

17 Community- Acquired Pneumonia

An educational service of NetCE

Ask Your Patients...

"Are you aware of the signs of pneumonia?"

If Your Patient Asks...

"How will I know if I have pneumonia?"

UNDERSTAND the problem

Pneumonia is an acute inflammatory condition within the parenchyma of the lung caused by infection that reaches the lower respiratory tract. It is a substantial healthcare concern, ranking among the most common reasons for emergency department and outpatient visits, hospitalizations, and deaths among both adults and children.¹

Determining an accurate prevalence of pneumonia is challenging because case definition varies across studies and case reporting often links pneumonia with influenza. Approximately 5 to 6 million cases are diagnosed annually, with about 1 million occurring in older adults.² The average overall mortality rate for hospitalized adults with community-acquired pneumonia is 12%, but the rate is higher—about 30% to 40%—for adults who require admission to an intensive care unit.³

WHO is at highest risk

The primary risk factors for community-acquired pneumonia are older age, comorbidities, and smoking history. Occupational dust exposure and history of childhood pneumonia have also been associated with an increased risk, as has male gender, unemployment, and single marital status.⁴

Alcoholism and chronic diseases, such as respiratory disease, cardiovascular disease, or kidney disease, also increase the risk for community-acquired pneumonia, especially in the older population.^{1, 5} In the pediatric population, very young children are at increased risk because their immune systems have not fully developed. Diseases or medications that suppress the immune system increase the risk among all ages.^{4, 5}

WHAT are the signs and symptoms

Diagnosis relies primarily on clinical features, but the clinical presentation varies and there is little agreement on the essential features of the disease.¹ Among the more common symptoms and signs in adults are:

- Cough
- Chills
- Sputum production
- Dyspnea
- Pleuritic pain
- Fever
- Tachypnea
- Tachycardia
- Hypoxemia
- Crackles on auscultation
- Decreased breath sounds
- Bronchial breath sounds
- Dullness to percussion
- Egophony

When pneumonia is suspected on the basis of these clinical features, chest radiography is the standard for confirming the diagnosis.

The clinical manifestations in older adults and children often differ from the characteristic signs and symptoms in younger adults.⁵

HOW can it be prevented

The primary preventive strategy for community-acquired pneumonia is immunization with pneumococcal and influenza vaccinations, especially for older individuals (older than 65 years of age), young children, and groups at high risk.⁶ Despite the wide distribution of the Advisory Committee on Immunization Practices immunization schedule and public campaigns about the importance of vaccination, rates of both pneumococcal and influenza vaccination are low and vary across racial/ethnic populations. Healthcare providers must address documented barriers to recommended vaccinations and gain a better understanding of other challenges to vaccination.

Other prevention strategies include improved hand hygiene compliance and adherence to healthy lifestyle behaviors. Reinforcement of these points may be completed at each patient contact, particularly for high-risk patients.

WHERE to find resources

American College of Chest Physicians

<http://www.chestnet.org>

American Thoracic Society

<http://www.thoracic.org>

Centers for Disease Control and Prevention

<https://www.cdc.gov>

Infectious Diseases Society of America

<http://www.idsociety.org>

Pediatric Infectious Diseases Society

<http://www.pids.org>

National Institute of Allergy and Infectious Diseases

<https://www.niaid.nih.gov>

- 1 Haessler S, Schimmel JS. Managing community-acquired pneumonia during flu season. *Cleve Clin J Med*. 2012;79(1):67-78.
- 2 Niederman M, Mandell LA, Anzueto A, et al. Guidelines for the management of adults with community-acquired pneumonia: diagnosis, assessment of severity, antimicrobial therapy, and prevention. *Am J Respir Crit Care Med*. 2001;163(7):1730-1754.
- 3 File TMJ. The science of selecting antimicrobials for community-acquired pneumonia (CAP). *J Manag Care Pharm*. 2009;15(2 Suppl): S5-S11.
- 4 Jackson M, Neuzil KM, Thompson WW, et al. The burden of community-acquired pneumonia in seniors: results of a population-based study. *Clin Infect Dis*. 2004;39(11):1642-1650.
- 5 Marrie T. Community-acquired pneumonia in the elderly. *Clin Infect Dis*. 2000;31(4):1066-1078.
- 6 Kim DK, Riley LE, Harriman KH, Hunter P, Bridges CB. Advisory Committee on Immunization Practices recommended immunization schedule for adults aged 19 years or older--United States, 2017. *MMWR*. 2017;66(5):136-138.

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