

Aims and Principles of Antimicrobial Treatment

Foreword

These guidelines are intended to provide advice on the effective and safe management of common infections seen in primary care in Kent and Medway.

The target audience for this guidance is anticipated to be general practitioners (GP), GP trainees, practice nurses, non-medical prescribers, paramedics and community pharmacists.

The guidance is based on the NICE summary rapid reference document that contains recommendations around antimicrobial prescribing from NICE and PHE and were accessed and agreed by the Kent and Medway Primary care antimicrobial guidance review group that comprised of consultant microbiologists from the NHS Trusts in Kent and Medway, antimicrobial pharmacists, medicines optimisation pharmacists and GP representation.

Implications

- It is hoped that this guidance will lead to more appropriate antimicrobial use.
- There is a risk that the use of this guidance may impact laboratory workload

Aims

To provide a simple, effective, economical and empirical approach to the management and treatment of common infections.

To minimise the emergence of antimicrobial resistance in the community.

Principles of Treatment

1. The Kent and Medway Antimicrobial guidance is based on the best available evidence but professional judgement should be used and patients should be involved in the decision.
2. This guidance should not be used in isolation; it should be supported with patient information about safety netting, back-up antibiotics (please see delayed/back-up prescribing guidance) self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP [TARGET](#) website and your local formulary website.
3. If a person is systemically unwell with symptoms or signs of serious illness, or is at high risk of complications: give immediate antibiotic. Always consider possibility of sepsis, and refer to hospital if severe systemic infection.
4. In severe infection, or immunocompromised, it is important to initiate antibiotics as soon as possible, particularly if sepsis is suspected. If patient is not at moderate to high risk for sepsis, give information about symptom monitoring, and how to access medical care if they are concerned.
5. Always check for antibiotic allergies. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function. In severe or recurrent cases consider a larger dose or longer course. Please refer to the BNF for further dosing and interaction information, (e.g. interaction between macrolides and statins).

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6. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities, consider culture and seek advice.
7. Prescribe an antibiotic only when there is likely to be clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate.
8. Consider no, or delayed, antibiotic strategy for acute self-limiting upper respiratory tract infections.
9. Limit prescribing over the telephone to exceptional cases.
10. Use simple generic antibiotics if possible. Avoid broad spectrum antibiotics, (e.g. co-amoxiclav, quinolones and cephalosporins), when narrow spectrum antibiotics remain effective, as they increase risk of *Clostridium difficile*, MRSA and resistant UTIs.
11. Avoid widespread use of topical antibiotics, (especially those agents also available as systemic preparations, e.g. fusidic acid).
12. Avoid use of quinolones unless benefits outweigh the risk as new 2018 evidence indicates that they may be rarely associated with long lasting disabling neuro-muscular and skeletal side effects.
13. In pregnancy, take specimens to inform treatment.
14. Child doses are provided when appropriate, refer to the BNF for further dosing and interaction information.
15. Where a 'best guess' therapy has failed or special circumstances exist, advice can be obtained from the Microbiology Department at your local Trust. Please see contact details below:

Trust	Hospital Switchboard Number
East Kent Hospitals University NHS Foundation Trust	Kent and Canterbury Hospital: 01227 766877
	Queen Elizabeth The Queen Mother Hospital: 01843 225544
	William Harvey Hospital: 01233 633331
Dartford and Gravesham NHS Trust	Darent Valley Hospital: 01322 428100
Medway NHS Foundation Trust	Medway Maritime Hospital: 01634 830000
Maidstone and Tunbridge Wells NHS Trust	Maidstone Hospital: 01622 729000
	Tunbridge Wells Hospital at Pembury: 01892 823535

Risk of *Clostridiodes difficile* infection risk assessment

Risk factors for *C. diff* infection should be considered when prescribing antibiotics but these risks must be balanced against managing infection or sepsis.^[2] Risk factors include:

- Frail patients^[3]
- Patients 65 years old or over^[4]
- Antibiotic exposure within previous 3 months

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- All antibiotics can predispose to C. diff infection but the antibiotics most commonly implicated in C. diff infection are: clindamycin, cephalosporins (in particular second- and third-generation cephalosporins), quinolones and co-amoxiclav.^[1] Think carefully before prescribing these antibiotics
- Recent multiple or long duration antibiotic courses^[1]
- Antibiotic courses longer than recommended
- Recent hospital admission^[1]
- Contact with any healthcare setting
- Contact with patients with C. diff infection^[1]
- Underlying morbidity such as abdominal surgery, cancer, chronic renal disease, inflammatory bowel disease^[1]
- Concurrent therapy with a proton pump inhibitor or other acid suppressing drug whilst taking antibiotic has also been associated with an increased risk of C. diff infection.^[1] Review indication and / or dose

Risk of antibiotic treatment failure

Factors that may indicate risk of antibiotic treatment failure:^[2]

- History of infection with resistant micro-organisms
- Recent antibiotic exposure
- Immunocompromised
- Infection acquired in healthcare environment

If patient is likely to have treatment failure discuss patient with local Microbiology

References:

[1] Public Health England. *Summary of antimicrobial prescribing guidance: managing common infections PHE context, references and rationales for Clinical Commissioning Groups, Commissioning Support Units and Primary Care Providers, Principles of Care*. Accessed 22.02.2023. Available at: [Summary of antimicrobial prescribing guidance \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/guidance/summary-of-antimicrobial-prescribing-guidance)

[2] South Central Antimicrobial Network Foreword. Accessed 22.02.2023. Available at [Foreword \(microguide.global\)](https://microguide.global)

[3] National Institute for Health and Care Excellence. *Clostridium difficile infection: risk with broad-spectrum antibiotics*. Published 17 March 2015. Available at: [Full evidence summary: medicines and prescribing briefing | Clostridium difficile infection: risk with broad-spectrum antibiotics | Advice | NICE](https://www.nice.org.uk/guidance/CG137)

[4] NHS. Clostridium difficile (C.diff) infection available at: [Clostridium difficile \(C. diff\) - NHS \(www.nhs.uk\)](https://www.nhs.uk)

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Document History

Version	Date	Main Changes/Comments
1	January 2023	<p>First draft, adapted from existing West Kent and East Kent aims and principles of care. Following information removed from West Kent version:</p> <p>‘Erythromycin tablets are the least expensive macrolide, but clarithromycin is suitable alternative provided it is prescribed generically. In children erythromycin may be preferable as clarithromycin syrup is twice the cost.’ As this information sits better within supplementary guidance.</p> <p>‘The PHE sections of the table summary support the 2017 to 2019 NHS England Antibiotic Quality Premium ambition to reduce inappropriate antibiotic prescribing in the management of infections in primary care.’ As no longer relevant</p>

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