CLINICAL GUIDELINES

Hospital @ Home Infection Management Guidelines in Adults

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	1
Does this version include changes to clinical advice:	N/A
Date Approved:	30th November 2022
Date of Next Review:	30th November 2025
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Approval Group:	Antimicrobial Utilisation Committee

Important Note:

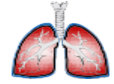
The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Hospital @ Home Infection Management Guidelines Empirical Antibiotic Therapy in Adults

NHS Greater Glasgow and Clyde

Definition of SEPSIS: INFECTION (includes Systemic Inflammatory Response Syndrome (SIRS*) **WITH evidence of ORGAN HYPOPERFUSION (≥ 2 of: Confusion, < 15 GCS or Resp Rate ≥ 22/ min or Systolic BP ≤ 100 mm Hg).**
Ensure SEPSIS 6 within one hour: 1. Blood cultures (& any other relevant samples), 2. IV Antibiotic administration, 3. Oxygen to maintain target saturation, 4. Measure lactate, 5. IV fluids, 6. Monitor urine output hourly.
*SIRS indicated by Temp < 36°C or > 38°C, HR > 90 bpm, RR> 20/ min & WCC < 4 or > 12 $x10^9$/ L. SIRS is not specific to bacterial infection (also viral & non-infective causes).
NB Doses are based on normal renal/ hepatic function – See BNF or Renal Drug Handbook. For Information on antibiotic contra-indications, cautions and monitoring requirements see BNF.
Patients ≥ 65 years on broad spectrum antibiotics are at increased risk of CDI (See below)

Lower Respiratory Tract Infections



Infective Exacerbation COPD

Antibiotics only if purulent sputum (send for culture along with viral gargle)

Dual antibiotic therapy not recommended & increases risk of harm

Oral ▲Doxycycline 200mg as a one-off single dose then 100mg daily ***or***

Oral Amoxicillin 500mg 8 hourly ***or*** Oral ■ Clarithromycin 500mg 12 hourly

Duration 5 days

Uncertain LRTI/ UTI

Send MSSU, sputum and viral gargle

Oral co-trimoxazole^ 960mg 12 hourly or Oral ▲ Doxycycline 100mg 12 hourly

Duration 5 days

Community Acquired Pneumonia (CAP)

Assess for SEPSIS

Calculate CURB 65 score:

- Confusion (new onset
- Urea > 7 mmol/ L
- RR ≥ 30 breaths/ min
- BP – diastolic ≤ 60 mm Hg or systolic < 90 mm Hg
- Age ≥ 65 years

Non-severe CAP

CURB 65 score: ≤ 2 (and no sepsis)

Oral Amoxicillin 500mg 8 hourly ***or*** Oral ▲Doxycycline 200mg as a one-off single dose then 100mg daily ***or*** Oral ■Clarithromycin 500mg 12 hourly

Duration 5 days

Severe CAP

CURB 65 score ≥ 3 or CAP (with any CURB 65 score) PLUS sepsis

IV Ceftriaxone* 2g 24 hourly

+ Oral ■ Clarithromycin 500mg 12 hourly

If true penicillin/beta-lactam allergy

Oral/IV ▲ ■Levofloxacin* 500mg 12 hrly monotherapy

(NB oral bioavailability 99 – 100 %)

Duration 5 days

IVOST at 48 hours where possible

IVOST IV ceftriaxone to oral amoxicillin 500mg 8 hourly

Total duration IV/ oral 5 days

Hospital Acquired Pneumonia (HAP)

≤ 7 days post hospital discharge.

Assess severity based on CURB65 Score

Non Severe HAP

CURB 65 score: ≤ 2 (and no sepsis)

Oral ▲ Doxycycline 100mg 12 hourly or

Oral Co-trimoxazole^ 960mg 12 hourly

Duration 5 Days

Severe HAP

CURB 65 score ≥ 3 or CAP (with any CURB 65 score) PLUS sepsis :

Oral/IV ▲ ■Levofloxacin* 500mg 12 hrly monotherapy

(NB oral bioavailability 99 – 100 %)

Duration 5 days

Aspiration pneumonia

This is a chemical injury and does not indicate antibiotic treatment.

Reserve antibiotics for those who fail to improve within 48 hour post aspiration.

IV Ceftriaxone* 2g 24 hourly

Duration 5 Days

(IVOST at 48 hours, if possible see IVOST guidelines)

Consider CDI risk

or if true penicillin/beta-lactam allergy

Hospital treatment

Urinary Tract Infections

Lower UTI/ cystitis

Don't treat asymptomatic bacteriuria. Obtain urine culture prior to antibiotic. In women often self-limiting, consider delayed prescribing.

Antibiotics if significant symptoms only

Oral Nitrofurantoin 50mg 6 hrly

or nitrofurantoin 100mg MR 12 hrly

or Oral Trimethoprim^ 200mg 12 hrly

Duration: Females 3 days, Males 7 days

If eGFR < 30 mL/min/1.73 m^2

- Nitrofurantoin contraindicated
- Trimethoprim use with caution may ⇧ K⁺ and decrease renal function. Monitor

Upper UTI

Obtain urine for culture prior to antibiotic. Exclude pneumonia if loin/back pain

Non-severe/without sepsis

Oral▲ ■ Ciprofloxacin* 500mg 12 hrly

or Oral Trimethoprim^ 200mg 12 hrly if sensitive organism.

Duration 7 days

Trimethoprim^ see above re ⬜ eGFR

UROSEPSIS/ Pyelonephritis with fever

IV Gentamicin**∆ (max 4 days) *If eGFR < 20 mL/min/1.73 m^2* Oral ▲■Ciprofloxacin

Duration 7 days

Skin/ Soft Tissue Infections

Mild skin/soft tissue infection

Oral Flucloxacillin 1g 6 hourly

or if true penicillin/beta-lactam allergy

Oral Co-trimoxazole^ 960mg 12 hourly

or Oral ▲Doxycycline 100mg 12 hourly

Duration 5 days

Moderate / Severe Cellulitis

Consider discussion with OPAT.

IV Ceftriaxone* 2g 24 hourly

Duration 5 days

(IVOST at 48 hours if possible, see IVOST guidelines)

If MRSA suspected or if true penicillin/ beta-lactam allergy

Consider discussion with OPAT.

Severe Systemic Infection Source Unknown

Urgent Blood Cultures then IV Antibiotic Therapy within ONE hour

Sepsis where source unknown

Review all anatomical systems, perform CXR and consider other imaging/ laboratory investigations

Consider and test for COVID-19

Review diagnosis DAILY

Source unknown

IV Ceftriaxone* 2g 24 hourly

+ IV Gentamicin**∆ (max 4 days)

If MRSA suspected or history of resistant organisms including ESBL

Or if true penicillin/ beta-lactam allergy

Hospital treatment

Duration: Review with response/ micro results at 72 hours

OPAT

Discuss with **OPAT** team if suspected bone and joint infection, bronchiectasis exacerbation or other complicated, deep seated or multi-resistant infection: opat@ggc.scot.nhs.uk or 0141 452 3107 or refer via Trakcare

!! Important Antibiotic Drug Interactions & Safety Information !!

▲Doxycycline/ Quinolone: reduced absorption with iron, calcium, magnesium & some nutritional supplements. See BNF (Appendix1) or see pharmacy for advice.

■ Clarithromycin/ Quinolone: risk of serious drug interactions see BNF (appendix 1) or seek pharmacy advice. May also prolong the QTc interval, avoid (where possible) if other QTc risk factors.

▲ ■ Quinolones e.g. Ciprofloxacin, Levofloxacin **Stop treatment at first signs of a serious adverse reaction (e.g. tendonitis), prescribe with caution for people over 60 years and avoid co administration with a corticosteroid. See BNF for dosing advice in reduced renal function.**

Trimethoprim^/ Co-trimoxazole^

Trimethoprim use with caution especially if eGFR < 30 may ⇧ K⁺ and decrease renal function. Monitor

Ceftriaxone* / Levofloxacin* / Ciprofloxacin*

Consider CDI risk

If patient develops diarrhoea and *Clostridioides difficile* Infection (CDI) is suspected stop ceftriaxone/ levofloxacin/ ciprofloxacin therapy, send stool samples to microbiology for testing and discuss with consultant oncall. If CDI suspected give 1 dose of oral vancomycin 125mg.

**Gentamicin/

Gentamicin adult dosing calculators are available via 'Clinical Info' icon on staff intranet/ GGC Medicines App. Use GGC Prescribing, Administration, Monitoring charts

Gentamicin ∆ Avoid Gentamicin in decompensated liver disease or myasthenia gravis,or known family history of aminoglycoside auditory toxicity or maternal relative with deafness due to mitochondrial mutation A1555G

FURTHER ADVICE: Duty Microbiologist, Clinical/ Antimicrobial Pharmacist, Infectious Disease (ID) Unit at QEUH, local Respiratory Unit (for RTI) or from the Adult Therapeutic Handbook. Infection Control advice may be given by the Duty Microbiologist.

NHS GGC AUC Nov 2022 Review Nov 2025