

**COMMUNITY-ACQUIRED PNEUMONIA**

Community-acquired pneumonia (CAP) is an infection of the lung parenchyma that begins in the community and is diagnosed within 48 hours of admission to the hospital. In the U.S. each year, CAP is the most common infectious cause of death and the sixth leading cause of death overall in the United States. The Healthcare Cost and Utilization Project (HCUP) attributed 831,000 discharges to the Diagnosis Related Group (DRG) for Simple Pneumonia in 2002. These patients were hospitalized for a mean of 5.4 days and had an in-hospital mortality of 4.9%. The mean charges for these patients were \$13,000 per patient and the mean length-of-stay was 4.7 days with in-house mortality of 1.7%. Quality indicators have been created around the key processes of care for patients with CAP, and these indicators are used to evaluate performance of states, healthcare organizations, physician groups, and individual physicians. From admission to discharge, hospitalists apply evidence based practice guidelines to the management of CAP and lead initiatives to improve quality of care and reduce practice variability.

**KNOWLEDGE**

*Hospitalists should be able to:*

- Define CAP, list the likely etiologies and signs and symptoms, and distinguish from hospital-acquired pneumonia.
- Differentiate CAP from other processes that may mimic CAP or other causes of infiltrates on chest x-ray.
- Describe the indicated tests required to evaluate and treat CAP.
- Explain indications for respiratory isolation.
- Identify patients with co-morbidities (such as the immunocompromised patient and those with diabetes mellitus) and extremes of age (the elderly and very young) who are at risk for a complicated course of CAP.
- Identify specific pathogens that predispose patients to a complicated course of CAP.
- Explain patient specific risk factors and presence of specific organisms that predispose patients to a complicated course of CAP.
- Describe indicated therapeutic modalities for CAP including oxygen therapy, respiratory care modalities and antibiotic selection.
- Predict patient risk for morbidity and mortality from CAP using an evidence based tool such as the Pneumonia Patient Outcomes Research Team (PORT) / Pneumonia Severity Index (PSI) validated risk score.
- Explain goals for hospital discharge, including evidence based measures of clinical stability for safe care transition.

**SKILLS**

*Hospitalists should be able to:*

- Elicit a focused history to identify symptoms consistent with CAP and demographic factors that may predispose patients to CAP.
- Perform a targeted physical examination to elicit signs consistent with CAP and differentiate it from other mimicking conditions.
- Select and interpret indicated laboratory, microbiologic and radiological studies to confirm diagnosis of CAP, and risk stratify patients.
- Apply evidence based tools such as the pneumonia severity index, to triage decisions and identify factors that support the need for intensive care unit (ICU) admission.
- Initiate empiric antibiotic selection based on exposure to long term or group care, severity of illness, and evidence based national guidelines, taking into account local resistance patterns.
- Formulate a subsequent treatment plan that includes narrowing antibiotic therapies based on available culture data and patient response to treatment.
- Recognize and address complications of CAP and/or inadequate response to therapy including respiratory failure and emerging parapneumonic effusions.

**ATTITUDES**

*Hospitalists should be able to:*

- Communicate with patients and families to explain the history and prognosis of CAP.
- Communicate with patients and families to explain the goals of care plan, including clinical stability criteria, the importance of prevention measures such as smoking cessation, and required follow-up care.
- Communicate with patients and families to explain tests and procedures, and the use and potential side effects of pharmacologic agents.
- Recognize indications for specialty consultation.
- Promote prevention strategies, which may include smoking cessation and indicated vaccinations.
- Collaborate with primary care physicians and emergency physicians in making the admission decision.
- Document treatment plan and discharge instructions, and identify the outpatient clinician responsible for follow-up of pending tests.
- Recognize and address barriers to follow-up care and anticipated post-discharge requirements.
- Utilize evidence based recommendations for the treatment of patients with CAP

**SYSTEM ORGANIZATION AND IMPROVEMENT**

*To improve efficiency and quality within their organizations, Hospitalists should:*

- Lead, coordinate or participate in efforts to identify, address and monitor quality indicators for CAP including assessment of oxygenation, obtaining blood cultures prior to administration of antibiotics, prompt administration of antibiotics, and providing indicated vaccinations and smoking cessation education.
- Implement systems to ensure hospital wide adherence to national standards and document those measures as specified by recognized organizations (JCAHO, IDSA, ATS)
- Integrate PORT score / PSI in conjunction with patient specific factors and clinical judgment into the admission decision.
- Lead, coordinate or participate in multidisciplinary initiatives, which may include collaboration with infectious disease and pulmonary specialists, to promote patient safety and cost effective diagnostic and management strategies for patients with CAP.
- Lead efforts to educate staff on the importance of smoking cessation counseling and other prevention measures.