Waterford: Antimicrobial Guidelines - Antimicrobial Guideline: General Guidance on Antimicrobial Prescribing

General Guidance on Antimicrobial Prescribing

START SMART - THEN FOCUS!

1. Please document the **indication** and **intended duration** of antimicrobial therapy in the medical record. Review all antimicrobial therapy daily.
2. These guidelines are intended for **empiric use** only i.e. pathogen unknown. Once pathogen(s) identified antimicrobial therapy should be changed in line with antimicrobial susceptibility test results. Contact microbiology team for advice on de-escalation or rationalisation to **targeted therapy** . It is the responsibility of the person/team ordering laboratory tests to follow up on the test results.
3. **Piperacillin-tazobactam** and **co-amoxiclav** provide good anaerobic cover. Concurrent metronidazole is NOT required unless there is gross faecal contamination e.g. faecal peritonitis, or there is an undrained collection or abscess. Treatment of aspiration pneumonia does not require addition of metronidazole to either of these antibiotics.
4. Antimicrobials such as ciprofloxacin, levofloxacin, metronidazole, linezolid, clindamycin, and fluconazole have excellent oral bioavailability and the oral route should be selected where possible when using these agents. IV formulations should only be used where adequate absorption from the GIT is a concern or oral medications are not tolerated or advised.
5. **Oral switch** – consider changing to oral antimicrobials when patient has been afebrile with infection parameters settling for 48 hours, and where absorption from the GIT is considered sufficient. Oral antimicrobials are generally NOT appropriate for use in the treatment of acute bacterial meningitis, infective endocarditis, febrile neutropenia or acute osteomyelitis and septic arthritis.
6. **For oral switch guidelines** please see **IV to PO Switch** section. Oral switch is usually to the oral formulation of the same antimicrobial where available. Exceptions include IV benzylpenicillin which should be changed to PO amoxicillin as absorption of oral penicillin is variable.
7. **Penicillin allergy** Obtain & document exact nature of allergy.

- In IgE-mediated (e.g. anaphylaxis, angioedema, immediate urticarial rash) allergy or a history of severe reaction to penicillin (eg. erythema multiforme/Steven-Johnson Syndrome/TEN), avoidance of all beta-lactam antibiotics is advised.
- In non-IgE-mediated allergy or non-severe reaction to penicillin such as a mild-moderate rash (NOT erythema multiforme/Steven-Johnson Syndrome/TEN), a cephalosporin should be considered. Macrolides such as erythromycin are often NOT a good substitute for empiric use in serious infections due to limited spectrum of activity and rising resistance rates.

1. Flucloxacillin and other beta-lactams such as co-amoxiclav, piperacillin-tazobactam, cephalosporins and meropenem do NOT cover MRSA. Vancomycin or teicoplanin can be used to treat MRSA infections if required.
2. **Clostridioides difficile infection** can be associated with the use of all antibiotics. There is a particular risk recognised with the use of fluoroquinolones (e.g. levofloxacin and ciprofloxacin), clindamycin and 3rd generation cephalosporins such as ceftriaxone and other broad spectrum antibiotics. Concurrent administration of these agents and prolonged courses of all broad-spectrum antibiotics should be avoided where possible.
3. **Note on fluoroquinolones** : The use of fluoroquinolones (eg. ciprofloxacin, levofloxacin) is associated with a risk of disabling, long-lasting and potentially irreversible side effects (including tendon damage, QT prolongation, neuropathies, and neuropsychiatric effects). Older patients, those with renal impairment, solid organ transplantation or on systemic corticosteroids are at an increased risk of tendon damage with these agents. Please read the HPRA Drug Safety Alert issued in 2018 and the HPRA Drug Safety Newsletter issued in 2023 highlighting restrictions on use of fluoroquinolones (eg. ciprofloxacin, levofloxacin). Quinolones also associated with an increased risk of *C. difficile* infection.
4. **Note that sodium fusidate** and **rifampicin** should never be used as monotherapy for the treatment of infections caused by *Staphylococcus aureus* as resistance to these agents can rapidly develop on treatment.
5. **Note on Macrolides** (eg erythromycin, clarithromycin): This class of antibiotics has a number of side effects, interactions and contraindications that should be taken into account when prescribing. Particular caution should be taken with use in older patients and in those with a history of cardiac disease.
6. Please prescribe **exact doses where weight-based calculations** are required such as when using Gentamicin or Vancomycin. Failure to do so can lead to medication being administered at incorrect dosages with the potential for unintended adverse outcomes.

NB: The prescriber should always check prescribing information such as cautions, contraindications, interactions and side effects when considering antimicrobial therapy. Ensure information on antimicrobial prescribing, including risks and side effects associated with antimicrobial treatment, is available to patients or their legal guardians.

Disclaimer:

Whilst every effort has been made to ensure the accuracy of the information and material contained in this document, errors or omissions may occur in the content. We acknowledge that new evidence may emerge that may overtake some of these recommendations. The document will be reviewed and revised annually. Prescribers should ensure that the correct drug and dose is prescribed, as is appropriate for each individual patient. References that should be used in conjunction with these guidelines include the British National Formulary (BNF) and the drug data sheets and SPCs. Clinical guidelines are guidelines only and the interpretation and application of the guidelines remains the responsibility of the individual clinician.