

HSE National Patient Safety Alert

Date of issue 20th December 2023

Unique ID HSENPSA 005/2023

Sepsis in Children and Young People

Access alert and resources online



WHO
needs to take action?

This is a safety critical HSE National Patient Safety Alert. This alert is for action by Regional Executive Officers, Hospital Group and Hospital CEOs, Directors/General Managers/ Leads of Quality and Patient Safety, all relevant clinical staff and managers with responsibility for Emergency Departments and all areas for unscheduled Paediatric care and Chairs of Deteriorating Patient Committees / Sepsis Committees.



WHAT
is the safety issue?

Sepsis/Septic shock can cause significant morbidity and mortality in paediatric and young adult patients. Early recognition and treatment are vital to improving patient outcomes. **Recent reviews of children and young people presenting with sepsis have highlighted the challenges of recognising and responding to sepsis in busy and overcrowded emergency settings.**



HOW
to take action?

1. **Bring** this alert and the associated [patient safety supplement](#) to the attention of all clinical staff working in the Emergency Department (ED) and its environs and all areas for unscheduled Paediatric care.
2. **Share** and discuss the insights below from recent reviews with all staff who care for children and young adults in your ED and units for unscheduled paediatric care; e.g. as part of huddles, team meetings and induction for any agency, locum or new staff.
3. **Have** sepsis forms visible and readily available for use, including in triage rooms, and ensure staff are aware of their location (Appendix A).
4. **Use** the [HSE sepsis specific information](#) (videos for waiting room, patient leaflets etc.) and training materials available via [HSEland](#) 'Recognition and Management of Sepsis in Children'.
5. Ensure staff are up to date on mandatory clinical training – ICTS, Sepsis, Paediatric Early Warning System (PEWS).

Learning Insights from Sepsis Reviews

1. **Think sepsis** if a child or young person has signs and symptoms e.g. limb pain, or tachycardia that is not explained by injury, fever /or crying, particularly if they are not improving while on treatment already prescribed for the same complaint.
2. During all assessments, **listen to the parent/carer** in determining what is **normal for their child and what may have changed.**
3. Remember that risk factors can increase the vulnerability of a child or young person developing sepsis e.g. **an infant less than 3 months of age or intellectual disability, note risk factors on Sepsis form (Appendix A).**
4. Be aware that sepsis should be considered in children and young people with viral illness who are returning for assessment (from General Practitioner or Emergency Department) and who are not improving.
5. **Every time** you interact with the child or young person reconsider if Red/Amber flags or risk factors present? (Sepsis form Appendix A).
6. **Suspected sepsis must be escalated** for review using ISBAR in line with the Sepsis Protocols.
7. **At discharge**, children and young people with a suspected or diagnosed infection, should have normal vital signs recorded (unless reviewed with a **Consultant** who agrees with the care plan) and the parents should be given specific sepsis safety advice.
8. The Paediatric Sepsis Form can be initiated by either a **nurse or doctor at any time** during the episode of care in the ED or setting of unscheduled care.
9. **Sepsis is a time critical** medical emergency. Follow the Sepsis 6 protocol and escalate **without delay.**



WHEN
does action need to be completed?

Actions 1 - 4 should be completed in **48 hrs** (22nd December, 2023)
Action 5 requires ongoing attention

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Why is this action required?

Sepsis is a time critical medical emergency that can be difficult to recognise. It results from an immune response to an infection that the body cannot control, which, if not diagnosed and treated promptly, can rapidly progress to organ failure, septic shock and death. However, symptoms can be subtle and misleading, mimicking or found in the presence of a number of different, less serious conditions such as flu, and this complicates timely detection.

Learning from Incident Reviews highlight the risk to children and young people with sepsis in overcrowded and busy emergency departments.

What evidence supports the issuing of this HSE NPSPA?

- Learning from Incident Reviews that highlight the risk to children and young people with sepsis in overcrowded and busy emergency departments.
- High incidence of Respiratory viral presentations to all Emergency Departments currently e.g. Respiratory Syncytial Virus
- Unprecedented numbers of children and young people with symptoms suggesting infectious illness presenting to emergency departments
- Data from recent review of paediatric Invasive Group A Streptococcal Disease (iGAS).

References

1. [International Guidelines for the Management of Septic Shock & Sepsis-Associated Organ Dysfunction in Children \(SSCGC\)](#)
2. [HSE Clinical Sepsis Programme](#)

What stakeholders were involved in issuing this HSE NPSPA?

This alert has been developed collaboratively by the following groups:

- National Clinical Sepsis Programme
- National Clinical Advisor and Group Lead for Children and Young People
- National Emergency Medicine Programme
- HSE National Patient Safety Alerts Committee
- National Quality and Patient Safety Directorate

Where can I get further information?

For queries on patient safety alerts in general please email patientsafetytogether@hse.ie

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Appendix A

Paediatric Sepsis Form

Paediatric Sepsis Form
For early recognition, treatment and referral (ALWAYS USE CLINICAL JUDGEMENT)

PAEDIATRIC PATIENTS (From 4 weeks (or 4 wks corrected age) to 16 years)

Complete this form if there is a **clinical suspicion of infection and the child appears unwell**. When complete, sign and place in child's healthcare record. Seek senior expert help early if sepsis is suspected.

Print name: _____
Signature: _____
Role: _____
NMBI or MCRN: _____
Date: _____ Time: _____

Addressograph

COULD THIS BE SEPSIS?

≥1 Red Flag

Altered mental status- P or U on AVPU Hypotension Prolonged central capillary refill
 Tachycardia unexplained by fever/crying Non-blanching rash Clinical deterioration as in-patient

Yes **Immediate medical review**

No Red Flag

≥1 Amber Flag

Inappropriate tachypnoea i.e. does not respond with simple measures
 Altered functional status (e.g. severe leg pain, or inability to weight-bear or decreased activity)
 Healthcare professional concern Parental concern
 Increasing PEWS Other: _____

Risk Factor(s)

Certain conditions will increase risk of sepsis and should lower threshold for initiation of Sepsis 6. These include:

Immunocompromised (follow national haematology/oncology guidelines for children with cancer)
 Age ≤3 months Chronic disease
 Recent surgery Break in skin (including chickenpox)
 Indwelling line/device Signs of infection in a wound (including chickenpox)
 Incomplete vaccination record Other: _____

Urgent medical review if ≥1 Amber Flag +/- Risk Factor(s)

Is Sepsis likely at this time?

Signs of Shock Yes No
Start Sepsis 6 within 1hr Time: _____

Suspected Sepsis Yes
3hr window for diagnostic work up - see "take 3" Suspicion Time: _____

Sepsis NOT likely at this time Working Diagnosis: _____
Review within: _____

Doctor (Print Name): _____ Doctor Signature: _____
MCRN: _____ Date: _____ Time: _____

Page 1 of 2, continue overleaf

Page 2 of 2

Paediatric Sepsis Form
Ongoing clinical review and interpretation of results (ALWAYS USE CLINICAL JUDGEMENT)

Addressograph

Paediatric Sepsis 6 - complete within 1 hour

TAKE 3

IV access Time _____ or
 IO access Time _____

Tick samples taken:

Blood cultures
 FBC
 Glucose
 Blood gas
 Coag screen incl fibrinogen
 Lactate
 U&E
 LFTs
 CRP
 Urinalysis
 PCRs if available

Urine output assessment/measurement

Early senior input (essential) as per local escalation policy

GIVE 3

Oxygen to achieve saturations ≥94% titrating to effect or as appropriate in chronic lung or cardiac disease

IV/IO fluids
- Titrate 10-20mls/kg Hartmann's Solution over 5-10min, 0.9% NaCl is an acceptable alternative – repeat as per clinical response
- Call critical care/anaesthesia in haemodynamic collapse
- Consider early inotropic support
- Assess for fluid overload, monitor for crepitations or hepatomegaly

IV/IO Antimicrobials according to the site of infection and following local antimicrobial guidelines.
Drug name: _____ Dose: _____ Time given: _____

Time Sepsis 6 completed: _____
Name: _____ MCRN: _____

Reassess the child as clinically indicated and complete form within 1 hour of initiating the Sepsis 6 bundle

Look for signs of new organ dysfunction after the Sepsis 6 bundle has been given or from blood test results – any one is sufficient:

Cardiovascular
 Lactate ≥4 after 20mls/kg fluid therapy

Respiratory
 Increasing need for Oxygen to maintain saturations ≥94% titrating to effect or as appropriate in chronic lung or cardiac disease
 Need for nonelective invasive or noninvasive mechanical ventilation

Central Nervous System
 Glasgow coma score (GCS) ≤11 or poorly responsive
 Acute change in mental status with a decrease in GCS ≥3 points from usual baseline

Renal
 Serum creatinine ≥2 times upper limit of normal for age or 2-fold increase in baseline creatinine

Haematological
 Platelet count ≤80,000/mm³ (≤80 x 10⁹/L)

Liver
 Total bilirubin ≥ 38 μmol/L (micromoles/L) not applicable for newborn

Coagulation
 International normalised ratio ≥2

ALT 2 times upper limit of normal for age

Any new organ dysfunction due to infection: This is SEPSIS
Reassess frequently in the first hour. Consider other investigations and management +/- source control if child does not respond to initial therapy.

No new organ dysfunction due to infection: This is NOT SEPSIS
If infection is diagnosed, proceed with usual treatment pathway for that infection.

Look for signs of septic shock (following administration of fluid bolus of up to 40ml/kg)

Hypotension
 Prolonged central CRT
 Core to peripheral temperature gap ≥3°C
 Unexplained metabolic acidosis
 Oliguria: ≤1ml/kg/hour up to 11 years or ≤0.5ml/kg/hour in the 12+ age group
 Need for inotropic support

This is SEPTIC SHOCK
Time: _____

In addition to senior clinical support at the bedside early involvement of PICU support is encouraged. Where PICU support is not on site a national 24-hour hotline is available for urgent referrals providing advice and arranging transfer – 1800 222 378.

Doctor (Print Name): _____ Doctor Signature: _____
MCRN: _____ Date: _____ Time: _____

File this document in the child's healthcare record.