

## LOWER RESPIRATORY TRACT INFECTIONS

### Community-acquired Pneumonia (CAP)

**For guidance on managing community-acquired pneumonia during COVID19 outbreak, see [NICE \(NG191\) COVID-19 rapid guideline: managing COVID-19](#).**

**For choice of antibiotics in penicillin allergy, pregnancy and more severe disease, or if atypical pathogens are likely, see [NICE \(NG138\) Pneumonia \(community-acquired\): antimicrobial prescribing](#).**

#### Bacterial causes:

- *Streptococcus pneumoniae* (very common in all age groups).
- *Haemophilus influenzae* (uncommon).

#### Atypical bacteria

- *Mycoplasma pneumoniae* (particularly in young adults, usually in 4 yearly peaks that last for 12-15 months, rare in >65yr olds).
- *Chlamydophila pneumoniae* (probably common).
- *Chlamydophila psittaci* (uncommon, history of pet birds).
- *Legionella pneumophila* (uncommon, maybe a history of recent travel).

CAP is defined as the presence of the following symptoms and signs, which cannot otherwise be explained:

- Acute lower respiratory tract infection symptoms i.e., cough and one or more other symptoms.
- Focal chest signs of recent onset.
- Systemic symptoms or signs:
  - Pyrexia >38°C.
  - Sweating.
  - Shivers (rigours).
  - Aches and pains.

#### Treatment

- Confirmation of diagnosis with a chest X-ray is helpful where available.
- A 5-day course for low-severity pneumonia treated in the community should be sufficient, longer courses may be necessary for hospitalised patients or those with more severe pneumonia.
- If symptoms do not improve as expected after 3 days, consider extending the course for longer than 5 days.
- Assessment of adult patients using clinical judgment guided by the CRB-65 score helps to determine the management of CAP for patients in the community.
 

**CRB-65** score for mortality risk = score 1 point for each of the following features present:

  - Confusion (AMT  $\leq 8$  or new disorientation in person, place or time).
  - Respiratory rate  $\geq 30$ /min.
  - Blood pressure (SBP <90mmHg or DBP  $\leq 60$ mmHg).
  - $\geq 65$  years.
- seek risk factors for *Legionella* and *Staphylococcus aureus* infection.
  - For *Legionella*, these may include exposure to air conditioning systems, recent travel, cooling towers, spa pools and other artificial water systems.
  - For *S. aureus* these may include recent influenza, nursing home residents, aspiration, and chronically ill or debilitated patients.
  - *Mycoplasma pneumoniae* infection occurs in outbreaks approximately every 4 years.
- Severity is assessed by clinical judgement in children and young people
- Urgent hospital admission for severe signs and symptoms

#### Referral and Seeking Specialist Advice

1. Refer adults to hospital if:
  - Symptoms or signs suggest a more serious illness such as sepsis, or
  - Symptoms are not improving as expected with antibiotics
2. Consider referring adults or seeking specialist advice if they have bacteria resistant to oral antibiotics or they cannot take oral medicines
3. Consider referring children and young people to hospital or seek specialist paediatric advice on further investigation and management

## Antibiotic Treatment for Adults Aged 18 Years and Over

Medicine	Dose	Duration of Treatment
<b>First choice oral antibiotics if low severity:</b> based on clinical judgement and guided by CRB-65 score = 0 (Indicates that the patient is likely to be suitable for home treatment)		
<b>Amoxicillin</b>	<b>500mg three times a day</b>	<b>5 days</b>
Alternative oral antibiotics if low severity, for penicillin allergy or if amoxicillin unsuitable (for example, atypical pathogens suspected)		
Doxycycline	200mg first day then 100mg once daily for 4 days	5 days in total
<b>OR</b> Clarithromycin	500mg twice a day	5 days
<b>OR</b> <a href="#">Erythromycin</a> (In pregnancy)	500mg four times a day	5 days
<b>First choice oral antibiotics if moderate severity:</b> based on clinical judgement and guided by CRB-65 score = 1-2 (Indicates a need to consider hospital referral and antibiotics may need to include cover for the atypical pathogens); guided by microbiological results when available		
<b>Amoxicillin</b> <i>If atypical pathogens suspected ADD IN</i>	<b>500mg to 1000mg three times a day</b>	<b>5 days</b>
Clarithromycin <b>OR</b>	500mg twice a day	5 days
<a href="#">Erythromycin</a> (In pregnancy)	500mg four times a day	5 days
Alternative oral antibiotics if moderate severity, for penicillin allergy; guided by microbiological results when available		
Doxycycline	200mg first day then 100mg once daily for 4 days	5 days
<b>OR</b> Clarithromycin	500mg twice a day	5 days
<b>OR</b> <a href="#">Erythromycin</a> (in pregnancy)	500mg four times a day	5 days
<b>For high severity:</b> based on clinical judgement and guided by CRB-65 score = 3-4 ( <b>Patient requires URGENT hospital admission</b> )		

## Antibiotic Treatment for Children and Young People Over 1 Month and Under 18 Years

Medicine	Dose	Duration of Treatment
<b>First Choice oral antibiotics if non-severe signs and symptoms</b>		
<b>Amoxicillin</b>	<b>1 – 11 months: 125mg three times a day</b> <b>1 – 4 years: 250mg three times a day</b> <b>5 – 17 years: 500mg three times a day</b>	<b>5 days</b>
Alternative oral antibiotics if non-severe symptoms or signs, for penicillin allergy or if amoxicillin unsuitable (For example, atypical pathogens suspected)		
Clarithromycin	1 month to 11 years: Under 8 kg: 7.5mg/kg twice a day 8 – 11 kg: 62.5mg twice a day 12 – 19 kg: 125mg twice a day 20 – 29 kg: 187.5mg twice a day 30 – 40 kg: 250mg twice a day 12 to 17 years: 250mg to 500mg twice a day	5 days
<b>OR</b> <a href="#">Erythromycin</a> (In pregnancy)	8 to 17 years: 250 to 500mg four times a day	5 days
<b>OR</b> Doxycycline	12 to 17 years: 200mg first day then 100mg once daily for 4 days	5 days in total

Version Control- CAP			
Version	Author(s)	Date	Changes
V2.0	Shary Walker Interface and Formulary Pharmacist	22/06/22	Added Antibiotic Treatment for Children, Amoxicillin dose for moderate increased to 1g TDS, Version control and formatting. COVID-19 link updated.
		27/07/22	Referral and seeking specialist advice added