Empirical Antibiotic Guidelines for Primary Care

- See the **Primary Care Empirical Antibiotic Guidelines** for further information
- The doses recommended below are based on normal renal/hepatic function
- See the **BNF** and **Renal Drug Handbook** for dose adjustments in renal/hepatic impairment
- Follow the antibiotic guidelines and discuss with Microbiology/ID if unsure
- Take microbiology samples BEFORE giving antibiotics
- Document the indication and proposed duration of therapy to avoid unnecessarily prolonged prescription
- Confirm the nature of a drug allergy with the patient as it is often not a true allergy

Penicillin Allergy

- Penicillin allergy is documented in >10% of patients but the nature of allergy is often uncertain (not a true allergy)
- True allergy (anaphylaxis) occurs in <1% of patients and is a barrier to all beta-lactam antibiotics
- History of a rash or mild symptoms could still allow the use of cephalosporins or carbapenem antibiotics

HIV Testing

Anyone presenting with symptoms and/or signs consistent with an HIV indicator condition (including recurrent pneumonia, STI, viral, parasitic and fungal infections), please consider testing. See: https://bit.ly/2WRDZKL

Scoring systems

SIRS score

- HR >90 beats/min
- RR >20 breaths/min
- temperature >38°C **OR** <36°C
- WCC >12×109/L **OR** <4×109/L

CURB65 Score

- New onset confusion
- urea >7mmol/L
- RR ≥30 breaths/min
- SBP ≤90mmHg **OR** DBP ≤60mmHg
- Age ≥65 years

Sepsis and septic shock

If sepsis suspected, immediate hospital admission

Sepsis

- Life-threatening organ dysfunction due to a dysregulated host response to infection (qSOFA score ≥2)

NHS Dumfries & Galloway

Version 1.1 | Updated September 2022 Review due September 2024

Authors: Dr S Irvine, Dr S Ducker, Antimicrobial Team

Adapted from NHS GGC & NHS Grampian Primary Care Abx Posters

Upper Respiratory Tract Infections

Consider delayed antibiotic prescriptions

Pharyngitis / sore throat / tonsillitis

Self limiting illness lasting around 1 week

Check **FeverPAIN** score (**Fever**, **P**urulent tonsils, **A**ttending rapidly, **I**nflamed tonsils, **N**o cough/coryza)
0-1 = No abx.
2-3 = delayed 4 or > delayed/ immediate

- Phenoxymethylpenicilin 500mg QDS (or 1g BD) for 5 days (10 if high risk group A strep)

If penicillin allergic

- Clarithromycin 500mg BD

Duration: 5 days

Otitis externa

Important to exclude underlying chronic otitis media prior to tx.
Good aural hygiene will often resolve

- 1st line Betamethasone 0.1% drops 2 drops 3-4 hrly until pain improves then reduce
- 2nd line Neomycin sulphate with steroid 3 drops TID

Duration: 7 days

Otitis media

Self limiting illness lasting around 3-7 days
Consider 2-3 day delayed prescribing or immediate abx if ottorhoea

- Amoxicillin 500mg TDS (1g if severe)

If penicillin allergic

- Clarithromycin 500mg BD

Duration: 5 days

Sinusitis

Self limiting illness lasting around 2-3 weeks

- Optimise analgesia ± xylometazoline 0.1% nasal spray

Consider delayed by 7 days or immediate abx when purulent nasal discharge

- Doxycycline 200mg STAT then 100mg OD or amoxicillin 500mg TDS

Duration: 5 days

Lower Respiratory Tract Infections

Unsure if LRTI or UTI

PO Nitrofurantoin **AND** PO Amoxicillin
If penicillin allergic
PO Co-trimoxazole

Community acquired pneumonia (CAP)

Generally treat in the community unless severe or clinical concern. Use CRB65 to assess.

Each scores 1:

- Confusion (4AT <4)
- Respiratory rate >30
- BP systolic <90 or diastolic <60
- Age >65
- Score 0: suitable for home treatment
- Score 1-2: hospital assessment advised
- Score 3-4: urgent admission

- PO Amoxicillin 500mg TDS

If penicillin allergic

- PO Doxycycline 200mg STAT then 100mg OD **OR** PO Clarithromycin 500 mg BD

Duration: 5 days

Infective exacerbation of COPD

Treat exacerbations promptly with abx **IF** purulent sputum and increases SOB and/or increased sputum production

- PO Doxycycline **OR** PO Amoxicillin **OR** PO Clarithromycin

Duration: 5 days

Acute bronchitis/cough

Self limiting illness lasting around 3 weeks. Abx not shown to benefit in absence of co-morbidity.
Consider 7 day delayed abx prescribing as per CAP abx

Oral Candidiasis

- Miconazole gel qds or Nystatin 1ml QDS

Duration: 7 days

Note Miconazole should not be used concurrently with Warfarin

Suspected COVID-19/viral pneumonia

Antibiotics not routinely required
If evidence of bacterial infection on CXR/purulent sputum then treat as per CAP
Consider stopping antibiotics once viral pneumonia confirmed

Urinary Tract Infections

Important tips for UTIs (see SIGN 160)

- Only use a dipstick in females <65 years
- Never dipstick a catheter specimen
- UTI diagnosis in females <65 years requires ≥2 urinary symptoms AND positive nitrites on dipstick
- Do not treat asymptomatic bacteriuria in non-pregnant females of any age
- Consider self management with NSAID / delayed abx prescribing if only mild UTI symptoms in non-pregnant women

RECURRENT UTI

- Women should be advised to aim for fluid intake of 2.5L per day
- In sexually active women consider STI screen
- Consider offering women an alternative to spermicide-containing contraceptives
- Prophylactic antibiotics should only be used (with caution) for short periods (3-6 months) after self-care approaches have been unsuccessful

Lower UTI (males and non-pregnant females) (SEE BOX)

- PO Trimethoprim **OR** PO Nitrofurantoin

If renal impairment (eGFR <30)

- PO Ciprofloxacin 500mg 12hrly

Duration: 3 days (females) or 7 days (males)

Lower UTI pregnant females

Always perform culture. Short term nitrofurantoin is unlikely to cause problems to the foetus.

1st line: Nitrofurantoin (1st or 2nd trimester only) 50mg QDS or 100mg MR BD

2nd line: Amoxicillin (if susceptible) 500mg TDs or **Cefalexin** 500mg BD

Duration: 7 days

Upper UTI/pyelonephritis (males and non-pregnant females)

Upper UTI without sepsis

- PO Trimethoprim **OR** PO Ciprofloxacin 500mg 12hrly

Duration: 7 days

Epididymo-orchitis

(offer STI screen if sexually active)

≥35 years old

- PO Ofloxacin 400mg daily

<35 years old

- PO Doxycycline 100mg BD

Duration: 14 days

Catheter-associated UTI (CAUTI) (SEE BOX)

Antibiotic treatment if one of the following:

- New onset costovertebral tenderness
- Rigors
- New delirium
- Fever

Change catheter prior to abx treatment

- Nitrofurantoin 100mg MR BD (or 50mg QDS) or Trimethoprim 200mg BD

Duration: 7 days

If signs of sepsis urgent admission to hospital

Acute prostatitis

- PO Trimethoprim **OR** PO Ciprofloxacin 500mg 12hrly

Duration: 14-28 days minimum

Bacterial vaginosis

- Metronidazole 400mg BD for 7 days or Tinidazole 2g OD for 2 days)

Note: less relapse with 7 day course

Skin & Soft Tissue Infections

Cellulitis

Mild/moderate cellulitis

- PO Flucloxacillin

If penicillin allergic

- PO Doxycycline 200mg followed by 100mg BD

Duration: 5-7 days

Surgical wounds

Mild wound infection: tx as cellulitis.
Swab if exudate

Diabetic foot ulcer

- PO Flucloxacillin

If penicillin allergic

- PO Doxycycline 200mg followed by 100mg BD

Duration: 5-7 days

Impetigo

Reserve topical abx for very localised lesions

- Topical Fusidic acid 2% TDS for 5 days
- If more severe: flucloxacillin 500mg QDS

If penicillin allergic or MRSA suspected

- Clarithromycin 500mg BD

Duration: 5-7days

Fungal infections

Nail – confirm with nail clippings prior to treatment. Prolonged courses of antifungals needed on confirmation.

- Terbinafine 250mg OD

Hands – 6-12 weeks duration

Feet – 6 months duration

Skin – topical terbinafine BD for 7 days.

Animal bites

Assess tetanus and rabies risk

Non-severe bites

- PO Co-amoxiclav

If penicillin allergic

- PO Doxycycline **AND** PO Metronidazole

Duration: 5 days

Human bites

Assess HIV and hepatitis risk

Treat as per animal bites

Lyme disease

Treat erythema migrans empirically

Serology often negative early infection

Complex symptoms seek advice

- PO Doxycycline 200mg followed by 100mg BD

Duration: 21 days

Chickenpox

Consider antiviral if patient presents within 24hrs of rash onset or immunocompromised.

(D/W microbiology if pregnant)

- Aciclovir 800mg 5 times daily

Duration: 7 days

Shingles

If presents within 72 hrs of rash onset consider antiviral or immunocompromised.

- Aciclovir 800mg 5 times daily

Duration: 7 days

Scabies

Treat whole body below ear/chin and under nails. Include face and scalp in under 2s and elderly

- Permethrin 5% cream two applications 7 days apart

Adult Antibiotic Doses (unless otherwise stated)

Antibiotic	PO dose*
Amoxicillin	500g 8hrly
Clarithromycin	500mg 12hrly
Co-amoxiclav	625mg 8hrly
Co-trimoxazole	960mg 12hrly
Doxycycline	200mg stat then 100mg 24hrly
Flucloxacillin	1g 6hrly
Metronidazole	400mg 8hrly
Nitrofurantoin	50mg 6hrly (OR 100mg MR BD) (avoid if eGFR <45)
Trimethoprim	200mg 12hrly

*All doses assume normal renal/hepatic function (see the **BNF** and **Renal Drug Handbook** for dose adjustments)

Gastrointestinal Infections

Intra-abdominal infection

Where hospital admission not felt necessary

- PO Co-trimoxazole **AND** PO Metronidazole

Duration: 5-7 days (total PO and IV)

Acute gastroenteritis

Does not usually require treatment Take stool cultures

Clostridioides difficile infection

Assess severity daily (See Full Guideline for scoring)

Stop/rationalise non-Clostridial antibiotics

Stop antimotility agents and PPIs

First line treatment of CDI is now oral Vancomycin 125mg QID irrespective of severity.
Duration: 10 days Second line treatment:
Definition: Patients who fail to improve after 7 days or worsen with oral Vancomycin
Discuss with an infection specliaist. Treatment will depend on severity and clinical setting

Dental

Dental abscess

Refer to GDP. For suspected dental abscess

- Penicillin V 1g bd or 500mg QDS

If penicillin allergic

- Metronidazole 400mg TDS

Duration: 5 days

Note on dental prescribing

- Antibiotics are only required if immediate drainage is not achieved or in cases of spreading infection (significant extra-oral swelling, cellulitis) or systemic involvement (fever, sepsis)
- Where possible all dental prescribing should be by GDP except where this would cause unacceptable delay in treatment.

Eye Infections

Orbital cellulitis

Medical emergency – urgent hospital admission

Conjunctivitis

Treat only if severe, most cases are viral or self limiting. See D&G formulary if persisting.

Ophthalmic shingles

Start treatment up to 7 days after onset of rash. Refer to ophthalmology if any signs or symptoms of eye involvement.

- Aciclovir 800mg 5 times daily + lubricating eye drops if lesions near eyelid

Duration: 7 days

Meningitis

Urgent hospital transfer

Give abx if non-blanching rash, in combination with signs of meningism or sepsis, **and if time permits.** Abx should also be given if transfer time is >1hr. Benzylpenicillin (IV/IM) 1.2g or if known rash/allergy Cefotaxime/Ceftriaxone 2g (IV/IM)

Important drug interactions and side effects

Doxycycline

- Reduced absorption (up to 100%) with iron, calcium, magnesium and some nutritional supplements
- Warn patients regarding photosensitivity

Macrolides (Clarithromycin)

- High risk for serious drug interactions (see the BNF or seek pharmacy advice)
- Avoid in patients with a prolonged QTc interval

Quinolones (Ciprofloxacin, Levofloxacin and Ofloxacin) - Patient information leaflet required on prescription

- Reduced absorption with iron, calcium, magnesium and some nutritional supplements
- High risk for serious drug interactions (see the BNF or seek pharmacy advice)
- Stop treatment at the first sign of side effects (tendonitis)
- Use with caution in patients >60 years old
- Avoid in patients with a prolonged QTc interval
- Avoid prescribing in combination with corticosteroids