



# Antimicrobial Stewardship Programme: Innovation, Research, Education, and Safety

Quality and Patient Safety, Vancouver Coastal Health Vancouver General Hospital 855 West 12<sup>th</sup> Avenue, Vancouver, BC, V5Z 1M9, Canada

# VCH COMMUNITY-ACQUIRED PNEUMONIA (CAP) MANAGEMENT GUIDELINES FOR ADULTS

#### **KEY POINTS:**

- 1. Many "pneumonias" are viral and do <u>NOT</u> require antibiotic therapy; consider viral prodrome, epidemiology, and severity of illness before starting antibiotics. (Test and consider treatment for influenza during influenza season).
- 2. Guidelines provide empiric regimens for most common pathogens; clinicians should always check Gram-stain (within 24 hours) and cultures (at 48 hours) to guide and narrow treatment.
- 3. *Mycoplasma pneumoniae, Chlamydophila pneumoniae,* and *Legionella pneumophila* are not detected by routine laboratory tests. Consult Medical Microbiology if unusual pathogens are suspected.
- 4. Patients on recent antibiotic therapy within past 3 months should use a different class of agent.
- 5. At VCH, 100% of our Streptococcus pneumoniae isolates are susceptible to amoxicillin and penicillin.

#### **DEFINITION:**

Community-acquired pneumonia (CAP) – pneumonia acquired in community setting in patient with no hospitalization within 14 days of symptom onset <u>OR</u> hospitalized less than 4 days prior to onset of symptoms. (Excludes residents of long-term care facilities).

#### **DIAGNOSTICS:**

Chest X-ray, CBC, electrolytes, serum creatinine, urea, sputum and blood cultures (if CURB-65 score >2), and viral swab if clinically indicated.

# CURB-65 CAP SEVERITY SCORE (uses five prognostic variables - 1 point for each variable):

Symptoms	Points
Confusion of new onset (based on mental test; or disorientation to person, place or time)	+1
• Urea >7 mmol/L	+1
• Respiratory rate >30 breaths/minute	+1
• Blood pressures (BP) (systolic <90 mmHg or diastolic ≤60 mmHg)	+1
Age <u>&gt;</u> 65 years	+1
Total:	CURB-65 Score

CURB-65 Score	Disposition	Empiric Therapy	Alternate Therapy	Duration <sup>D</sup>
0-1 <sup>A</sup>	Home	Doxycycline	[Amoxicillin or cefuroxime]	5-7 d
2	Inpatient	[Amoxicillin-clavulanate or cefuroxime PO/IV] Atypical coverage only if atypicals strongly suspected	Moxifloxacin	Min 5 d <sup>D</sup>
3-5	Inpatient	Ceftriaxone + [doxycycline PO or clarithromycin PO (or azithromycin IV if PO not possible)] <sup>B</sup>	Moxifloxacin <sup>B</sup>	Min 5 d <sup>D</sup>
3-5	ICU	Ceftriaxone <sup>B, C</sup> + [doxycycline or clarithromycin (or azithromycin IV if PO not possible)]	Moxifloxacin <sup>B</sup>	Min 5 d <sup>D</sup>

<sup>&</sup>lt;sup>A</sup> Patients with recent antibiotic therapy (within 3 months) or co-morbid risk factors (respiratory disease, diabetes, alcoholism, renal failure or liver disease, CHF, chronic corticosteroid use, malnutrition, hospitalization in past 3 months, HIV, smoking) should receive doxycycline or clarithromycin <u>AND</u> high-dose beta-lactam (i.e. amoxicillin 1 g PO TID or amoxicillin-clavulanate 875 mg PO BID).

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<sup>&</sup>lt;sup>B</sup> If MRSA is suspected, add vancomycin.

<sup>&</sup>lt;sup>c</sup> Piperacillin-tazobactam should NOT be used empirically as it is an unnecessarily broad-spectrum agent and has less *in vitro* activity against penicillin-resistant *S. pneumoniae* compared to ceftriaxone.

Patients should be treated for a minimum of 5 days and until afebrile for 48 hours.





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# **Respiratory Isolation**

Patients with fever and cough should be evaluated by the respiratory algorithm for appropriate isolation.

Contact infection control for further information.

# **Suspected Respiratory Infection**

Patients with ≥2 symptoms: fever, rigors, new cough +/- sputum production, or chronic cough with colour change in sputum, pleuritic chest pain, shortness of breath;

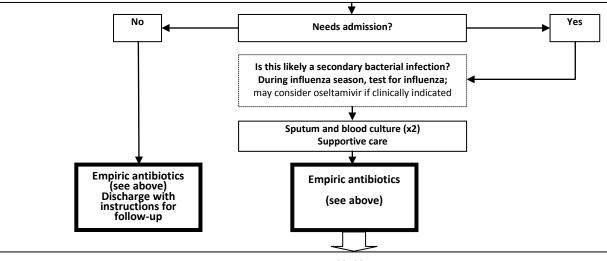
#### AND

auscultatory findings;

# <u>AND</u>

new opacity on chest X-ray (CXR) (not suggestive of other diagnoses (e.g. CHF)).

Patient assessment: history, physical exam, 02 sat, CXR, CBC, electrolytes, serum creatinine, urea, CURB-65, sputum culture, blood culture (x2).



# REASSESSMENT

## Reassess diagnosis

**DAILY** 

(e.g. rule out CHF, COPD, other).

## Assess for PO step-down:

Clinically stable, and able to take and absorb oral medications.

# AT 48 HOURS

## Check sputum and blood cultures:

Narrow down antibiotic if possible (e.g. amoxicillin or penicillin for *S.pneumoniae*).

# AT 5 DAYS, THEN DAILY

#### Assess for duration of therapy:

May discontinue therapy if afebrile, clinically stable, and no more than 1 of the following signs of clinical instability:  $HR \ge 100$ /min,  $RR \ge 24$ /min,  $BP \le 90$  mmHg,  $O_2$  sat  $\le 90\%$ , not tolerate oral intake, and altered mental status

#### Assess need for eligibility for immunization:

Streptococcus pneumoniae and influenza vaccines if indicated Assess for barriers to discharge.