

Paediatric Watch

Lessons from the frontline

Sepsis: common misses and misconceptions

Serious clinical incidents reported in NSW continue to identify recurring themes related to delays in the recognition and management of sepsis in paediatrics. This Paediatric Watch highlights common myths and misconceptions in these cases as they apply to infants, children and young people. This includes neonates up to 28 days corrected age that are cared for outside of the maternity setting.

Despite significant advances in the prevention and treatment of invasive bacterial infections, sepsis continues to be a leading contributor to preventable childhood morbidity and mortality. Untreated septic shock carries a mortality rate of more than 80% and 15-20% with treatment (Shlapbach et al., 2015).

The Queensland Paediatric Sepsis Mortality Study identified sepsis as the leading preventable cause of childhood death (QCC 2024). Mortality was higher among children with medical complexity, those living in remote or socio-economically disadvantaged areas, and Aboriginal children. Nearly one-third of deaths occurred outside hospitals, often in previously healthy infants, and were likely preventable with earlier recognition and timely treatment.

Sepsis is a medical emergency.

Early recognition, response and resuscitation save lives. Consider sepsis until proven otherwise and escalate care following the [Neonatal and Paediatric Sepsis Pathways](#).

Misses and misconceptions

“The patient has been persistently tachycardic however they don’t seem to be getting worse...”

Persistent tachycardia should always prompt reassessment for sepsis. While tachycardia is common with fever or dehydration, it is unusual for it to persist after these resolve. Persistent tachycardia is one of the most valuable early signs of paediatric sepsis and may be the only early indicator. Never ignore unexplained persistent tachycardia, and do not discharge a child with a heart rate in the Red Zone.

“The temperature came down with paracetamol so they should be OK to be discharged home...”

Use comprehensive clinical assessment and CEC sepsis pathways to guide care. Fever response to antipyretics should not guide diagnosis or discharge decisions. A reduction in temperature after antipyretics does not indicate a less serious underlying condition, nor does it exclude sepsis or other significant pathology. All febrile neonates 38°C or above require admission, full septic work-up, and empiric IV antibiotics, regardless of antipyretic response.

“The infant is afebrile so there is no need for a septic workup...”

Possible sepsis in infants requires prompt investigation, even without fever. Sepsis may occur without fever, particularly early in the illness. Infants and immunocompromised children are at higher risk and may be afebrile or hypothermic. Hypothermia is a red flag for severe infection. In neonates and infants under 3 months, sepsis often presents with non-specific features such as poor feeding, irritability, lethargy, temperature instability, or behavioural change.

“We’ve started the antibiotics so the patient should be out of the danger zone...”

Sepsis management goes beyond antibiotics and requires investigations, fluid resuscitation, ongoing monitoring and reassessment within 60 minutes of recognition. Infants and children may deteriorate despite early antibiotics, so care must also prioritise restoring circulating volume and physiological stability. Follow CEC Neonatal or Paediatric Sepsis Pathways and consult NETS with consideration of inotropes if shock persists or hypotension develops.

“The lactate is high, but I think it’s due to issues taking the blood sample...”

Never ignore an elevated lactate or attribute it to sampling issues. Falsely attributing elevated lactate can delay critical treatment. On NSW Standard Paediatric Observation Charts, lactate ≥ 2.0 mmol/L is a Yellow Zone and ≥ 4.0 mmol/L is a Red Zone. Notify a senior clinician, escalate care per local Clinical Emergency Response System (CERS) and CEC sepsis pathways, and consider sepsis. In an unwell child with suspected infection, initiate sepsis treatment without waiting for the lactate result.

***“The systolic blood pressure reading is low...”
OR “I can’t get a reading - but I’m sure they’re fine...”***

Escalate any low or unobtainable blood pressure according to local CERS protocol. Hypotension is a late sign of shock in neonates, infants and children, and difficulty obtaining a reading may indicate true hypotension. Attempt a manual BP as part of an A–G assessment and escalate early.

“The patient’s perfusion is looking better after that bolus. They’re unlikely to deteriorate further...”

Neonates, infants and children with sepsis require close, ongoing monitoring. Early signs of improvement do not exclude the risk of deterioration, as they may temporarily compensate after initial fluid resuscitation before decompensating as reserves are exhausted.

“These symptoms must be related to the virus or fever...”

If symptoms are unexplained, consider sepsis - particularly tachypnoea (which may indicate metabolic acidosis) and pain or distress disproportionate to findings. Both require prompt escalation to a senior clinician. Missed sepsis is often linked to cognitive biases such as premature closure and diagnostic anchoring. If you cannot clearly explain the child’s presentation, consider sepsis and activate the [Neonatal](#) or [Paediatric Sepsis Pathways](#).

“The patient looks okay, but the parents are still worried”

Always listen and respond when caregivers say, “I’m worried my baby or child is getting worse”. Parents, carers and family frequently notice subtle behavioural changes early, which may signal sepsis even when observations are normal. Caregiver concern that their infant or child is getting worse is strongly associated with critical illness, often more than any single abnormal vital sign (Mills et al., 2025).

References

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