

COMMUNITY-ACQUIRED PNEUMONIA IN ADULTS

Group	Likely Organisms	Empiric Treatment
I. Outpatients—no modifying factors present [†]	<i>Streptococcus pneumoniae</i> , <i>Mycoplasma pneumoniae</i> , <i>Chlamydia pneumoniae</i> , <i>Haemophilus influenzae</i> , respiratory viruses, miscellaneous (<i>Legionella</i> sp, <i>Mycobacterium tuberculosis</i> , endemic fungi)	Macrolide (azithromycin 500 mg po once, then 250 mg once/day; clarithromycin 250 to 500 mg po bid; or extended-release clarithromycin 1 g once/day) or Doxycycline 100 mg po bid (if allergic to macrolide)
II. Outpatients—modifying factors present [†]	<i>S. pneumoniae</i> , including drug-resistant forms; <i>M. pneumoniae</i> ; <i>C. pneumoniae</i> ; mixed infection (bacteria + atypical pathogen or virus); <i>H. influenzae</i> ; enteric gram-negative organisms; respiratory viruses; miscellaneous (<i>Moraxella catarrhalis</i> , <i>Legionella</i> sp, anaerobes [aspiration], <i>M. tuberculosis</i> , endemic fungi)	β-lactam (cefepodoxime 200 mg po q 12 h; cefuroxime 500 mg po q 12 h; amoxicillin 1 g q 8 h; amoxicillin/clavulanate 875/125 mg q 12 h) <i>plus</i> A macrolide po or Antipneumococcal fluoroquinolone [‡] (alone) po
III. Inpatient—not in ICU	<i>S. pneumoniae</i> , <i>H. influenzae</i> ; <i>M. pneumoniae</i> ; <i>C. pneumoniae</i> ; mixed infection (bacteria + atypical pathogen or virus); respiratory viruses; <i>Legionella</i> sp, miscellaneous (<i>M. tuberculosis</i> , endemic fungi, <i>Pneumocystis jiroveci</i>)	Azithromycin 500 mg IV q 24 h <i>plus</i> β-lactam IV (cefotaxime 1 to 2 g q 8 to 12 h; ceftriaxone 1 g q 24 h) or Antipneumococcal fluoroquinolone [‡] po or IV (alone)
IVA. ICU patient—no <i>Pseudomonas</i> risk factors	<i>S. pneumoniae</i> , including drug-resistant forms, <i>Legionella</i> sp, <i>H. influenzae</i> , enteric gram-negative organisms, <i>S. aureus</i> , <i>M. pneumoniae</i> , respiratory viruses, miscellaneous (<i>C. pneumoniae</i> , <i>M. tuberculosis</i> , endemic fungi)	β-lactam IV (cefotaxime 1 to 2 g IV q 8 to 12 h; ceftriaxone 1 g IV q 24 h) <i>plus either</i> Antipneumococcal fluoroquinolone [‡] IV or Azithromycin 500 mg IV q 24 h

COMMUNITY-ACQUIRED PNEUMONIA IN ADULTS —Continued

Group	Likely Organisms	Empiric Treatment
IVB. ICU patient— <i>Pseudomonas</i> risk factors present	Same as previous plus <i>Pseudomonas</i> sp	Antipseudomonal β -lactam [§] or aztreonam (if allergic to or intolerant of β -lactams) 1 to 2 g q 8 h <i>plus either</i> ciprofloxacin 400 mg IV q 12 h or levofloxacin 750 mg po or IV q 24 h Alternatively: Antipseudomonal β -lactam [§] <i>plus</i> an aminoglycoside <i>plus either</i> ciprofloxacin 400 mg IV q 12 h or levofloxacin 750 mg po or IV q 24 h

*These guidelines do not apply to patients with immunosuppression, influenza, aspiration pneumonia, or healthcare-associated pneumonia.

†Modifying factors:

Increased risk of drug-resistant organisms: Age > 65, alcoholism, antibiotic within 3 mo, exposure to child in day care center, multiple coexisting illnesses.

Increased risk of enteric gram-negative organisms: Antibiotic use within 3 mo, cardiopulmonary disease (including COPD and heart failure), multiple coexisting illnesses.

*Increased risk of *Pseudomonas aeruginosa*:* Broad spectrum antibiotics > 7 days in past month, corticosteroid use, undernutrition, structural pulmonary disease.

[‡]Antipneumococcal fluoroquinolones = levofloxacin 750 mg po or IV q 24 h or moxifloxacin 400 mg po or IV q 24 h.

[§]Antipseudomonal β -lactams = cefepime 1 to 2 g IV q 12 h, imipenem 500 mg IV q 6 h, meropenem 500 mg to 1 g IV q 8 h, piperacillin/ tazobactam 3.375 g IV q 4 h.

Data from Mandell A, Wunderink R, Azueto A, et al: Infectious Disease Society of America and American Thoracic Society Guidelines for the management of adults with community-acquired pneumonia. *Clinical Infectious Diseases* 44:S27–S72, 2007.