

Community-Acquired Pneumonia in Adults - Microbiology Summary Clinical Guideline

Reference number: CG-ANTI/2023/006

Clinical concerns re CAP

Investigation

- Radiology: CXR
- Microbiology: (1) ± sputum culture (e.g. if purulent cough); (2) swab for SARS-CoV-2; (3) ± swab for influenza viruses (e.g. if in the influenza season); (4) ± blood cultures (e.g. if episode[s] of fever; or, if the differential diagnosis includes bloodstream infection, sepsis, or septic shock; or, if for initiation of treatment with intravenous antibiotics); (5) ± urine *Legionella* antigen (e.g. if [risk factors for legionellosis](#) or if the CURB65 is ≥ 2); (6) ± urine pneumococcal antigen (e.g. if the CURB65 is ≥ 2 or if a positive result will influence management, i.e. stopping empiric and starting directed antibiotics)
 - NB In collaboration with the medical/respiratory consultant: if a positive result will influence management (e.g. stopping empiric and starting directed antibiotics), ± *Mycoplasma pneumoniae* PCR (first line, if productive/purulent cough, sputum; second line, throat swab [green top Σ-VIROCULT®]). If *Mycoplasma pneumoniae* PCR negative, case by case, in discussion with microbiology/virology, ± *Chlamydia* PCR
- Blood sciences: FBC, CRP, lactate, U&Es, and LFTs

CURB65 score (enter onto the EPR or into the medical notes)

- “Confusion (abbreviated Mental Test score 8 or less, or new disorientation in person, place or time)”: 1 point
- “Raised blood urea nitrogen (over 7 mmol/litre)”: 1 point
- “Raised respiratory rate (30 breaths per minute or more)”: 1 point
- “Low blood pressure (diastolic 60 mmHg or less, **OR** systolic less than 90 mmHg)”: 1 point
- “Age 65 years or more”: 1 point

Treatment

Low severity, e.g. CURB65 ≤ 1

Empiric per oral antibiotics in the community (please note, page 2)

Moderate severity, e.g. CURB65 2

Empiric per oral antibiotics ± in hospital (please note, page 2)

High severity, e.g. CURB65 ≥ 3

Empiric intravenous antibiotics in hospital (please note, page 2)

Directed antibiotics with culture and susceptibilities (please note, microbiology full clinical guideline pages 3-5)

Low severity, e.g. CURB65 ≤ 1: empiric, per oral antibiotics

- With the rationale of enabling *Streptococcus pneumoniae* (the commonest cause of CAP) activity, per oral antibiotics in the community:

First line	Amoxicillin 500 mg -1 g* 8 hourly
Second line, if penicillin allergy	Doxycycline** 200 mg loading dose, 100 mg 24 hourly thereafter
Third line, if penicillin allergy and if doxycycline is contraindicated	Clarithromycin** 500 mg 12 hourly
Fourth line, if penicillin allergy and if doxycycline and clarithromycin are contraindicated	Co-trimoxazole 960 mg 12 hourly
Fifth line, if penicillin allergy (non-immediate without systemic involvement penicillin allergy) and if doxycycline, clarithromycin, and co-trimoxazole are contraindicated	Cefaclor 500 mg 8 hourly
* Respiratory (1 g) and microbiology (500 mg) opinions vary regarding amoxicillin dose ** Doxycycline and clarithromycin both have atypical bacterial activity re CAP	

Moderate severity, e.g. CURB65 2: empiric, per oral antibiotics

- With the rationale of enabling both typical and atypical bacterial activity re CAP, per oral antibiotics ± in hospital:

First line	Amoxicillin 1 g 8 hourly AND Clarithromycin 500 mg 12 hourly
Second line, if penicillin allergy	Doxycycline* 200 mg loading dose, 100 mg 24 hourly thereafter
Third line, if penicillin allergy and if doxycycline is contraindicated	Co-trimoxazole 960 mg 12 hourly AND Clarithromycin 500 mg 12 hourly
Fourth line, if penicillin allergy and if doxycycline, co-trimoxazole, and clarithromycin are contraindicated	Levofloxacin 500 mg 12 hourly

High severity, e.g. CURB65 ≥ 3: empiric, intravenous antibiotics

- With the rationale of enabling both typical and atypical bacterial activity re CAP, intravenous antibiotics in hospital:

First line	Co-amoxiclav 1.2 g 8 hourly AND Clarithromycin 500 mg 12 hourly (or per oral)
Second line, if non-immediate without systemic involvement penicillin allergy	Cefuroxime 1.5 g 8 hourly AND Clarithromycin 500 mg 12 hourly (or per oral)
Third line, if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy	Co-trimoxazole 960 mg 12 hourly AND Clarithromycin 500 mg 12 hourly
Fourth line, if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy and if co-trimoxazole and clarithromycin are contraindicated	Levofloxacin 500 mg 12 hourly

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Document control

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Version:	10.2
Approval date:	Antimicrobial Stewardship Group - 06/12/2022 Medicine Division - 16/12/2022
Changes from previous version:	Modification of investigation re atypical bacterial causes of CAP.
Date uploaded:	20/12/2023
Next review date:	January 2026
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