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Sepsis is defined as ‘life-threatening organ dysfunction caused by a dysregulated host response to infection.’[1] It is the primary cause of death from infection and a major cause of death worldwide.[2] All sepsis cases require urgent attention. The annual incidence of adult sepsis treated in Australian Intensive Care Units has been estimated at 0.77/1000, corresponding to more than 15 700 new cases each year,[2] with an estimated cost of $39 300 per episode.

Using a standardised screening and treatment pathway has been shown to significantly decrease the time it takes to recognise sepsis and deliver appropriate treatment.

‘Severe sepsis’ and ‘Systemic Inflammatory Response Syndrome’ (SIRS) criteria are no longer considered when defining sepsis. New definitions were released in 2016[1] which offer greater consistency and improved processes for the early recognition and management of patients with, or at risk of developing sepsis.

The Third International Consensus Definition for Sepsis and Septic Shock (Sepsis-3)[1] provides the following updated terms and definitions:

**Sepsis (organ dysfunction + infection):** Life-threatening organ dysfunction caused by a dysregulated host response to infection[1] (mortality 10–12%).

**Septic shock (shock + infection):** A subset of sepsis with profound circulatory, cellular and metabolic abnormalities[1] (mortality 20–23%).

There is no one clinical feature or pathology test that reliably identifies sepsis, but rather the diagnosis is made based on a combination of various vital sign abnormalities and clinical features.
**Clinical features** (cont.)

**PAEDIATRIC**

**High risk** (for sepsis OR septic shock):
- Severe tachycardia or bradycardia
- Severe respiratory distress/tachypnoea/apnea
- Needs oxygen to maintain SpO2 greater than 92%
- Hypothermia
- Non-blanching rash/mottled ashen/cyanotic
- Altered GCS/AVPU

**Moderate risk** (for sepsis):
- Moderate tachycardia
- Moderate respiratory distress/tachypnoea
- Capillary refill greater or equal to 3 seconds
- Hypoglycaemia
- Unexplained pain or restlessness
- Pale or flushed/mottled/cold extremities
- Reduced urine output.

**Risk Assessment** (cont.)

- Early hospital pre-notification MUST occur with any patient presenting with 2 or more altered vital signs, based on the following criteria:

<table>
<thead>
<tr>
<th>Vital Sign</th>
<th>&lt; 1 yr</th>
<th>1–4 yrs</th>
<th>5–11 yrs</th>
<th>12–15 yrs</th>
<th>≥ 16 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature</strong></td>
<td>≤ 35.0° C or ≥ 38.5° C</td>
<td>≤ 35.0° C or ≥ 38.5° C</td>
<td>≤ 35.0° C or ≥ 38.5° C</td>
<td>≤ 35.0° C or ≥ 38.5° C</td>
<td>≤ 35.0° C or ≥ 38.5° C</td>
</tr>
<tr>
<td><strong>Respiration Rate</strong></td>
<td>&lt; 20 or &gt; 50</td>
<td>&lt; 15 or &gt; 40</td>
<td>&gt; 40</td>
<td>&gt; 30</td>
<td>&gt; 25</td>
</tr>
<tr>
<td><strong>Heart Rate</strong></td>
<td>&lt; 90 or &gt; 170</td>
<td>&lt; 80 or &gt; 160</td>
<td>&lt; 70 or &gt; 150</td>
<td>&lt; 45 or &gt; 130</td>
<td>&lt; 40 or &gt; 110</td>
</tr>
<tr>
<td><strong>Systolic BP</strong></td>
<td>≤ 65</td>
<td>&lt; 70</td>
<td>&lt; 75</td>
<td>&lt; 85</td>
<td>&lt; 90</td>
</tr>
<tr>
<td><strong>AVPU</strong></td>
<td>Pain</td>
<td>Pain</td>
<td>New Confusion</td>
<td>New Confusion</td>
<td>New Confusion</td>
</tr>
</tbody>
</table>

**Risk Assessment**

**Red flags:** (for sepsis OR septic shock):
- Re-presentation to a health care professional within 48 hours
- Age less than 3 months OR greater than 65 years
- Recent trauma or surgery/invasive procedure/wound within last 6 weeks
- Indwelling medical devices (e.g. IDC)
- Immunocompromised/asplenia/neutropenia/unimmunised
- Parental/family/health care professional concern for the patient
- Aboriginal or Torres Strait Islander/Pacific Islander/Maori cultural backgrounds

**Additional information**

- Sepsis should be considered for any deteriorating patient.
- **Note:** Recognition of sepsis may be impeded by Cognitive Bias, that is, the possibility of sepsis is often not considered in young, fit and otherwise healthy individuals.
Evidence of meningococcal septicaemia?

- **Y**
  - Consider:
    - Oxygen
    - Antipyretic
    - IV/IO access
    - IV/IO fluids
  - Transport to hospital
  - Pre-notify as appropriate
  - Manage as per: CPG: Meningococcal septicaemia

- **N**
  - Assess patient for risk of sepsis OR septic shock
    - **LOW RISK** (for sepsis OR septic shock)
    - **MODERATE RISK** (for sepsis OR septic shock)
    - **HIGH RISK** (for sepsis OR septic shock)

  - Consider:
    - Oxygen
    - Antipyretic
    - IV/IO access
    - IV/IO fluids

  - Consider:
    - Mandatory early hospital pre-notification if greater than 2 altered VSS (see Risk Assessment)
    - If > 60 minutes transport time to hospital contact the QAS Clinical Consultation and Advice Line to discuss treatment options

  - Consider:
    - Oxygen
    - Antipyretic
    - IV/IO access
    - IV/IO fluids
    - Adrenaline (epinephrine)

**Note:** Clinicians are only to perform procedures for which they have received specific training and authorisation by the QAS.