# Community-Acquired Pneumonia



# Diagnosis

**Symptoms:** Cough (generally with increased sputum), fevers, shortness of breath, or chest pain **Exam:** Tachycardia, tachypnea, or decreased oxygen saturation with rhonchi or crackles

- In patients with obvious signs and symptoms of community-acquired pneumonia (CAP), it is reasonable to initiate antibiotics without obtaining a chest x ray. Order a chest x ray if the diagnosis is uncertain, the patient has hypoxia or significant dyspnea, or the patient does not improve 48–72 hours after initiating antibiotic therapy.<sup>1,2</sup>
- If no infiltrate is present on chest x ray, bacterial pneumonia is unlikely.<sup>1,2</sup>
- Diagnostic testing for influenza or SARS-CoV-2 should be considered when these viruses are circulating.

## Treatment<sup>1-4</sup>

Treatment Preferences	Healthy Adults	Adults With Comorbidities or Recent Hospitalization with Parenteral Antibiotics (within 90 days)	Children
Preferred	Amoxicillin OR Doxycycline OR (if <25% of local pneumococcus is macrolideresistant) Azithromycin OR Clarithromycin	Amoxicillin-clavulanate OR Cefpodoxime OR Cefuroxime WITH: Azithromycin OR Clarithromycin OR	Amoxicillin
Alternative		Severe penicillin allergy: Levofloxacin OR Moxifloxacin	Received amoxicillin <30 days: Amoxicillin-clavulanate Nonsevere penicillin allergy: Cefpodoxime OR Cefuroxime Severe penicillin allergy: Levofloxacin OR Moxifloxacin OR Azithromycin OR Clarithromycin

# Duration<sup>1,5-9</sup>

- A duration of no more than 5 days is generally sufficient for most adults and children with CAP.
- Consider prolonging therapy to at least 7 days if the patient has immunocompromise, underlying structural lung disease (not including asthma), or does not have an adequate clinical response to therapy within 72 hours.

#### **Followup**

- Remind patients that some symptoms such as fatigue and cough may persist for months.
- Patients should be instructed to return to medical attention if they do not have some improvement in symptoms by day 3 of antibiotics or if they experience mental status changes or become increasingly ill, regardless of how many days of antibiotics they have taken.

## References

- Metlay JP, Vaterer GW, Long AC, et al. Diagnosis and treatment of adults with community-acquired pneumonia. An official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America. Am J Respir Drit Care Med. 2019 Oct 1;200(7):e45-67. PMID: 31573350.
- 2. Bradley JS, Byington CL, Shah SS. Executive summary: the management of community-acquired pneumonia in infants and children older than 3 months of age: clinical practice guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America. Clin Infect Dis. 2011 Oct;52(7):617-30. PMID: 21890766.
- Bielicki JA, Stohr W, Barratt S, et al. Effect of amoxicillin dose and treatment duration on the need for antibiotic re-treatment in children with communityacquired pneumonia. JAMA. 2021;326(17):1713-24. PMID: 34726708.
- Musher DM, Thorner AR. Community-acquired pneumonia. N Engl J Med. 2014 Oct 23;371(17):1619-28. PMID: 25337751.
- Uranga A, Espana PP, Bilbao JM, et al. Duration of antibiotic treatment in community-acquired pneumonia: A multicenter randomized clinical trial. JAMA Intern Med. 2016 Sep 1;176(9):1257-65. PMID: 27455166.

- Greenberg D, Givon-Lavi N, Ben-Shimol S, et al. Short-course antibiotic treatment for communityacquired alveolar pneumonia in ambulatory children: a double-blind, randomized, placebo-controlled trial. Pediatr Infect Dis J. 2014 Feb;33(2):136-42. PMID: 23989106.
- Pernica JM, Harman S, Kam AJ, et al. Short-course antimicrobial therapy for pediatric communityacquired pneumonia: The SAFER randomized clinical trial. JAMA Pediatr. 2021 May 1;175(5):475-82. PMID: 33683325.
- 8. William DJ, Creech CB, Walter EB, et al. Short- vs standard-course outpatient antibiotic therapy for community-acquired pneumonia in children: The SCOUT-CAP randomized clinical trial. JAMA Pediatr. 2022 Jan 18;e215547. PMID: 35040920.
- Dinh A, Ropers J, Duran C, et al. Discontinuing β-lactam treatment after 3 days for patients with community-acquired pneumonia in non-critical care wards (PTC): a double-blind, randomised, placebo-controlled, non-inferiority trial. Lancet. 2021 Mar 27;397(10280):1195-203.

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