References: BTS CAP BTS ASP IDSA NICE CAP NICE HAP ERS/ESCMID sCAP LEGIONNAIRES' TREATMENT REVIEW

MANAGEMENT OF PNEUMONIA IN ADULTS

Always review microbiology results to guide and target antimicrobial therapy

Developed by: AMT/ID/Respiratory
Approved by: AMG April 2024
Review: April 2027

NHS Tayside

COMMUNITY ACQUIRED PNEUMONIA (inpatients)

(Patients in community setting see Primary Care Guidance)

Symptoms within first 48 hours of hospital admission (including patients admitted from care home setting) or after 48 hours post hospital discharge.

Common organisms – see MicroGuidance

CXR, HIV test and calculate CURB65 score at initial presentation (Score 1 for each):

- **C**ONFUSION: NEW (MSQ ≤8/10)
- **U**REA: >7mmol/l (if available)
- **R**ESPIRATORY RATE: ≥ 30/minute
- **B**P: <90mmgHg systolic ≤60mmHg diastolic
- **65** – Age ≥ 65 years

NON SEVERE - CURB65 score 0-2 Additional test - send swab for resp PCR	**SEVERE - CURB65 score 3-5** Additional tests – blood cultures, sputum culture, swab for respiratory PCR, urinary legionella PCR and antigen tests
AMOXICILLIN oral 1g TDS OR IN TRUE PENICILLIN ALLERGY DOXYCYCLINE* 200mg OD DAY 1 100mg OD DAY 2-5 IF NBM (ASSESS DAILY FOR ORAL/NG ACCESS): IV AMOXICILLIN 1G TDS OR IV CLARITHROMYCIN* 500MG BD	CO-AMOXICLAV IV 1.2g TDS + DOXYCYCLINE* oral 100mg BD (NBM: REPLACE DOXYCYCLINE WITH IV CLARITHROMYCIN 500mg BD) OR IN TRUE PENICILLIN ALLERGY LEVOFLOXACIN* IV 500mg BD MONOTHERAPY (CONSIDER QUINOLONE WARNINGS) REVIEW DAILY FOR IVOST STEP DOWN ALL PATIENTS TO DOXYCYCLINE* monotherapy 100mg BD (ALTERNATIVE CO-TRIMOXAZOLE 960mg BD)

DURATION: 5 DAYS (TOTAL IV/ORAL) INCLUDING IN SEVERE CAP IF PATIENT CLINICALLY STABLE. ADD STOP DATE TO HEPMA FOR ORAL ANTIBIOTICS.

If not improving: repeat CXR (empyema), ensure HIV test has been done, sputum culture consider investigations for mycobacteria spp including TB. Discuss with Respiratory team.

HOSPITAL ACQUIRED PNEUMONIA

(including community hospitals)

Symptoms start after >48 hours in hospital or up to 48 hours after hospital discharge. Diagnosis of HAP is difficult and often over diagnosed.

Common organisms – see MicroGuidance
Previous ICU admission or history of MRSA seek advice

NON SEVERE	**SEVERE**
AMOXICILLIN oral 1g TDS OR DOXYCYCLINE* oral 200mg OD DAY 1 100mg OD DAY 2-5 If NBM (assess daily for oral/NG access): IV amoxicillin 1g tds or IV clarithromycin* 500mg bd	AMOXICILLIN IV 1g TDS + GENTAMICIN IV OR IN TRUE PENICILLIN ALLERGY CO-TRIMOXAZOLE IV/ORAL 960mg BD + GENTAMICIN IV REVIEW DAILY FOR IVOST. STEP DOWN ALL PATIENTS TO CO-TRIMOXAZOLE 960mg BD

DURATION: 5 DAYS (TOTAL IV/ORAL) INCLUDING IN SEVERE HAP IF PATIENT CLINICALLY STABLE. ADD STOP DATE TO HEPMA FOR ORAL ANTIBIOTICS.

If not improving: senior review and consider other causes of clinical deterioration, including non bacterial.

ASPIRATION PNEUMONIA

Aspiration pneumonitis is a chemical injury that does not require antimicrobial treatment. Reserve antibiotics for patients who fail to improve within 48 hours post aspiration.

Antimicrobial cover – routine anaerobic cover is **NOT** required

NON SEVERE	**SEVERE**
AMOXICILLIN oral 1g TDS OR DOXYCYCLINE* 200mg OD DAY 1 100mg OD DAY 2-5 If NBM (assess daily for oral/NG access): IV amoxicillin 1g tds or IV clarithromycin* 500mg bd	AMOXICILLIN IV 1g TDS + GENTAMICIN IV OR IN TRUE PENICILLIN ALLERGY CO-TRIMOXAZOLE IV/ORAL 960mg BD + GENTAMICIN IV REVIEW DAILY FOR IVOST. STEP DOWN ALL PATIENTS TO CO-TRIMOXAZOLE 960mg BD

DURATION: 5 DAYS (TOTAL IV/ORAL) INCLUDING IN SEVERE ASPIRATION PNEUMONIA IF PATIENT CLINCIALLY STABLE. ADD STOP DATE TO HEPMA FOR ORAL ANTIBIOTICS.

If not improving: senior review and consider other causes of clinical deterioration, including non bacterial.

NEUTROPENIA ASSOCIATED PNEUMONIA

Antimicrobial cover – additional gram negative cover including Pseudomonas

Refer to neutropenic sepsis guidance

PNEUMOCYSTIS PNEUMONIA (PCP/PJP)

Refer to separate guidance

PNEUMONIA IN ICU PATIENTS:

Refer to ICU guidance

LEGIONELLA PNEUMONIA

LEVOFLOXACIN* IV/oral 500mg BD (7-10 days)
(CONSIDER QUINOLONE WARNINGS)

OR

CLARITHROMYCIN* IV/oral 500mg BD (7-10 days)

REVIEW DAILY FOR IVOST

Extended course may be required on specialist advice e.g. immunocompromised, very severe disease.

NOTES: ALL DOSES ASSUME NORMAL RENAL AND HEPATIC FUNCTION IN NON PREGNANT ADULTS

***CHECK FOR INTERACTIONS/SPECIFIC CAUTIONS/ADDITIONAL INFORMATION BELOW:**

- **DOXYCYCLINE/LEVOFLOXACIN** oral – absorption significantly reduced (up to 90% for doxycycline and up to 40% for levofloxacin) when administered with oral medicines containing Fe/Ca/Mg/Al/Zn (including antacids e.g. Peptac) – if possible hold interacting medicine or space as far apart as possible
- **LEVOFLOXACIN IV/oral** – review significant quinolone warnings issued by MHRA, consider risk of prolonged QT interval and ensure PIL given to patient
- **CLARITHROMYCIN IV/oral** – consider risk of prolonged QT interval and check for drug interactions