

FACT SHEET
for clinicians

Clinical Care Standard

Antimicrobial stewardship

What is antimicrobial stewardship?

Antimicrobial agents are important in the treatment of infections, and include antibiotics, antifungals and antivirals. When microbes develop resistance to an antimicrobial, the agent is no longer effective for treating that infection. Although antimicrobial resistance is a natural feature of microbial evolution, the inappropriate use of antimicrobials has increased and accelerated the development of antimicrobial resistance in healthcare settings and in the community.

Antimicrobial stewardship is a systematic approach to optimising the use of antimicrobials that leads to reduced patient morbidity and mortality, reduced antimicrobial resistance rates and reduced healthcare costs.

The *Antimicrobial Stewardship Clinical Care Standard* contains eight quality statements that describe the care that you should provide to patients with an infection, or at risk of an infection. Each quality statement is outlined below. This fact sheet explains what the quality statements mean, and what you can do to have an active role in patient care.

1 Life-threatening conditions



What the standard says

A patient with a life-threatening condition due to a suspected infection receives an appropriate antimicrobial immediately, without waiting for the results of investigations.

What this means for you

When treating a patient with suspected sepsis* or another life-threatening infection, administer appropriate empiric antimicrobials as soon as possible. There should be prompt access to the appropriate antimicrobials.

Obtain clinical specimens as appropriate, but do not delay administration of antimicrobials and do not wait for results of investigations. When results are received, immediately reassess the treatment.

If there is no immediate access to the appropriate antimicrobials, arrange for immediate transfer of the patient to an acute care facility, for example, ambulance transfer to a hospital. This is relevant in community settings or for some rural hospitals.

* Sepsis as defined by the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). Singer M, Deutschman CS, Seymour CW, Shankar-Hari M, Annane D, Bauer M, et al. The third international consensus definitions for sepsis and septic shock (Sepsis-3). JAMA. 2016;315(8):801-810.

2 Use of guidelines



What the standard says

When a patient is prescribed an antimicrobial, this is done in accordance with the current *Therapeutic Guidelines* or evidence-based, locally endorsed guidelines and the antimicrobial formulary.

What this means for you

Prescribe an antimicrobial according to the current *Therapeutic Guidelines* or locally endorsed guidelines including the appropriate:

- Active ingredient
- Dose
- Route of administration
- Formulation
- Frequency of administration
- Duration.

Prescribe, dispense and administer antimicrobials in line with local antimicrobial formularies and restrictions, where available, including those applied to broad-spectrum antimicrobials.

Consider the individual patient's characteristics, such as age, weight, renal function, allergies, other medicines prescribed and other health conditions.

3 Adverse reactions to antimicrobials



What the standard says

When an adverse reaction (including an allergy) to an antimicrobial is reported by a patient or recorded in their healthcare record, the active ingredient(s), date, nature and severity of the reaction are assessed and documented. This enables the most appropriate antimicrobial to be used when required.

What this means for you

Before prescribing, dispensing or administering an antimicrobial, consider the patient's previous adverse reactions to medicines. Check the healthcare record and ask the patient about their previous adverse reactions, including the:

- Active ingredient(s)
- Date the adverse event occurred
- Nature and severity of the reaction including how it was managed
- Place where they recorded it, such as on an allergy bracelet or a medicines list.

If any of the essential elements for assessing an adverse reaction are unknown, this should be explicitly documented in the patient's healthcare record.

Assess the likelihood of the adverse reaction being caused by the active ingredient(s). Factors relevant to your decision about whether to use an antimicrobial or not include the potential for the adverse reaction to recur and the likely consequences to the patient. Use information about the patient's adverse reaction history and evidence-based guidelines to assess the most appropriate antimicrobial to use. Review the accuracy of the documentation and update the patient's healthcare record.

Communicate any changes to a patient's adverse reaction or allergy status to the patient and their regular clinician (for example, in My Health Record or a discharge summary for the general practitioner). It may also be necessary to update the patient's medicines list.

If a patient experiences a new adverse reaction to an antimicrobial, document the essential elements in the

patient's healthcare record. Any new or suspected adverse reactions should also be recorded in the organisation-wide incident reporting system and reported to the Therapeutic Goods Administration.

Essential elements for assessing an adverse reaction to a medicine

The essential elements for assessing an adverse reaction are the:

- **Patient's description of the event** (what happened to the patient)
- **Nature of the reaction** (diagnosis of the reaction)
- **Active ingredient(s)** thought to have caused the adverse reaction
- **Assessment of likelihood** (certainty it was caused by the active ingredient)
- **Severity of event** (consequence to the patient, for example hospitalisation)
- **Date and location of the care** (because the original record may have more detail).

4 Microbiological testing

What the standard says

A patient with a suspected infection has appropriate samples taken for microbiology testing as clinically indicated, preferably before starting antimicrobial therapy.

What this means for you

Obtain appropriate samples for microbiology testing when clinically indicated and before starting antimicrobial therapy whenever possible. This ensures that treatment can be specific for the infecting organism, and that the most appropriate narrow-spectrum antimicrobial is used.

For patients with a life-threatening or serious infection (such as sepsis), obtain clinical specimens as appropriate but start administering antimicrobials as soon as possible. Reassess the treatment as soon as the test results are available.

Follow guidelines for appropriate microbiological testing, such as *Therapeutic Guidelines*.

5 Patient information and shared decision making

What the standard says

A patient with an infection, or at risk of an infection, is provided with information about their condition and treatment options in a way that they can understand. If antimicrobials are prescribed, information on how to use them, when to stop, potential side effects and a review plan is discussed with the patient.

What this means for you

Discuss with the patient the expected progression of the infection and the potential benefits and harms of the treatment options, which may or may not include antimicrobials. This discussion should consider the patient's preferences and needs.

If antimicrobials are not needed, reassure the patient and inform them of other treatments that can help with symptoms.

If antimicrobials are needed, discuss with the patient:

- The importance of using antimicrobials as prescribed
- How long to take them
- Any potential adverse effects
- Any potential drug interactions with existing medicines
- When the treatment will be reviewed or ceased.

Provide verbal and/or written information and resources to the patient about their treatment options and their antimicrobial therapy. Document in the patient's healthcare record what patient information was conveyed, including the provision of written information such as a consumer medicine information sheet, and the outcome of the shared decision making process. Examples include a hospital discharge referral, or an outpatient clinic note.

6 Documentation

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What the standard says

When a patient is prescribed an antimicrobial, the indication, active ingredient, dose, frequency and route of administration, and the intended treatment duration or review plan are documented in the patient's healthcare record.

What this means for you

The healthcare record includes mechanisms such as paper or electronic healthcare records, the My Health Record system, prescription records or the medication chart.

When prescribing antimicrobials, document the:

- Indication
- Active ingredient
- Dose
- Frequency of administration
- Route of administration
- Intended duration
- Review plan
- Plans for therapeutic drug monitoring (if required).

7 Review of therapy

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What the standard says

A patient prescribed an antimicrobial has regular clinical review of their therapy, with the frequency of review dependent on patient acuity and risk factors. The need for ongoing antimicrobial use, appropriate microbial spectrum of activity, dose, frequency and route of administration are assessed and adjusted accordingly. Investigation results are reviewed promptly when they are reported.

What this means for you

If antimicrobials are prescribed, review the patient's progress to assess whether ongoing treatment is needed. If the patient is on intravenous agents, consider oral options to reduce hospital-acquired infections. Ensure the antimicrobial agent and dose are appropriate for the site of the infection and patient parameters (such as renal function).

If microbiological tests are ordered, review the results within 24 hours of them being available, and use this information to consider whether changing or stopping antimicrobials is appropriate.

When prescribing a broad-spectrum antimicrobial, review the patient's clinical status and any microbiology results to determine whether the patient's treatment can be switched to a more narrow-spectrum agent to reduce potential patient harms and the risk of developing antimicrobial resistance.

8 Surgical and procedural prophylaxis



What the standard says

A patient having surgery or a procedure is prescribed antimicrobial prophylaxis in accordance with the current *Therapeutic Guidelines* or evidence-based, locally endorsed guidelines. This includes recommendations about the need for prophylaxis, choice of antimicrobial, dose, route and timing of administration, and duration.

What this means for you

Prescribe, dispense and administer surgical antimicrobial prophylaxis according to the recommendations outlined in the current *Therapeutic Guidelines* or locally endorsed guidelines. Consider the patient's clinical condition (for example, colonisation with a multidrug-resistant organism, or patient allergies).

Avoid prescribing antimicrobials post-procedurally, as prolonged antimicrobial use is not usually required. Prescribe according to guidelines with respect to the choice of antimicrobial, dose and optimal timing and consider the route of administration; topical antimicrobials are not recommended for surgical prophylaxis. Avoid using off-label routes of administration for antimicrobials such as irrigations, pastes, washes or topical applications for surgical prophylaxis without evidence-based guidelines.

More resources

This Clinician Fact Sheet, the *Antimicrobial Stewardship Clinical Care Standard*, and other information for clinicians can be downloaded from www.safetyandquality.gov.au/ams-ccs.

More information about antimicrobial stewardship including *Antimicrobial Stewardship in Australian Health Care 2018* can be found at www.safetyandquality.gov.au/our-work/antimicrobial-stewardship.



The Australian Commission on Safety and Quality in Health Care has produced this clinical care standard to support the delivery of appropriate care for a defined condition. The clinical care standard is based on the best evidence available at the time of development. Healthcare professionals are advised to use clinical discretion and consideration of the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian, when applying information contained within the clinical care standard. Consumers should use the information in the clinical care standard as a guide to inform discussions with their healthcare professional about the applicability of the clinical care standard to their individual condition.