

COMMUNITY ACQUIRED PNEUMONIA ANTIBIOTIC TREATMENT IN THE COMMUNITY (ADULTS) V2.0

Comments from the Expert Advisory Group

- Community acquired pneumonia (CAP) is a pneumonia that is acquired outside hospital.
- CAP in the community can be defined as:
 - Symptoms of an acute lower respiratory tract illness (cough and at least one other lower respiratory tract symptom)
 - New focal chest signs on examination
 - At least one systemic feature (either a symptom complex of sweating, fevers, shivers, aches and pains and/or temperature of 38°C or more)
- Start antibiotics immediately.
- Review if symptoms are not improving as expected with antibiotics and escalate therapy, or consider hospital referral.
- Consider [sepsis](#)
- Assess severity using clinical judgement supported by the CRB65 score, noting additional risk factors may impact severity e.g. hypoxia, co-morbidities, immunosuppression, multi-lobar involvement (if chest x-ray available).

CRB65 is used in primary care to assess 30 day mortality risk in adults with pneumonia. The score is calculated by giving 1 point for each of the following prognostic features:

- Confusion (defined as a Mental Test Score of 8 or less, or new disorientation in person, place or time)
- Respiratory rate ≥ 30 /minute
- Low blood pressure systolic [< 90 mmHg] or diastolic [≤ 60 mmHg]
- Age 65 or more

Risk of death is stratified as follows, depending on CRB65 score:

0: low risk (less than 1% mortality risk) and do not normally require hospitalisation

1 or 2: intermediate risk (1% to 10% mortality risk). Consider hospital referral and assessment

3 or 4: high risk (more than 10% mortality risk). Immediate hospital referral

- The need for hospital referral should be assessed, and at review, re-assessed, using clinical judgement supported by the CRB65 criteria, noting additional risk factors listed above.
- Consider viral respiratory illness, including RSV, COVID-19 and influenza in the differential diagnosis in a patient presenting with a cough. Follow [HPSC guidance](#) on assessment and testing for patients presenting with a cough.
- At convalescence, ensure COVID-19, influenza and pneumococcal vaccinations up to date.

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Aspiration Pneumonia

- Antibiotics are not indicated for aspiration or aspiration pneumonitis without evidence of bacterial infection.
- Empirical treatment for aspiration pneumonia does not require coverage for anaerobic organisms. Anaerobic coverage is not suggested for suspected aspiration pneumonia **except** when patients are at particularly high risk of anaerobic infection, for example in those with obvious dental/periodontal disease, putrid sputum production or those in whom lung abscess/empyema is suspected.
- **In these specific cases**, if anaerobic coverage is deemed necessary:
 - Metronidazole 400mg every 8 hours can be added to amoxicillin, clarithromycin or doxycycline (recommended doses outlined in treatment table below).
 - Recommended duration of antibiotics is 5 days.
 - In severe aspiration pneumonia the patient should be transferred urgently to hospital.
- Prophylactic antibiotics do not help prevent the development of aspiration pneumonia and are not recommended.
- Discuss antibiotic choice with microbiology or infection specialist if risk factors for multi-drug resistant pathogens, failure to respond to empirical treatment or concerns of complications such as lung abscess or empyema.
- Ensuring adequate oral hygiene is important in reducing the incidence of aspiration pneumonia among more vulnerable elderly individuals.

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Treatment

Community Acquired Pneumonia (Adults): Antibiotic Treatment Table (Page 1 of 2)

For all patients, clinical judgement supported by the CRB65 score should be applied when deciding whether to treat at home or refer to hospital, considering additional risk factors listed above.

Assess using the CRB65 score (each symptom or sign scores one point)

(Confusion, Respiratory rate \geq 30/min, BP \leq 90/60 mmHg, Age \geq 65)

CRB65 Score Zero (0) Suitable for home treatment

Review if symptoms are not improving as expected with antibiotics and escalate therapy, or consider hospital referral.

Drug	Dose	Duration	Notes
Amoxicillin	500mg every 8 hours	5 days	Avoid in penicillin allergy. If no response after 48 hours on amoxicillin monotherapy, consider escalating antibiotic treatment as outlined in the CRB65 1-2 section of this table below.

OR

Doxycycline (First line in penicillin allergy)	200mg every 24 hours OR 100mg every 12 hours OR in non-severe infection, doxycycline 200mg stat then 100mg every 24 hours can be considered.	5 days	Avoid in pregnancy. Advise to take with a glass of water and sit upright for 30 minutes after taking. Absorption of doxycycline significantly impaired by antacids, iron/calcium/magnesium/zinc-containing products and should be separated by at least 3 hours. Risk of photosensitivity.
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OR

Clarithromycin (Second line in penicillin allergy)	500mg every 12 hours	5 days	See macrolide warnings and check drug interactions before prescribing. Macrolides should be used with caution in pregnancy. Clarithromycin suitable only in 2nd and 3rd trimester in pregnancy. Alternative macrolide for all trimesters of pregnancy: Azithromycin 500mg stat then 250mg every 24 hours from Day 2 to Day 5.
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Treatment table continued overleaf

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Community Acquired Pneumonia (Adults): Antibiotic Treatment Table (Page 2 of 2)

CRB65 Score 1-2 and assessed suitable for treatment in the community

Review if symptoms are not improving as expected with antibiotics and escalate therapy, or consider hospital referral.

Drug	Dose	Duration	Notes
Amoxicillin PLUS Clarithromycin	1g every 8 hours 500mg every 12 hours	5 days	Avoid amoxicillin in penicillin allergy. See macrolide warnings and check drug interactions before prescribing. Macrolides should be used with caution in pregnancy. Clarithromycin suitable only in 2nd and 3rd trimester in pregnancy. Alternative macrolide for all trimesters of pregnancy: Azithromycin 500mg stat then 250mg every 24 hours from Day 2 to Day 5.
OR Doxycycline	200mg every 24 hours* OR 100mg every 12 hours	5 days	Avoid in pregnancy. Advise to take with a glass of water and sit upright for 30 minutes after taking. Absorption of doxycycline significantly impaired by antacids, iron/calcium/magnesium/zinc-containing products and should be separated by at least 3 hours. Risk of photosensitivity.

CRB65 Score 3 or more: Prior to urgent hospital transfer, if delayed transfer expected, consider administration of:

Amoxicillin	1g PO STAT	N/A	Avoid in penicillin allergy. Urgent hospital admission.
Or If oral medication is not an option: Benzylpenicillin	1.2g IV/IM STAT	N/A	

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Other considerations

- Pleuritic pain should be relieved using simple analgesia, and consider pulmonary embolism.
- Consider [sepsis](#)
- Consider advising patients on hydration and smoking cessation where appropriate.
- Consider time off work for patients with CAP dependent on clinical assessment.
- Advise to consult pharmacist for symptom relief.
- Consider pulse oximetry to assess oxygenation.

Patient Information

- [HSE > Symptoms, Condition and Treatment: Pneumonia](#)