

## Guidelines for antimicrobial prescribing

Guidelines for prudent use of therapeutic and prophylactic antibiotics and other microbial agents in order to minimise development of resistant pathogens consistent with recommended guidelines.

This guideline is primarily for medical practitioners and clinical staff.

It describes the principles of prescribing, the correct selection of recommended agents, acceptable alternatives, and administration for both treatment and surgical prophylaxis.

This is an essential antimicrobial stewardship approach for promoting safe use of antimicrobials to prevent the damaging effects of antimicrobial resistance and preserve their future effectiveness.

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### Definitions

Term	Definition
<b>Antimicrobial stewardship</b>	Coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration.
<b>Antimicrobial resistance.</b>	A microorganism's resistance to an antibiotic to which it was previously susceptible. Infections caused by resistant micro-organisms often fail to respond to conventional treatment, resulting in prolonged illness and an increased risk of death (WHO 2012).

## General principles of antimicrobial prescribing

- Antimicrobials should be chosen appropriately, using evidence based clinical guidelines for that specialty, and it is desirable to align with local antimicrobial protocols
  - Any departure from best practice guidelines should be consultation with appropriate specialists, i.e. laboratory clinical microbiologist
  - Narrow spectrum agents should be used in preference to broad-spectrum antibiotics
  - Once diagnostic bacteriology is available, antibiotics should be altered if clinically indicated, e.g. broad cover simplified
  - Minimise adverse effects and development of antimicrobial resistance
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## Surgical antimicrobial prophylaxis

Select a prophylactic antimicrobial agent based on its efficacy against the most common pathogens causing surgical site infection for a specific operation.

**Please refer to:** [Recommended prophylactic antimicrobial agents and administration guide](#)

It is essential prophylactic antimicrobial agent is administered before the operation starts to ensure adequate antimicrobial tissue levels before the skin incision is made.

Vancomycin should not be routinely used for prophylaxis.

Continuing prophylaxis until drains or catheters are removed is unproven and should not be prescribed.

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## Multi-drug resistant organisms

### MRSA colonisation

- Add vancomycin 15mg/kg actual body weight (ABW) (max 2g) to regimen

### Extended-spectrum beta-lactamase producing organisms (ESBL)

- Seek advice from your local clinical microbiologist, infectious disease specialist or national clinical microbiologist.
- Consider stocks of Ertapenem if ESBLs are of concern

ESBL colonisation in the bowel should not alter prophylaxis for clean surgical sites.

Continue any current antimicrobial treatment regimen as scheduled peri-operatively.

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## Monitoring and review

Monitoring of antimicrobial prescribing is the function of the HCMC who may invite infection prevention, microbiology or pharmacy experts to review practices in place at the hospitals through the following:

- Audit of prophylactic antibiotics for specific procedures to ensure these are within recommended guidelines, r
- Audit of antimicrobial drug usage for treatment of infection
  - Refer to the [Procedure for audit of antimicrobial therapy](#).

Results should be provided back to the medical specialists.

## Surveillance of multi-drug resistant organisms

This will be facilitated via the following:

- Specific multi-resistant organisms are identified and reviewed and findings reported to the Infection Prevention and Control Committee/SQR and/or HCMC, to ensure that infection prevention and control measures are in accordance with recognised good practice
- The medical laboratory will provide resistance patterns for organisms at least annually for the Southern Cross Hospital and the community. This report is then issued to prescribers and reviewed by the Infection Control Committee/SQR and/or HCMC.

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## References

- Lang, S. Guide to Pathogens and Antibiotic Treatment 7th Edition. ADIS 2005
- [Health Quality and Safety Commission: Orthopaedic surgery implementation manual. May, 2019.](#)
- Bratzler DW, Dellinger EP, Olsen KM. (2013). Clinical practice guidelines for antimicrobial prophylaxis
- [New Zealand Antimicrobial Resistance Action Plan 2017](#)
- [Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017](#)
- Standards New Zealand (2000) New Zealand Standard Infection Control NZS 8142:2008 Wellington
- [The Preferred Medicine List \(PML\) for empiric and first line therapy. BPAC New Zealand](#)

## Attachments



### Right antibiotic HQSC poster

3.8MB pdf



### Recommended prophylactic antimicrobial agents and administration guide

Describes the prophylactic antimicrobial agents based on the efficacy against the most common pathogens causing surgical site infection for a

specific operation.

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