Management of Community-Acquired Pneumonia in Adults §

Diagnose community-acquired pneumonia.
Consider alternate diagnoses.
(CHF, PE, and others)

Risk stratify using clinical judgment

or

CRB-65
Assign 1 point each for:

Confusion (MMSE <9 or new disorientation to person, place or time)	RR ≥30 breaths/min
SBP <90mmgHg or DBP < 60mmHg	Age ≥65 years

0 points and SP02>92% on room air	Low Risk	Thirty day mortality: 2.4%
1-2 points	Intermediate Risk	Thirty day mortality: 13.3%
3-4 points	High Risk	Thirty day mortality: 34.3%

⚠ If patient is at risk for antimicrobial-resistant organisms (e.g. recent antimicrobial therapy or structural lung disease), consider modifications and/or expert advice.

Outpatient*

amoxicillin 1 gm po bid
x 5-7 days

(Some experts recommend a longer duration for patients with structural lung disease.)

⚠ if ß-lactam allergic: levofloxacin 750mg or moxifloxacin 400mg po daily x 5 days

Inpatient-Ward*

amoxicillin-clavulanic acid 875/125mg po bid*
X 5-7 days

or

cefotaxime 1g q8h iv or ceftriaxone 1g q24h iv*
X 5-7 days

⚠ if ß-lactam allergic: levofloxacin 750mg po/iv daily or moxifloxacin 400mg po/iv daily

ICU or Step-down/Step-up*

⚠ If patient is septic: Manage as per local sepsis protocols. Blood cultures before antibiotics.

cefotaxime 1g q8h or ceftriaxone 1g q24h iv

and

azithromycin 500mg iv daily

⚠ if ß-lactam allergic: levofloxacin 750mg or moxifloxacin 400mg iv daily

MRSA colonization known/suspected:
Add vancomycin 15-20mg/kg iv q12h
(or dose according to institutional guidelines)

Last revised: October 2016

§ In most circumstances, these guidelines apply equally to patients residing in long-term care institutions (e.g. Nursing Homes).

*Routine coverage of atypical bacteria has not been proven to be of benefit in this setting. In Ontario the highest risk period for Legionella is June to October; during this period consider adding azithromycin 500 mg po or iv. Please see FAQ's for explanation.

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Management of Community-Acquired Pneumonia: Additional Tools

⚠ This algorithm is NOT for patients with significant immunocompromise that might alter the choice of empiric antimicrobial therapy.

This includes (but is not limited to) patients with:

- Recent or current use of immunomodulating drugs (e.g. high-dose corticosteroids, cyclosporine, infliximab, etanercept, etc.)
- HIV with low (known or suspected) CD4 count
- Solid organ transplantation
- Stem cell transplantation
- Chemotherapy-associated neutropenia

Approximate Antimicrobial Costs*

Antibiotic	Cost / Day	Limited Use Code
amoxicillin 1000 po mg bid	$2.66	N/A
amoxicillin-clavulanate 875/125mg po bid	$2.78	N/A
levofloxacin 750mg po daily	$8.61	337 (co-morbidity), 339 (step-down), or 977 (allergy to alternatives). 750mg tabs is not an ODB benefit. Dispense 500mg tabs. Take 1 and 1/2 tabs daily.
moxifloxacin 400mg po daily	$5.66	337 (co-morbidity), 339 (step-down), or 977 (allergy to alternatives).

Antibiotic	Cost / Day
ceftriaxone 1g iv daily	$5
cefotaxime 1g iv q8h	$20
azithromycin 500mg po daily	$1.50
azithromycin 500mg iv daily	$8
levofloxacin 750mg iv or moxifloxacin 400mg iv daily	$24

Streptococcus pneumoniae resistance†

Antibiotic	Resistance in Pneumococcal Isolates
penicillin G (non-meningitis)	0.2%
ceftriaxone	1.3%
moxifloxacin	0.4%
levofloxacin	0.4%
amoxicillin	1.7%
cefuroxime	10%
doxycycline	15%
azithromycin clarithromycin	36%

Haemophilus influenzae resistance to amoxicillin‡

33%

* Costs can only be provided as estimates as of October 2016, and may vary for both inpatient and outpatient pharmacies.

†Adult respiratory specimens from Ontario laboratories participating in the Canadian Bacterial Surveillance Network/Toronto Invasive Bacterial Diseases Network, 2015. Data courtesy Dr. Allison McGeer.

‡Specimens submitted to UHN/MSH shared microbiology service in 2016. . Data courtesy of Dr. Tony Mazzulli

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