

Clinical Guideline

Antimicrobial Prescribing Clinical Guideline

Objective file number: 2014-04869

Policy developed by: Infection Control, Public Health and Clinical Systems

Approved SA Health Safety & Quality Strategic Governance Committee on:
12 August 2014

Next review due: 31 August 2017

Summary The Antimicrobial Prescribing Clinical Guideline provides general principles that all SA Health prescribers should be aware of when prescribing antimicrobials for patients with, or at risk of, infection.

It outlines processes for to ensure optimisation of prescribing of antimicrobials in all clinical settings, ensuring antimicrobials are prescribed and utilised according to principles of evidence based medicine.

Keywords antimicrobial, prescribing, guideline, AMS, antibiotic, MINDME, optimisation, evidence, Therapeutic Guidelines, Antibiotic, Antimicrobial Prescribing Clinical Guideline

Policy history Is this a new policy? **Y**
Does this policy amend or update an existing policy? **N**
Does this policy replace an existing policy? **N**
If so, which policies?


Applies to CALHN, SALHN, NALHN, CHSALHN, WCHN

Staff impact All Clinical, Medical, Nursing, Allied Health, Emergency, Dental, Mental Health, Pathology

PDS reference CG168

Version control and change history

Version	Date from	Date to	Amendment
1.0	12/08/2014	current	Original version



Clinical Guideline for Antimicrobial Prescribing

May 2014

Disclaimer

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for:

- discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes the use of interpreter services where necessary,
- advising consumers of their choice and ensure informed consent is obtained.
- providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct and
- documenting all care in accordance with mandatory and local requirements.

Document title: Clinical Guideline for Antimicrobial Prescribing
First developed: May 2014
Subsequent updates:
Version Number: 1.0
Last reviewed:
ISBN number:
Replaces document:
Author: Infection Control Service, Communicable Disease Control Branch
Audience: Medical and nurse practitioner staff in South Australian public services
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Introduction

Antimicrobial resistance poses a major threat to public health with infections from resistant organisms compromising the safety and quality of health care. An important strategy in combatting the development and spread of antimicrobial resistance is optimisation of prescribing of antimicrobials in all clinical settings, ensuring antimicrobials are prescribed and utilised according to principles of evidence based medicine.

Medical staff employed by SA Health should be appropriately trained and supported to optimise the quality use of antimicrobials, in accordance with up to date clinical practice, and with program guidance as outlined in the Australian Commission for Safety and Quality in Healthcare's National Safety and Quality Health Service Standard for Antimicrobial Stewardship (Standard 3.14). [1]

Background

Education of clinicians regarding the principles of prudent use of antimicrobials is an important clinical strategy to optimise patient outcomes and minimise adverse consequences of antimicrobial use, including the development and spread of resistance. Current evidence [2] clearly demonstrates that the inappropriate use of broad-spectrum antibiotics is associated with the selection of antibiotic-resistant bacteria and the risk of *Clostridium difficile* infection. Antimicrobials should be used for the shortest duration possible that gives an appropriate clinical outcome, and should have the narrowest spectrum of activity targeted at the pathogen concerned.

Clinical guidelines on the use of antimicrobials facilitate uniformity in prescribing practice. The current version of the *Australian Therapeutic Guidelines: Antibiotic* (TG:A) [3] is endorsed by SA Health as the primary basic reference for antimicrobial prescribing, and should be available to prescribers in all clinical settings [1]. Locally developed clinical guidelines may be necessary for some conditions to reflect practice differences and antimicrobial resistance patterns at a state or local health network (LHN) level. These must be endorsed by LHN antimicrobial stewardship (AMS) and drug and therapeutics committees for local use, and where possible should be in line with prescribing guidelines across all SA Health facilities. An SA expert advisory group, the South Australian expert Advisory Group on Antimicrobial Resistance ([SAAGAR](#)), develops statewide guidelines for a range of indications where antimicrobial therapy is required.

The SA Pathology microbiology laboratory, or other contracted laboratories, will provide guidance for directed therapy. Where appropriate, these laboratories should utilise systems of cascade susceptibility reporting to steer prescribers towards the use of appropriate narrow spectrum antimicrobial agents wherever possible.

The assistance of specialist infectious diseases, clinical microbiology and/or clinical pharmacy services should be available to enable timely clinical consultation, feedback and education to prescribers.

Definitions

1. ACSQHC – Australian Commission for Safety and Quality in Health Care.
2. AMS – Antimicrobial Stewardship. An effective approach to improving antimicrobial use in hospitals with a view to optimising patient outcomes and minimising adverse consequences of their use (including antimicrobial resistance, toxicity and unnecessary costs).
3. Antimicrobial – a chemical (medication) used for the management of human disease which has an action to kill or stop the replication/growth of microbiological organisms. This includes medications which are being used for a non-infectious reason if they are known to also possess antimicrobial activity.
4. Clinical staff – refers to all medical officers and registered allied health professionals including pharmacists, enrolled and registered nurses / midwives.
5. LHN - Local Health Network.

6. MINDME – an acronym referring to the ‘antimicrobial creed’, a set of guiding principles for antimicrobial therapy defined with the Australian Therapeutic Guidelines: Antibiotic. Specifically, it stands for:
 - M** Microbiology guides therapy wherever possible
 - I** Indications are evidence based
 - N** Narrowest spectrum required
 - D** Dosage appropriate to the site and type of infection
 - M** Minimise duration of therapy
 - E** Ensure monotherapy in most cases

7. NSQHSS – National Safety and Quality Health Service Standards. [1]
8. Prescriber – refers to a registered health professional qualified to prescribe therapeutic substances (medical officer, dentist or nurse practitioner).
9. SAAGAR – the South Australian expert Advisory Group on Antimicrobial Resistance. SAAGAR’s role is to review and promote the safe and appropriate use of antibiotics in SA, including fostering the development and review of antimicrobial guidelines for statewide use.
10. SAMF – South Australian Medicines Formulary - a list of core medicines which are approved for use within SA public hospitals and health services.
11. SAPPG – South Australian Perinatal Practice Guidelines - outline the principles for managing pregnancy and newborn related conditions and/or performing a procedure related to pregnancy and/or the newborn

Standards

The following National Safety and Quality Health Service Standards (NSQHSS) standards apply:

Standard 1 - Governance for Safety and Quality in Health Service Organisations

Standard 3 - Preventing and Controlling Healthcare Associated Infections, in particular **Standard 3.14 Antimicrobial Stewardship**

Standard 4 – Medication Safety

Principles of the standards

Standard 1 aims to ensure care provided by the clinical workforce is guided by current best practice and the clinical workforce have the right qualifications, skills and approach to provide safe, high quality health care.

Standard 3 aims to prevent patients from acquiring preventable healthcare associated infections and effectively manage infections when they occur by using evidence-based strategies. The safe and appropriate prescribing of antimicrobials (Antimicrobial Stewardship) is a key element of preventing healthcare associated infections.

Standard 4 aims to ensure that competent clinicians safely prescribe, dispense and administer appropriate medicines (in this case, antimicrobials) and patients and/or carers are informed regarding treatment options, benefits and associated risks.

General principles for prescribing

The principles of the MINDME 'antimicrobial creed' and the Clinical Care Standard for Antimicrobial Stewardship Quality Statements are to be considered when prescribing antimicrobials for patients with, or at risk of, infection.

1. In life-threatening conditions due to a suspected bacterial infection, give prompt empiric antibiotic therapy without waiting for the results of microbiology tests.
2. Take all reasonable steps to ensure that an appropriate clinical sample is obtained for microbiological investigation prior to commencing antimicrobial therapy.
3. If microbiology tests are conducted to identify a suspected bacterial infection, ensure that results are reviewed in a timely manner (consistent with bacterial incubation periods and time to clinical response) and the patient's therapy modified if indicated.
4. Adhere to the latest version of the *Australian Therapeutic Guidelines: Antibiotic* or endorsed local clinical guideline (e.g. surgical antibiotic prophylaxis guidelines developed by SAAGAR) when managing patients with infections, especially when selecting empirical therapy. . If in doubt, consult an infectious diseases physician / clinical microbiologist for advice.
5. Use a planned approach to antimicrobial therapy, by recording the clinical reason for antimicrobial therapy, drug name, route of administration, and its expected duration or point of review on the medication chart or in case notes.
6. Ensure empiric antimicrobial therapy is reviewed and changed to a narrower spectrum agent where appropriate, as soon as possible following availability of microbiology results.
7. Prescribe antimicrobials according to the SAMF and comply with LHN restricted antimicrobial protocols where these apply, or seek exemption from the LHN AMS committee where desired prescribing practices are non-compliant with restrictions. Seek advice from a clinical microbiologist or specialist infectious diseases physician as required.
8. Switch from parenteral to oral route for drug administration whenever it is safe and clinically appropriate to do so.
9. Ensure therapeutic monitoring for safety and efficacy occurs in all patients, and that their therapy is modified as appropriate.
10. Modify antimicrobial therapy according to each patient's history of medication allergy or adverse drug reaction.
11. Provide adequate information and opportunity for discussion with patients, their families and carers regarding their condition and treatment options, which may or may not include antimicrobial therapy.
12. If antibiotics are prescribed, ensure patients or carers are informed (either by the prescriber or suitably qualified health professional) about dosing requirements, length of treatment, potential side effects and a plan for follow up.
13. Prescribe surgical prophylactic antibiotics in accordance with the latest version of *Therapeutic Guidelines: Antibiotic* or locally developed evidence based guidelines (e.g. SAAGAR guidelines, SAPPG)

Workforce implications

Adequate resources and training are required for the implementation of this guideline throughout each LHN.

LHNs should provide training programs for prescribers on the principles of Antimicrobial Stewardship, and this Clinical Guideline for Antimicrobial Prescribing should be included in all orientation packages for new clinical staff at SA Health facilities.

Mechanisms for timely consultation with infectious diseases or clinical microbiology specialists should be established within each LHN.

Prescribers should ensure sufficient time is allocated during patient visits for review of laboratory results, and accurate and clear documentation of medical records as outlined in the General Principles section above.

Quality, safety and risk management

The ACSQHC has developed an Antimicrobial Stewardship Initiative to improve the safe and appropriate use of antimicrobials in Australian hospitals. Resources for implementation of AMS programs, prescribing e-learning modules and accreditation workbooks are available from the ACSQHC website. When appropriate resources have been developed by ACSQHC, SA Health adopts these initiatives.

The South Australian Medicines Formulary (SAMF) provides a list of core medicines which are approved for use within SA Public Hospitals and health services. Through a statewide approach to the availability of medicines, SA Health aims to optimise the quality use of medicines, improve and promote equity of access to medicines for patients and increase the cost-effectiveness of medicine use across SA Health.

Eligibility Criteria

Inclusion

All medical and nurse practitioner prescribers (employed directly or contracted by SA Health) should adhere to this guideline. All other clinical staff need to be aware of antimicrobial stewardship principles for safe, responsible and appropriate use of antimicrobials.

Exclusion

All other clinical staff

References

1. ACSQHC. *National Safety and Quality Health Service Standards September 2012*. 2012; Available from: <http://www.safetyandquality.gov.au/wp-content/uploads/2011/09/NSQHS-Standards-Sept-2012.pdf>.
2. ACSQHC, *Antimicrobial Stewardship in Australian Hospitals 2011*, ed. M. Duguid and M. Cruikshank. 2010, Sydney.
3. Antibiotic Expert Group, *Therapeutic Guidelines: Antibiotic Version 14*. 2010, Melbourne: Therapeutic Guidelines Limited.