

Antimicrobial Stewardship

It is widely acknowledged that 50% of antibiotic prescriptions are inappropriate. Global antibiotic resistance is becoming increasingly prevalent and worryingly the world faces a post-antibiotic era where there are no longer antibiotics to treat common infections. Antimicrobial stewardship is the response to the increasing misuse of antibiotics. It promotes the use of the right antibiotic, at the right dose, route and duration, for the right infection at the right time in order to improve patient care whilst reducing antibiotic resistance. At the forefront of this fight are Antimicrobial Pharmacists; specialist clinical pharmacists who help optimise antibiotic use within hospitals and the community.

Common Mistakes in prescribing antibiotics

- Using antibiotics that do not cover the causes of the infection
- Unnecessary use of broad-spectrum (or narrow-spectrum) antibiotics
- Prescribing antibiotics where there is no evidence of infection
- Unnecessarily long courses of antibiotics
- Incorrect dosing
- Overuse of intravenous antibiotics
- Delaying antibiotics in the critically ill
- Failing to modify antibiotic treatments when microbiology results are available

The Role of the Antimicrobial Pharmacist involves:

- Expert advice regarding antibiotic usage in specific individual patients in conjunction with Microbiologists or Infectious Diseases Physicians
- Participation in Root Cause Analysis (RCA) of cases of *Clostridium difficile* associated disease and MRSA bacteraemias
- Educating healthcare staff about prudent antibiotic usage
- Developing evidence-based guidelines for:
 - Empirical antibiotic treatment and surgical prophylaxis
 - Restricted antibiotics which specifically require the approval of a Microbiologist or Infectious Diseases Physician before their use
 - Intravenous to oral switching to reduce the unnecessary use of IV antibiotics
 - Stop and review to reduce unnecessarily long courses of antibiotics
- Providing clinical tools such as antibiotic drug charts to facilitate compliance with guidelines
- Surveillance and audit of antibiotic usage to ensure compliance with guidelines
- Antibiotic formulary decision-making and horizon-scanning for information about new antibiotics
- Representation at Infection Prevention and Control Committees and Antibiotic Steering Groups (sub-committees of Hospital Drug and Therapeutic Committees)