

Community-Acquired Pneumonia (CAP) in Adults

Outpatient treatment of adults not HIV-infected or immunocompromised

CLINICAL CONSIDERATIONS

CAP should be suspected in patients with newly-acquired lower respiratory tract symptoms (cough, sputum production, or dyspnea) especially if accompanied by fever, altered breath sounds, and rales. A CXR is required to make the diagnosis.

The initial site of care is the single most important decision made by clinicians during an episode of CAP. This decision involves 3 steps: 1) assessment of any preexisting conditions that compromise the safety of home care; 2) calculation of the PSI (see verso); and 3) clinical judgement.

A significant number of treatment failures have been documented for *S. pneumoniae* resistant to macrolides.

Fluoroquinolones should be used for outpatients only when the patient has failed first-line therapy, has known allergy to first-line agents, or where highly resistant pneumococcus (penicillin MIC > 4 mcg/ml) is prevalent.

MANAGEMENT OF OUTPATIENTS

Previously healthy, no recent (within 3 months) antibiotic therapy: 1) azithromycin, clarithromycin, erythromycin or doxycycline.

Previously healthy, antibiotics within past 3 months: 1) azithromycin or clarithromycin, **plus** high-dose amoxicillin (4 gm/day) or amoxicillin-clavulanate (4 gm/day); 2) a respiratory fluoroquinolone alone.

Comorbidities (COPD, diabetes, renal or congestive heart failure, malignancy), no recent antibiotic therapy: 1) azithromycin or clarithromycin; 2) a respiratory fluoroquinolone alone.

Comorbidities, antibiotics within past 3 months: 1) azithromycin or clarithromycin, **plus** high-dose amoxicillin, amoxicillin-clavulanate, cefpodoxime, cefprozil or cefuroxime; 2) a respiratory fluoroquinolone alone.

Further Guidelines on Management of Inpatients with CAP

Mandell LA, Bartlett JG, Dowell SF, File TM, Musher DM, Whitney C. Update of practice guidelines for the management of community-acquired pneumonia for immunocompetent patients. *CID* 2003;37:1405-33.

Bartlett JG, Dowell SF, Mandell LA, File TM, Musher DM, Fine MJ. Practice guidelines for the management of community-acquired pneumonia in adults. *CID* 2000;31:347-82.

These guidelines were produced in collaboration with the Infectious Diseases Society of Oregon.

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Adult CAP PSI Risk Calculator

RISK CLASS I (usually outpatient care)

Outpatients <50 years old with no cardiopulmonary disease and none of the following risk factors:

- Comorbidities: neoplastic disease, heart failure, cerebrovascular, chronic pulmonary, renal or hepatic disease, bronchiectasis, diabetes, alcoholism, malnutrition
- Hospitalization within past year
- Physical exam findings: Altered mental status, pulse \geq 125/minute, respiratory rate \geq 30/minute, systolic BP < 90mmHg, temperature < 35°C or \geq 40°C

RISK CLASSES II-V (see table below right for site of care)

Add up point score for patients not qualifying for Class I according to the following list:

Characteristic Points

Demographic factors:

Age (men)	1 point/year
Age (women)	Age (yr) - 10
Nursing home resident	10

Comorbidities:

Neoplastic disease	30
Liver disease	20
Congestive heart failure	10
Cerebrovascular disease	10
Renal disease	10

Physical exam findings:

Altered mental status	20
Respiratory rate \geq 30/minute	20
Systolic BP < 90 mmHg	20
Temperature < 35°C or \geq 40°C	15
Pulse \geq 125/minute	10

Lab and Radiographic Findings:

Arterial pH < 7.35	30
Na < 130 mEq/L	20
Partial pressure of arterial O ₂ < 60mmHg	10
BUN \geq 30 mg/dL (14 mmol/L)	10
Hematocrit < 30	10
Pleural effusion	10

Risk Class Point Assignment and Site of Care

Class	Points	Site of Care
I	(see above)	Outpatient care
II	\leq 70	Outpatient care
III	71-90	Brief inpatient observation
IV	91-130	Traditional inpatient care
V	>130	Traditional inpatient care

Adapted from Bartlett et al., CID 2000;31:347-82.
The calculator above can be downloaded for PDA
at <http://pda.ahrq.gov/clinic/psi/psi.htm>.

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