



## Patient deterioration and sepsis

When patient deterioration triggers an early warning score (EWS), you should suspect sepsis. Sepsis progresses rapidly so you need to investigate it, treat it and refer it for expert management early and aggressively.



Sepsis is a leading cause of death among hospitalised patients in the developed world.<sup>1</sup> Up to 15,000 Australians and New Zealanders are admitted to intensive care with sepsis each year.<sup>2</sup> As many as one-third of patients who have a rapid response call while in hospital have sepsis.<sup>3</sup> In addition, when the rapid response team reviews patients, sepsis is the most common reason for admitting them to intensive care.<sup>4</sup>

Approximately half of all patients admitted to intensive care with severe sepsis die as a result of the condition.<sup>5</sup> Survivors experience significant impacts on quality of life and face high rates of ongoing post-acute morbidity and mortality.<sup>6-8</sup>

Sepsis may be challenging to recognise early on as the symptoms may be subtle and can mimic those of many other possible conditions. However, given the prevalence and significant risks associated with sepsis in hospitalised patients, you need to have a high level of suspicion and consider it when acute deterioration occurs.

As the evidence base grows, some elements of sepsis definitions and management continue to be debated.<sup>9-11</sup> However, the literature generally agrees that early recognition and response are crucial to successfully reducing harm from sepsis.<sup>12-14</sup>





## Recognition

The recently updated consensus definitions for sepsis recommend using the qSOFA tool to help recognise patients with sepsis.<sup>15</sup> This tool uses fast respiratory rate, low blood pressure and altered level of consciousness to identify hospitalised patients in general wards with suspected infection who are at a greater risk for a poor outcome.

The New Zealand EWS uses bedside vital sign parameters to identify patients at risk of harm from any disease causing acute deterioration. The New Zealand EWS is based on the National Early Warning Score (NEWS) used in England. A recent study of 30,000 patients showed that the English NEWS is more accurate than qSOFA at predicting death and intensive care transfer in non-intensive care patients.<sup>16</sup> The authors conclude that qSOFA scores should not replace early warning scores to identify patients with suspected infection.



## Response

Your hospital may have developed sepsis guidelines specifically for local use. If you respond to acutely deteriorating patients, make sure you know what your responsibilities are in managing patients with suspected sepsis. See the next page for recommended capabilities for sepsis management. Note these are indicative only and your hospital will need to localise them to support optimal care for your patients.

## Further guidance

Surviving Sepsis Campaign guideline (Sepsis-3): [www.sccm.org/Documents/SSC-Guidelines.pdf](http://www.sccm.org/Documents/SSC-Guidelines.pdf)

An update in response to Sepsis-3: [www.survivingsepsis.org/Guidelines/Pages/default.aspx](http://www.survivingsepsis.org/Guidelines/Pages/default.aspx)

A clinical guidelines synopsis: Howell MD, Davis AM. 2017. Management of sepsis and septic shock. *Journal of the American Medical Association*. DOI:10.1001/jama.2017.0131

The National Institute for Health and Care Excellence (United Kingdom): [www.nice.org.uk/guidance/ng51/chapter/recommendations#stratifying-risk-of-severe-illness-or-death-from-sepsis](http://www.nice.org.uk/guidance/ng51/chapter/recommendations#stratifying-risk-of-severe-illness-or-death-from-sepsis)

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## Escalating response to acute deterioration



### Recogniser: clinician

Eg, bedside nurse



### Primary responder

Eg, junior doctor



### Secondary responder

Eg, senior nurse, team registrar



### Tertiary responder

Eg, rapid response team, nurse practitioner, senior doctor

## Capabilities for sepsis recognition, investigation and treatment

Accurately measure and document vital signs and early warning scores

Recognise and understand the significance of vital sign derangement and signs of altered tissue perfusion (eg, pallor, altered mental state)

Escalate care using structured communication tools

Provide emergency resuscitation care while awaiting help (eg, oxygen administration, basic life support)

Understand the urgency of treatment and begin investigations and treatment as ordered (eg, blood test, intravenous antibiotics and bolus fluid administration)

Monitor and escalate care further as required

As for recogniser, and:

Understand the urgency of involving senior specialist staff in the management of suspected sepsis and refer accordingly

Be familiar with local/international sepsis management guidelines and begin assessment, investigation and treatment as required

Be familiar with local antibiotic guidelines and be able to prescribe initial broad spectrum treatment

As for primary responder, and:

Provide advance clinical assessment and determine differential diagnosis

Discuss the clinical situation, treatment options and goals of care with the patient and their family/whānau and make shared decisions about appropriate treatment (referral to palliative care may be appropriate if medical intervention and treatment are limited)

Assess potential source of infection and consider source control option (eg, referral to surgery)

Refer for ongoing care as required (eg, to intensive care)

As for secondary responder, and:

Provide life-sustaining treatment as indicated (eg, ventilator support, vasopressors)

Ensure appropriate monitoring, investigations and treatments are being provided

Refer for definitive care as required

Facilitate safe transfer of care as required (eg, retrieval to other hospital or transfer to intensive care)

