

Treating infections (PHE)

Clinicians wishing to critically assess their use of antibiotics in practice can access useful audit tools and resources from rcgp.org.uk/TARGETantibiotics

Antibacterial drug choice^[1]

- Before selecting an antibacterial, consider the patient, the known or likely causative organism, and the risk of bacterial resistance with repeated courses.
- Factors related to the patient which must be considered include history of allergy, renal and hepatic function, susceptibility to infection (whether immunocompromised), ability to tolerate drugs by mouth, severity of illness, risk of complications, ethnic origin, age, whether taking other medication and, if female, whether pregnant, breast-feeding or taking an oral contraceptive.
- The known or likely organism and its antibacterial sensitivity will provide one or more antibacterial option. In patients receiving antibacterial prophylaxis, an antibacterial from a different class should be used.
- Some patients may be at higher risk of treatment failure, eg, repeated antibacterial courses, a previous or current culture with resistant bacteria, or those at higher risk of developing complications.

Considerations before starting antibiotic therapy^[1]

- Viral infections should not be treated with antibacterials. However, antibacterials may be used to treat secondary bacterial infection.

- Samples should be taken for culture and sensitivity testing if necessary, eg, 'blind' antibacterial prescribing for unexplained pyrexia usually leads to further difficulty in establishing the diagnosis.
- Knowledge of prevalent organisms and their current sensitivity helps to choose an antibacterial. Narrow-spectrum antibacterials are preferred to broad-spectrum antibacterials unless there is a clear clinical indication (eg, life-threatening sepsis).
- The dose of an antibacterial varies according to a number of factors including age, weight, hepatic function, renal function, and severity of infection.
- Life-threatening infections require intravenous therapy. Antibacterials that are well absorbed may be given by mouth even for some serious infections. Parenteral administration is also appropriate when the oral route cannot be used (eg, vomiting) or if absorption is inadequate.
- Duration of therapy depends on the nature of the infection and the response to treatment. Courses should generally not be unduly prolonged because they encourage resistance, may lead to side-effects and they are costly.

Advice to be given to patients and their family and/or carers^[1]

- Advise about directions for correct use and possible side-effects using verbal and written information.
- If an antibacterial is not given, advise patients about an antibacterial not being needed currently. Discuss alternative options as appropriate, such as self-care with over-the-counter preparations, back-up (delayed) prescribing, or other non-pharmacological interventions.
- Advise to seek medical help if symptoms worsen rapidly or significantly at any time, if symptoms do not start to improve within an agreed time, if problems arise as a result of treatment, or if the patient becomes systemically very unwell.

Considerations during antibiotic therapy^[1]

- Review choice of antibacterial if susceptibility results indicate bacterial resistance and symptoms are not improving.
- Consult local microbiologist as needed. If no bacterium is cultured, the antibacterial can be continued or stopped on clinical grounds.

Superinfection^[1]

In general, broad-spectrum antibacterial drugs such as the cephalosporins are more likely to be associated with adverse reactions related to the selection of resistant organisms, eg, fungal infections, antibiotic-associated colitis ([pseudomembranous colitis](#)).

Notifiable diseases

See the separate article on [Notifiable Diseases](#).

It is good practice to report other diseases that may present a significant risk to human health. These should be done under the category 'other significant disease'.^[1]

Sepsis

Always consider the possibility of sepsis. See also the article on [Sepsis](#).

Further reading

- [Antibiotic Awareness Resources](#); Public Health England
- [Antimicrobial Resistance \(AMR\): information and resources](#); GOV.UK, updated July 2022
- [British National Formulary for Children](#); NICE Evidence Services (UK access only)
- [Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#); NICE Guidelines (August 2015)

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