Trust Guideline for the Management of: A/E and Acute Medicine – Community Acquired Pneumonia (CAP)

A clinical guideline recommended

For use in:	A/E, AMU and all medical wards
By:	Clinicians
For:	Adult patients with pneumonia
Division responsible for document:	Medical Division
Key words:	Community, Acquired, Pneumonia
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Assessed and approved by the:	Clinical Guidelines Assessment Panel If approved by committee or Governance Lead Chair's Action; tick here ☑
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Description of changes:	No clinical changes
Compliance links: *(is there any NICE related to guidance)*	NICE Guideline 191: Pneumonia: Diagnosis and management of community and hospital acquired pneumonia in adults
If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	No deviation

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

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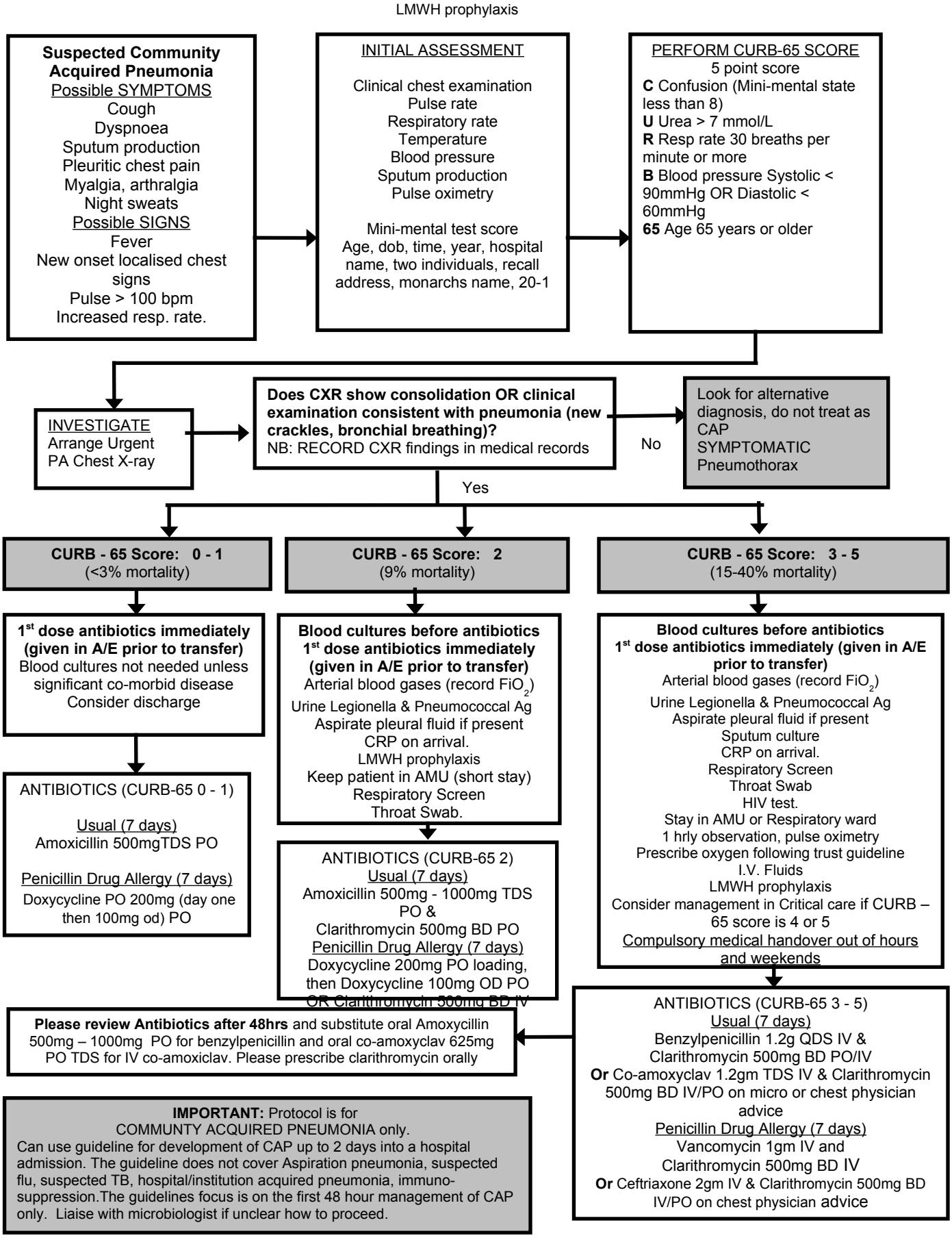
Quick reference guideline/s

Based on BTS Pneumonia guidelines 2009 by A. Choudhury.
Subsequently amended by A.Green 03/06/2010



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Antibiotic prescription

(As per Management of Common Infections in Adults within General Medicine and Surgery)

- **All patients require their antibiotics within 4 hours of arrival**. This means that patients must not leave A&E without blood cultures being taken and their first dose of antibiotic given to them.
- Document allergy history in notes and prescription EPMA drug chart . Document true allergic/anaphylaxis reaction from non-allergic drug side effect. This is important.

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Infection	Specimens	First Line	True penicillin allergy	Duration of Treatment	Comments
Community Acquired Pneumonia: **Low severity CURB-65 Score 0 to 1**	Listed Above	Amoxicillin PO 500mg tds (non severe lobar pneumonia) *If atypical agent suspected add PO clarithromycin 500mg bd*	Doxycycline PO 200mg (day one then 100mg od)	5-7 days	• Use Amoxicillin PO 1g tds if patient is able to tolerate it. • Use IV route if oral route not available • Clarithromycin is well absorbed and should be used orally if this route is available
Community Acquired Pneumonia: **Moderate severity CURB-65 Score 2**		Amoxicillin PO 500mg tds **+** Clarithromycin PO 500mg bd	Doxycycline PO 200mg (day one) then 100mg od	5-7 days	• Use Amoxicillin PO 1g tds if patient is able to tolerate it. • Use IV route if oral route not available • Clarithromycin is well absorbed and should be used orally if this route is available • Stop clarithromycin if an atypical infection is no longer suspected
Community Acquired Pneumonia: **High severity CURB-65 3 or more**		Benzylpenicillin IV 1.2g qds **+** Clarithromycin PO/IV 500mg bd	Vancomycin IV as per policy **+** Clarithromycin PO/IV 500mg bd	7 days total course (including IVs) Review IV to oral switch at 48 hours	• Use IV route if oral route not available • Clarithromycin is well absorbed and should be used orally if this route is available • Stop clarithromycin if an atypical infection is no longer suspected
Community Acquired Pneumonia **High severity CURB-65 3 or more** ***for patients who are critically ill/require high dependency care/have major co-morbidities/on advice of respiratory team/Consultant Microbiologist***		Co-amoxiclav IV 1.2g tds **+** Clarithromycin po/IV 500mg bd **If pt at high risk of sepsis – see Sepsis Guideline**	Vancomycin IV as per policy **+** Clarithromycin PO/IV 500mg bd	7-10 days total course (including IVs) Review IV to oral switch at 48 hours Some infections e.g. Legionella, S. aureus, gram negatives may require longer treatment	• Use Amoxicillin PO 1g tds if patient is able to tolerate it. • Stop clarithromycin if an atypical infection is no longer suspected • Alternative regimen on advice of respiratory physician only: Ceftriaxone IV 2g od + Clarithromycin PO/IV 500mg bd
		Review after 48 hours and step down to oral therapy if appropriate: Amoxicillin PO 500mg tds +/- Clarithromycin PO 500mg bd **If penicillin allergic**: Doxycycline PO 200mg (day one) then 100mg od			

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Pneumococcal and legionella urinary antigen tests

- Legionella urinary Ag –ve. A negative result does not exclude legionellosis.
- Legionella urinary Ag +ve. Stop 'penicillin based antibiotic' and continue with clarithromycin. For severe infection, consider addition of rifampicin 600mg (po) bd. Please notify the local Health Protection Unit (HPU).
- Pneumococcal urinary Ag -ve. A negative result does not exclude pneumonia / invasive pneumococcal disease.
- Pneumococcal urinary Ag +ve. In penicillin non-allergic patients, please consider stopping clarithromycin.

Oxygen

- This should be prescribed according to trust guidelines and should be prescribed on the in-patient prescription EPMA drug chart, with the rate of flow/concentration and the mode of delivery. The target Sp_{O2} clearly stated.
- Maintain PaO_2 at >8 kPa and SpO_2 94–98%. High concentrations of oxygen can safely be given in patients who are not at risk of hypercapnic respiratory failure, though oxygen is only required if SpO_2 <94% on air.
- Patients at risk of Type 2 respiratory failure – aim O_2 sats 88 – 92 %.
- Deliver Oxygen via venturi mask at appropriate FiO_2.

Non-invasive ventilation

- HDU/ITU can deliver CPAP with high flow Oxygen in CAP patients with significant hypoxaemia.
- Patients on CPAP for pneumonia are at high risk of respiratory arrest and should be managed in HDU/ITU where intubation can happen promptly.
- BIPAP for COPD can be delivered on the respiratory wards but BIPAP support for patients with pneumonia who may require high flow oxygen cannot be delivered with the ward based machines.

CURB 65 score

- Completion of CURB 65 is compulsory for patients with community acquired pneumonia only. It is not validated for other forms of pneumonia. This CURB 65 score MUST be clearly documented in the medical clerking proforma. Correct management of CAP can only be done if this score is completed.
- Patients with CURB 65 score of 3 or greater should have medical handover (at the hospital at night team meeting) out of hours if escalation to critical care is appropriate.
- A medical consultant should review patients whose CURB 65 score is 4 or greater to decide whether escalation to Critical care is appropriate.

Advice on discharge

- Routine medical follow-up should be in 6 weeks time with a repeat plain PA Chest X-ray.
- AMU discharge should be followed up in clinic in 6 weeks. Speciality ward follow-up by discharging team.

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Date/time: Clinical area: Staff member completing form: Grade:	Patient label

CURB score	Score
Confusion (AMTS <6)	
Urea > 7mmol/L	
Resp rate > 30 / min	
Blood pressure systolic < 90mm diastolic < 60mmHg	
65 – age > 65 yrs	
Score	
CXR report	

CAP

Pneumonia Bundle	Tick, or give reason	Time + Initials
CURB 65 – 0 or 1 (Aim Home)		
CURB 65 = 2 **Blood cultures before antibiotics then 1st dose antibiotics** Urine Pneumococcal Ag. Sputum culture Aspirate pleural fluid if present FBC, U+E, LFT, CRP and lactate. Blood cultures if febrile. Clexane prophylaxis		
CURB 65 – 3 to 5 Perform actions for CURB 65 =2 and Hourly obs Atypical serology. Legionella Ag. Routine blood cultures Consider HDU / ITU referral after discussion with senior doctor		
Appropriate **antibiotics**, as per Trust policy, -given (not only prescribed) See guidelines for penicillin allergy. Document CURB 65 score alongside antibiotic prescription CURB 65 - 0 or 1 - Amoxycillin 500mg TDS PO for 7 days CURB 65 - 2 – Amoxycillin 500mg TDS PO and Clarithromycin 500mg BD PO CURB 65 3 to 5 – Benzylpenicillin 1.2gm IV QDS and Clarithromycin 500mg BD PO or IV		
If **BP < 90mmHg** then insert 16G large-bore cannulae give 1000 mls Hartmann's or sodium chloride, stat, then Reassess Consider urinary catheter and hourly output monitoring		
If **sats < 92%** on air perform Arterial blood gases (record FiO_2) and prescribe appropriate humidified oxygen therapy.		
If **Resp rate** > 30 then consider HDU/ITU referral		

Patient Label

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Objective/s

To improve the management of community acquired pneumonia throughout the trust

Rationale

These guidelines were written based on the community acquired pneumonia guidelines published by the British Thoracic Society. The associated pneumonia bundle is to improve guideline adherence and documentation.

Clinical audit standards

The Pneumonia Bundle should be printed on sticker paper. The section outlined in red peels off and is stuck in the case notes. The rest of the bundle sticker is collected in bundle boxes.

The audit standards are 100% compliance with:

- Have completed the pneumonia bundle.
- Added section to case notes.
- Performed the tasks outlined in the pneumonia bundle.

Please see British thoracic society audit standards at **www.brit-thoracic.org.uk**

Summary of development and consultation process undertaken before registration and dissemination

Dr A. Green, Dr A. Kamath, Dr H. Wilson and Dr H. Williams reviewed guideline and agreed content in July 2010. Dr Musa amended and reviewed in January 2017. It was reviewed in January 2020 and no clinical changes were requested.

This version has been endorsed by the Clinical Guidelines Assessment Panel.

Distribution list / dissemination method

A copy of this guideline is on the trust intranet.

References / source documents

BTS Guideline for the management of community acquired pneumonia in adults, 2014Thorax 2014 Oct; 64(Suppl 3): 1-55. 2.

NICE Guideline 191: Pneumonia in Adults: Diagnosis and management https://www.nice.org.uk/guidance/cg191