

Sepsis: Risk stratification tools

How to use these tools

1. Think ‘**could this be sepsis?**’ – use the flowchart on the next page to decide if the person has **suspected sepsis**
2. If **sepsis is suspected**, then use the algorithm appropriate to the person’s **age group** and the **setting** (either **out of hospital** or **in hospital**) to:
 - stratify their risk (**low**, **moderate to high** or **high**)
 - see what care NICE recommends.

Always refer back to the [NICE guideline](#) for recommendation details

Could this be sepsis?

For a person of **any age** with a possible infection:

- Think **could this be sepsis?** if the person presents with **signs or symptoms that indicate infection**, even if they do not have a high temperature.
- Be aware that people with sepsis may have non-specific, non-localised presentations (for example, feeling very unwell).
- Pay particular attention to concerns expressed by the person and their family or carer.
- Take particular care in the assessment of people who might have sepsis if they, or their parents or carers, are unable to give a good history (for example, people with English as a second language or people with communication problems).



Assessment

Assess people with suspected infection to identify:

- possible source of infection
- risk factors for sepsis (see right-hand box)
- indicators of clinical concern such as new onset abnormalities of behaviour, circulation or respiration.

Healthcare professionals performing a remote assessment of a person with suspected infection should seek to identify factors that increase risk of sepsis or indications of clinical concern.



Risk factors for sepsis

- The very young (under 1 year) and older people (over 75 years) or very frail people.
- Recent trauma or surgery or invasive procedure (within the last 6 weeks).
- Impaired immunity due to illness (for example, diabetes) or drugs (for example, people receiving long-term steroids, chemotherapy or immunosuppressants).
- Indwelling lines, catheters, intravenous drug misusers, any breach of skin integrity (for example, any cuts, burns, blisters or skin infections).

If at risk of neutropenic sepsis – refer to secondary or tertiary care

Additional risk factors for women who are pregnant or who have been pregnant, given birth, had a termination or miscarriage within the past 6 weeks:

- gestational diabetes, diabetes or other comorbidities
- needed invasive procedure such as caesarean section, forceps delivery, removal of retained products of conception
- prolonged rupture of membranes
- close contact with someone with group A streptococcal infection
- continued vaginal bleeding or an offensive vaginal discharge.



Sepsis not suspected

- no clinical cause for concern
- no risk factors for sepsis.

Use clinical judgement to treat the person, using NICE guidance relevant to their diagnosis when available.



SEPSIS SUSPECTED

If sepsis is suspected, use a structured set of observations to assess people in a face-to-face setting. Consider using early warning scores in acute hospital settings. Parental or carer concern is important and should be acknowledged.

Stratify risk of severe illness and death from sepsis using the tool appropriate to age and setting > > >

Sepsis risk stratification tool: people aged 18 years and over out of hospital

High risk criteria

- Behaviour:
 - objective evidence of altered behaviour or mental state
- Respiratory rate:
 - 25 breaths per minute or more **OR**
 - new need for 40% oxygen or more to maintain saturation more than 92% (or more than 88% in known chronic obstructive pulmonary disease)
- Heart rate:
 - more than 130 beats per minute
- Systolic blood pressure:
 - 90 mmHg or less **OR**
 - more than 40 mmHg below normal
- Not passed urine in previous 18 hours, or for catheterised patients passed less than 0.5 ml/kg of urine per hour
- Mottled or ashen appearance
- Cyanosis of skin, lips or tongue
- Non-blanching rash of skin

ANY high risk criteria met

Send patient urgently for emergency care (setting with resuscitation facilities)

Moderate to high risk criteria

- Behaviour:
 - history from patient, friend or relative of new-onset altered behaviour or mental state
 - history of acute deterioration of functional ability
- Impaired immune system
- Trauma, surgery or invasive procedures in the last 6 weeks
- Respiratory rate:
 - 21–24 breaths per minute
- Heart rate:
 - 91–130 beats per minute
 - for pregnant women: 100–130 beats per minute
- New-onset arrhythmia
- Systolic blood pressure 91–100 mmHg
- Not passed urine in the past 12–18 hours, or for catheterised patients passed 0.5–1 ml/kg of urine per hour
- Tympanic temperature less than 36°C
- Signs of potential infection:
 - redness
 - swelling or discharge at surgical site
 - breakdown of wound

Can definitive condition be diagnosed and treated in an out of hospital setting?

YES

Treat definitive condition and/or provide information to safety net

NO

Low risk criteria

- Normal behaviour
- No high risk or moderate to high risk criteria met

Provide information about symptoms to monitor and how to access medical care