

Recommendations for Preventing and Treating Community-Acquired Pneumonia

Preferred Therapy

- An IV antipneumococcal, antipseudomonal beta-lactam + (ciprofloxacin IV or levofloxacin IV 750 mg/day) (AI)
 - Preferred beta-lactams: piperacillin-tazobactam, cefepime, imipenem, or meropenem

Alternative Therapy

- An IV antipneumococcal, antipseudomonal beta-lactam + an IV aminoglycoside + IV azithromycin (BII), or
- An IV antipneumococcal, antipseudomonal beta-lactam + an IV aminoglycoside + an antipneumococcal fluoroquinolone (moxifloxacin or levofloxacin) (BII)

For Penicillin-Allergic Patients

- Replace the beta-lactam with aztreonam (BII).

Empiric Therapy for Patients at Risk of Methicillin-Resistant *Staphylococcus aureus* (MRSA) Pneumonia

Preferred Therapy

- A nasal swab for MRSA can help inform decision of initial coverage for MRSA (see text for discussion)
- Vancomycin IV or linezolid (IV or PO) should be added to the baseline regimen (AII).
- Although not routinely recommended, the addition of clindamycin to vancomycin (but not to linezolid) may be considered for severe necrotizing pneumonia to minimize bacterial toxin production (CII).

Duration of Therapy

- For most patients: 5–7 days. The patient should be afebrile for 48–72 hours, and should be clinically stable before discontinuation of therapy.
- Longer duration of antibiotics is often required if severe CAP or bacteremia is present, and particularly if due to *S. pneumoniae* or complicated *S. aureus* infection.

Switch from IV to PO Therapy

- A switch should be considered for patients who have improved clinically, can swallow and tolerate oral medications, and have intact gastrointestinal function (BIII).

Other Considerations

- Empiric therapy with a macrolide alone is not routinely recommended because of increasing pneumococcal resistance (up to 30%) (BIII), and patients receiving a macrolide for MAC prophylaxis may have resistance due to chronic exposure (BIII).
- Fluoroquinolones should be used with caution in patients in whom TB is suspected but who are not being treated with concurrent standard four-drug TB therapy (BIII).
- Once the pathogen has been identified by reliable microbiologic methods, antibiotic therapy should be modified to target the pathogen (BIII).
- If drug-resistant pathogens have not been identified by reliable microbiologic methods, antibiotic therapy can be de-escalated to cover routine causes of CAP (BIII).
- Antibiotics chemoprophylaxis is generally not recommended because of the potential for development of drug resistance microorganisms and drug toxicities (AI).

^a Respiratory fluoroquinolones such as levofloxacin or moxifloxacin are also active against *Mycobacterium tuberculosis*. In patients with undiagnosed TB, fluoroquinolones may alter response to therapy, delay TB diagnosis, and increase the risk of drug resistance. These drugs should be used with caution in patients in whom TB is suspected but who are not receiving a standard 4-drug TB regimen.

Key: ART = antiretroviral therapy; CD4 = CD4 T lymphocyte cell; IM = intramuscularly; IV = intravenously; MAC = *Mycobacterium avium* complex; MRSA = methicillin-resistant *Staphylococcus aureus*; PCV13 = 13-Valent Pneumococcal Conjugate Vaccine; PO = orally; PPSV23 = 23-Valent Pneumococcal Polysaccharide Vaccine; TB = tuberculosis