Vancomycin per pharmacy
- **Aspiration**: See Addendum

*MRSA Risk: ≥ 48hr hospital stay in past 90 days, inhaled tobacco use, IV drug abuse, ≥7 days duration of antibiotics in past 90 days, SNF stay within last 90 days, prior MRSA in any culture, ICU admit in past 90 days

Updated by Justin Jellison, PharmD; Approved by ASP Committee
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Pneumonia Treatment Algorithm Addendum – Aspiration Pneumonia Clarification

Aspiration cases often do not require antibiotic therapy, but providers typically treat all suspected cases. Aspiration (chemical) pneumonitis occurs when lung parenchyma is damaged following inhalation of sterile stomach or oropharyngeal contents to the lower airway. Although the airway lining is damaged (this could increase the risk of secondary infection), it is not an infectious process that typically requires antibiotics. Alternatively, aspiration pneumonia is an infectious process following the inhalation of colonized pathogenic bacteria from the gastric contents or oropharyngeal area. This syndrome does require antibiotics; anaerobic bacteria are often the pathogens. However, these distinct processes have very similar presentations often leading to antibiotics in both cases.

Aspiration in CAP or HCAP with 0-1 Risk Factors

- Substitute Unasyn for ceftriaxone (e.g. Unasyn 3 gm IV q6hrs PLUS doxycycline 100mg PO BID)
  OR
- Add metronidazole to the existing regimen (e.g. Levofloxacin 750mg PO daily PLUS metronidazole 500mg PO q8hrs)

Aspiration in CAP or HCAP with 2+ Risk Factors

- Substitute pip/tazo for cefepime (e.g. pip/tazo 3.375 gm IV q8hrs extended infusion PLUS levofloxacin 750mg IV daily PLUS vancomycin)
  OR
- Add metronidazole to cefepime regimen (e.g. cefepime 1 gram IV q8hrs PLUS levofloxacin 750mg IV daily PLUS metronidazole 500mg IV q8hrs PLUS vancomycin)