

Sepsis Clinical Care Standard

Quality statements

1 Could it be sepsis?

A diagnosis of sepsis is considered in any patient with an acute illness or clinical deterioration that may be due to infection. A clinical support tool that includes assessment of vital signs and lactate is used to help recognise sepsis early and escalate care when required.

2 Time-critical management

Sepsis is a time-critical medical emergency. Assessment and treatment of a patient with suspected sepsis are started urgently according to a locally approved clinical pathway, and their response to treatment is monitored and reviewed. The patient is reviewed by a clinician experienced in recognising and managing sepsis, and is escalated to a higher level of care when required.

3 Management of antimicrobial therapy

A patient with suspected sepsis has blood cultures taken immediately, ensuring that this does not delay the administration of appropriate antimicrobial therapy. When signs of infection-related organ dysfunction are present, appropriate antimicrobials are started within 60 minutes. Antimicrobial therapy is managed in line with the *Antimicrobial Stewardship Clinical Care Standard*, including a review within 48 hours from the first dose.

4 Multidisciplinary coordination of care in hospital

Sepsis is a complex, multisystem disease requiring a multidisciplinary approach to treatment. A patient with sepsis has their treatment in hospital coordinated by a clinician with expertise in managing patients with sepsis.

5 Patient and carer education and information

A patient, their family or carer is informed about sepsis from the time that it is suspected in a way that they can understand. Information includes the expected treatment and potential health effects of sepsis. Information is provided verbally and in writing.

6 Transitions of care and clinical communication

A patient with known or suspected sepsis has a documented clinical handover at transitions of care. This includes the provisional sepsis diagnosis, comorbidities, and the management plan for medicines and medical conditions. This information is provided to the patient, their family and carer as appropriate.

7 Care after hospital and survivorship

A patient who has survived sepsis receives individualised follow-up care to optimise functional outcomes, minimise recurrence, reduce rehospitalisation and manage the ongoing health effects of sepsis. This requires structured, holistic and coordinated post-discharge care and education that involves the patient, their family, carer, general practitioner and other clinicians.

Support and information are provided to the family or carer of a patient who has died from sepsis.

1 Could it be sepsis?

Recognising a patient with sepsis can be challenging. Consider sepsis in all patients with acute illness or deterioration who may have an infection.

Importantly, the presentation of sepsis in neonates and children may differ to adults. In children, hypotension is not necessary to diagnose septic shock. In older people, commonly recognised sepsis signs and symptoms are often absent. Older people are more likely to have relative immunosuppression. The presentation is less likely to include a fever, raised white cell count or raised C-reactive protein. In older people, hypothermia, delirium and falls (in frail people) are more likely.

Clinical support tools are available to help detect sepsis early and enable further assessment and escalation, although these tools do not replace clinical judgement. Identify possible sepsis using a structured approach that is consistent with an appropriate decision support tool for the setting, which has been agreed at the local level. Tools will vary according to the patient age, cultural needs and healthcare setting – no single tool will apply to everyone.

For situations where a decision support tool is not available (for example, for neonatal and maternity patients), early assessment and escalation to a clinician with expertise in recognising and managing sepsis are the priority. State or territory-endorsed age-specific observation charts and monitoring tools for children allow recognition of acute deterioration in children.

To determine whether a patient has signs or symptoms of organ dysfunction, take a full set of observations that includes vital signs and other relevant observations appropriate to the patient, including:

- Respiratory rate
- Oxygen saturation
- Heart rate
- Systolic blood pressure
- Temperature
- Altered mentation, behaviour change or delirium
- Poor peripheral perfusion, cool peripheries, delayed capillary refill time or mottled skin
- Blood lactate concentration
- In pregnant women, the vital signs of the fetus measured using cardiotocography (CTG).

Where this will not delay urgent care, test venous blood lactate levels. Capillary lactates may be useful in children. An increased lactate level may indicate a protective or a maladaptive response to shock and can play an important role in screening. Include blood lactate routinely in decision-making for an acutely deteriorating patient or for suspected sepsis. Although assessment of lactate levels is not sufficient for the purpose of diagnosis, it is a relatively simple investigation that can help recognise sepsis, while failure to recognise sepsis can lead to patient harm and potentially death. Point-of-care lactate testing is especially useful in rural or remote settings, including Aboriginal medical services, where critical care cannot be readily accessed.

Maintain a high index of suspicion for patients presenting with risk factors for sepsis or groups who experience higher rates of sepsis, including Aboriginal and Torres Strait Islander peoples. Red flags include:

- Family or carer concern. It is well demonstrated that a high level of family or carer concern warrants investigation – for example, concern for an older relative or for a child or an infant
- If a patient is presenting for acute medical care for a subsequent time, and has signs or symptoms of infection, or has an indwelling medical device
- Clinical deterioration despite treatment
- Recent history of surgery or burns
- Patients undergoing cancer treatment or who may be immunosuppressed.

In primary and community healthcare settings, be aware of the risk factors for sepsis as a time-critical emergency. If you suspect a patient has sepsis, refer the patient to an appropriate hospital as soon as possible.

EQUITY AND CULTURAL SAFETY FOR CLINICIANS

Consider personal biases, cultural and social factors and communication barriers when assessing the patient.

Explain to the patient and their family, carer or support person, in a culturally safe way, the concerns you may have about a possible diagnosis of sepsis, and the rationale for tests and interventions.

Interpret a patient's presentation and vital signs in a way that is free from racism, bias and assumption. This includes when treating patients who are presenting from a custodial setting

Recognise that a history of trauma may affect behaviour and provide trauma-aware and healing-informed care.

2 Time-critical management

When sepsis is part of a differential diagnosis, expediting assessment and treatment is essential. Use a locally approved clinical pathway, appropriate to the patient's age and clinical setting, to guide assessment, diagnosis and appropriate treatments within the recommended time frame. Follow all the required steps. Key actions and further information about the requirements for locally approved sepsis clinical pathways are in Box 1.

Any clinician can activate the sepsis clinical pathway at an early stage. The principles of recognise, resuscitate, refer and review should guide care. Recognise the signs of clinically significant organ dysfunction and, if sepsis is suspected, escalate immediately and activate the rapid response system. In smaller hospitals that do not always have doctors on site, follow relevant local procedures related to care of the deteriorating patient for the healthcare setting. On-call clinicians will need to be called into the hospital.

Ensure that the patient is promptly assessed by a clinician with expertise in recognising and managing sepsis or patient deterioration (for example, an emergency physician, infectious diseases physician, intensivist, paediatrician, advance practice nurse, nurse practitioner, paramedic, rural generalist or general medicine staff specialist). This assessment should occur directly (person to person). A clinician with expertise in sepsis should be involved in the care of the patient during the first 48 hours and beyond. Patients can deteriorate despite initial treatment, and the response to interventions should be monitored until the desired outcome is reached. Document the patient's diagnosis, whether it is sepsis or an alternative diagnosis in line with Quality statement 6 – Transitions of care and clinical documentation.

In smaller hospitals or remote healthcare services, the pathway should prioritise consultation with retrieval services when a higher level or acuity of care may be needed. The patient needs to be assessed by a clinician with expertise in managing sepsis. Seek review or advice from a more experienced clinician if required. In settings where 24-hour critical care or infectious diseases support is unavailable, this review may occur by telehealth or in consultation with clinicians in an acute facility who have expertise in managing sepsis.

Consider transfer time needed if transferring the patient within the hospital or to another hospital. Consultation may be needed to decide which care or interventions should be delivered before or during transfer. Resuscitation may need to start and antimicrobials administered before transfer, including by the ambulance service if necessary. Notify the receiving facility of the suspected sepsis diagnosis and any sepsis screening or protocols that have been initiated.

If diagnosing or managing sepsis is outside your scope of clinical practice, the most appropriate action may be the immediate referral of the patient to hospital.

Do not alter calling criteria for acutely unwell patients, unless in line with local policy (such as for patients with a chronic condition such as chronic obstructive pulmonary disease or patients who may have type 2 respiratory failure and are at risk with high oxygen levels). In a patient being treated for probable or suspected sepsis, parameters for calling criteria should reflect the need for early and timely intervention, and be determined by a clinician with expertise in managing sepsis.

Talk with the patient and their carer about their goals of care. Ensure that treatment decisions align with the person's needs and preferences, and are determined through shared decision making. Refer to advance care plans if available, including whether the patient is willing to be transferred to another facility if this is being considered.

Listen to all patient and family concerns, including those that may indicate deterioration or sepsis, and respond directly and promptly to these concerns. In paediatrics, parental concerns and observations are key to initiating an escalation of care.

Patients, families, carers and other support people should be able to escalate concerns and seek emergency assistance when they are concerned about deterioration. Cases of sepsis have been missed due to clinicians not listening to the concerns of patients, their families or carers. It has also been demonstrated that response systems for patients and families to trigger an alert for help are not misused, with a systematic review finding that all calls included were deemed to be appropriate.

Be aware that the NSQHS Recognising and Responding to Acute Deterioration Standard requires healthcare services to:

- Have processes for the direct escalation of care by patients, carers or families (Action 8.07)
- Support the wish to escalate care.

Box 1: Essential elements of a sepsis clinical pathway

Clinical pathways are designed to assist clinical judgement using the best available clinical evidence. Sepsis clinical pathways should include:

- Criteria to support clinical decision-making to enable recognition of sepsis, including
 - a clinical decision support tool with parameter thresholds for vital signs and blood lactate measurement
 - guidance on recognising clinically significant organ dysfunction that warrants starting time-sensitive interventions, such as fluid resuscitation, administration of appropriate antimicrobials, and timely surgical source control when required
- Triggers and time frames for escalation of care. This includes
 - methods to communicate with a clinician who has experience in recognising and managing sepsis
 - processes to enable escalation to an appropriate clinician with experience in sepsis 24 hours a day, seven days a week
 - escalation to higher levels of care
 - the ability for emergency transfer of patients to or from other healthcare services
 - a way for the appropriate investigations and treatments to start before transfer
- Guidance on the availability of appropriate interventions and timing of their use, including diagnostics, medicines and treatments. Guidance on the appropriate use of
 - fluids and other time-critical treatment(s)
 - blood culture(s)
 - antimicrobial therapy
 - source control for the suspected infection
- Time frames for clinical review, which includes appropriate monitoring and review of investigation results, the patient's response to treatment and the antimicrobial plan
- Ways to consider the patient's age, cultural needs, goals of care and advance care plans in decision-making
- Consideration of alternative diagnoses.

EQUITY AND CULTURAL SAFETY FOR CLINICIANS

Ask about and record the patient's Aboriginal and Torres Strait Islander identity with respect to evaluating risk (based on incidence), providing care which meets the needs of the person, and supporting transitions of care. For example, offer for an Aboriginal or Torres Strait Islander health worker or liaison officer to be involved. Ask about and document the patient's preferred language and facilitate access to interpreters when required.

3 Management of antimicrobial therapy

Obtain blood cultures for microbiological testing for patients with suspected sepsis before administering antimicrobials, where this does not delay urgent treatment. For adults this includes two sets of blood cultures, and for children one set of blood cultures. Other relevant microbiological cultures should also be collected, ideally before administering antimicrobials. In the community setting, if this is outside the scope of clinical practice, refer the patient to hospital immediately.

Do not wait for blood test results if someone is clearly unwell. Urgent antimicrobial therapy should start as soon as possible. Do not withhold antimicrobials while awaiting the results of microbiological (for example, blood, urine, pus, sputum microscopy or culture) or other tests.

Start antimicrobials within 60 minutes of recognising infection-related organ dysfunction, and as soon as possible if shock is present.

In an adult patient without shock, where there is uncertainty about the likelihood of an infectious cause, rapidly investigate alternative diagnoses. Escalate care to a clinician with experience in recognising and managing sepsis, if required. If concern for infection persists after appropriate evaluation, start antimicrobial therapy as soon as possible, no later than three hours from initial clinical review. Closely monitor all patients who may have sepsis and ensure their care is escalated in the event of deterioration, such as evolving or worsening signs of organ dysfunction.

Arrange consultation with an infectious diseases physician or clinical microbiologist if there is uncertainty about the appropriate antimicrobial therapy or local sepsis guidelines, ideally when initiating therapy, or else on review. As patients with sepsis often require higher doses of antimicrobials, the patient's other medicines should be reviewed by an experienced clinician, preferably a pharmacist, to avoid interactions and enable the safe and appropriate administration of antimicrobial therapy.

When prescribing antimicrobials for Aboriginal or Torres Strait Islander peoples, consider the higher prevalence of multidrug-resistant organisms. Refer to the Central Australian Rural Practitioners Association guidelines, or other guidelines based on local resistance data, where appropriate. If the patient with sepsis is being transferred to another healthcare service or unit, take blood cultures and start the first dose of antimicrobials before transfer.

Prompt communication of critical test results is essential to inform timely antimicrobial treatment decisions. If microbiological tests are ordered, review the results as soon as available and at least daily while concerns about sepsis persist. Use this information to consider whether review, adjustment or cessation of antimicrobials and other therapy is needed. Investigate and manage the source of infection, which may require surgery. Multidisciplinary input may be needed to choose appropriate investigations for the suspected infection.

Laboratories or microbiologists should call positive blood culture results through to the doctor caring for the patient as soon as these results are available, and document the discussion.

4 Multidisciplinary coordination of care in hospital

Care of the patient with sepsis in acute settings requires multidisciplinary input. A clinician who is experienced in sepsis management should coordinate care, with the patient and family at the centre of the multidisciplinary team. Team members may include a range of clinicians, including medical, nursing and allied health professionals. The coordinating clinician should ensure that the patient, carer or family participate in decision-making whenever possible, and that the patient voice is being respected, heard and responded to. The coordinating clinician should attend regular multidisciplinary meetings to discuss and optimise the care of patients with sepsis.

The coordinating clinician may be different depending on the healthcare setting, and may change at different stages of treatment. The coordinating clinician needs to access and review accurate and timely information on the patient's clinical status and care requirements. Some patients may have complex care needs and already have care coordination in place, such as those with chronic health conditions. In such cases, consult with the patient's general practitioner where appropriate to avoid duplication of care. Ensure that person-centred care remains the focus.

When planning a hospital discharge, communication and coordination between the acute service and the patient's community healthcare team is required. The patient's general practitioner will usually be the coordinator of care following discharge (see Quality statement 6 – Transitions of care and clinical communication and Quality statement 7 – Care after hospital and survivorship).

5 Patient and carer education and information

Support patients from when sepsis is first suspected, by providing verbal information early. Written information should be provided while in hospital, appropriate to the stage of care. Provide information about:

- Their suspected or probable sepsis diagnosis
- Treatment options and the benefits and risks associated with them, including the rationale behind the treatment
- The signs of deterioration and what patients should do if they deteriorate
- Systems to escalate care when the patient, their family or carer is concerned
- What they can do to best support their health after discharge, including actions they should take if they are concerned about a possible further episode of sepsis
- Prescribed medicines, including how to use them correctly and their potential adverse effects
- Any precautions they need to take to limit the spread of infection to others
- Arrangements for follow-up care
- The nature and length of sepsis recovery, and the resources and support available to assist this recovery.

Empower patients and carers to meaningfully contribute to shared decision making.

Attend sepsis education sessions provided by your healthcare service or professional organisation.

EQUITY AND CULTURAL SAFETY FOR CLINICIANS

Ensure that the information and education you provide is culturally appropriate and culturally safe.

Use an interpreter if needed, and provide written information in the patient's preferred language in a way that they can understand.

Attend cultural safety training provided by your healthcare service or professional organisation.

For Aboriginal and Torres Strait Islander peoples, apply understandings of family and involve Aboriginal and Torres Strait Islander health workers and liaison officers. Consider home environments and lived realities of patients, including services accessible to them, particularly for those who may be accessing care away from their homes.

6 Transitions of care and clinical communication

Patients with suspected or probable sepsis should have a clearly documented handover and care plan at all transitions of care to ensure timely and appropriate treatment.

Where the transition involves transfer to a higher level of care for further assessment and treatment of suspected sepsis (such as from primary care or a smaller hospital to a larger hospital), the initial plan may be limited to relevant history, examinations, initial management and reason for transfer. The documentation should identify the patient's carer where relevant.

If the patient is managed in an acute hospital, they should have a comprehensive care plan that clearly describes all the required components of their care, including their physical and psychosocial needs, their antimicrobial management plan, and any infection prevention and control precautions that are needed. Ensure that this information is provided at clinical handover between shifts to the patient, their carers and family (as appropriate), and the clinicians and therapists who will be involved in their care.

Ensure that all members of the multidisciplinary team who are required for the patient's care have access to, and contribute appropriately to, documentation about the patient's care, and that ongoing access to documentation is available.

When a transition involves transfer to a lower level of care or discharge from hospital, ensure that comprehensive communication and documentation are provided alongside the transfer. If transferring the patient from an acute or referring hospital, ensure that the receiving hospital will have the appropriate resources to manage the patient, including access to appropriate antimicrobials, and are aware of any infection prevention and control requirements.

EQUITY AND CULTURAL SAFETY FOR CLINICIANS

Ensure that documentation is culturally safe, factual and free from bias, assumptions or racism. Consider cultural needs and their impact on the comprehensive care plan.

For Aboriginal and Torres Strait Islander peoples, involve an Aboriginal community controlled health service, Aboriginal medical service, or an Aboriginal or Torres Strait Islander health worker or liaison officer, when this is the patient's preference. Information provided by a trusted source may be crucial to treatment adherence and patient safety.

Provide access to an interpreter if required.

People who have completed acute treatment away from their community or Country may need structured support to ensure that they safely return to their place of residence. Arrange appropriate services, support and contacts for patients who have been transferred from remote locations.

7 Care after hospital and survivorship

After sepsis treatment in hospital, consider the patient's ongoing care needs and how these will be managed.

When discharging a patient from hospital, communicate the ongoing care plan to the patient's general practitioner (GP). Ensure that the patient is aware of any follow-up appointments required and communicate these to the patient's GP as part of their discharge documentation. Arrange access to appropriate services, support and contacts for patients who have been transferred from remote locations.

In general practice or other primary or community healthcare services, be aware of the specific needs for ongoing care of a patient who has had sepsis, and coordinate care between specialist medical, nursing, rehabilitation and allied healthcare professionals.

Discuss the diagnosis of sepsis with the patient and family member or carer, and how this may affect their health and wellbeing in the short and long term. Tailor your advice to the individual patient and discuss treatment and rehabilitation goals together with the patient.

Discuss the potential effects on cognitive, social and emotional wellbeing that may occur after diagnosis and treatment for sepsis, including fatigue and anxiety. Provide information on the support available for people who have survived sepsis. Refer Aboriginal and Torres Strait Islander people to culturally safe services.

Ensure that the patient confirms any medicines they have been prescribed, including antimicrobials, and has access to these medicines. Ensure continuation of antimicrobial therapy when required, on discharge from hospital and at regular healthcare appointments. Communicate to the patient, in a way they understand, about:

- How to take their antimicrobials
- The duration of treatment
- Why this is important
- Where they can access antimicrobials.

In addition, the patient should be informed about, and understand the need for infection prevention and control, the impact of their medical history on their risk for future infection, and the importance of keeping their immunisations up to date.

If there has been a sepsis-related death during the episode of care, ensure that this is recorded in the incident management system. Ensure that the extended family (where appropriate) and carers have the opportunity to discuss the care that was given and what happened. Address any questions that arise using the principles of open disclosure, and direct them to patient support organisations such as the [Australian Sepsis Network](#) and bereavement organisations for ongoing support. Ensure that the support is accessible and appropriate for culturally and linguistically diverse communities.

If there has been a neonatal sepsis-related death, refer to the *Stillbirth Clinical Care Standard* for further information about bereavement care and support.

EQUITY AND CULTURAL SAFETY FOR CLINICIANS

Involve the patient's preferred Aboriginal medical service, an Aboriginal or Torres Strait Islander health worker or liaison officer when appropriate and with the patient's agreement. Information provided by a trusted source may be crucial to treatment adherence and patient safety.

Develop relationships with culturally safe service providers to support referrals for Aboriginal and Torres Strait Islander peoples.

Questions?



Find out more about the *Sepsis Clinical Care Standard* and other resources. Scan the QR code or use the link: safetyandquality.gov.au/sepsis-ccs.

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.