

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: children aged under 5 years out of hospital

High risk criteria

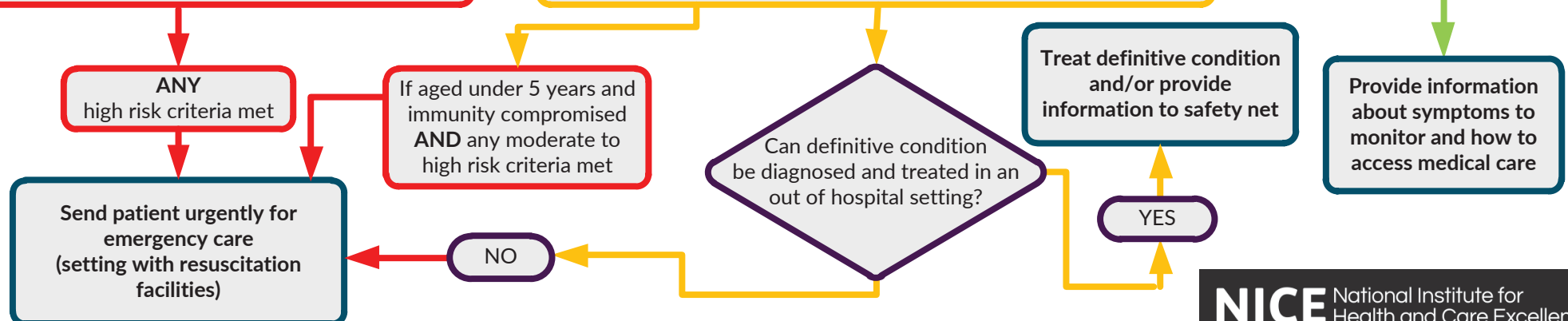
- Behaviour:
 - no response to social cues
 - appears ill to a healthcare professional
 - does not wake, or if roused does not stay awake
 - weak high-pitched or continuous cry
- Heart rate:
 - aged under 1 year: 160 beats per minute or more
 - aged 1–2 years: 150 beats per minute or more
 - aged 3–4 years: 140 beats per minute or more
 - heart rate less than 60 beats per minute at any age
- Respiratory rate:
 - aged under 1 year: 60 breaths per minute or more
 - aged 1–2 years: 50 breaths per minute or more
 - aged 3–4 years: 40 breaths per minute or more
 - grunting
 - apnoea
 - oxygen saturation of less than 90% in air or increased oxygen requirement over baseline
- Mottled or ashen appearance
- Cyanosis of skin, lips or tongue
- Non-blanching rash of skin
- Temperature:
 - aged under 3 months: 38°C or more
 - any age: less than 36°C

Moderate to high risk criteria

- Behaviour:
 - not responding normally to social cues
 - no smile
 - wakes only with prolonged stimulation
 - decreased activity
 - parent or carer concern that child is behaving differently from usual
- Heart rate:
 - aged under 1 year: 150–159 beats per minute
 - aged 1–2 years: 140–149 beats per minute
 - aged 3–4 years: 130–139 beats per minute
- Respiratory rate:
 - aged under 1 year: 50–59 breaths per minute
 - aged 1–2 years: 40–49 breaths per minute
 - aged 3–4 years: 35–39 breaths per minute
 - oxygen saturation less than 92% in air or increased oxygen requirement over baseline
 - nasal flaring
- Capillary refill time of 3 seconds or more
- Reduced urine output, or for catheterised patients passed less than 1 ml/kg of urine per hour
- Pallor of skin, lips or tongue
- Temperature:
 - aged 3–6 months: 39°C or more
- Leg pain
- Cold hands or feet

Low risk criteria

- Responds normally to social cues
- Content or smiles
- Stays awake or awakens quickly
- Strong normal cry or not crying
- No high risk or moderate to high risk criteria met
- Normal colour



Sepsis risk stratification tool: children aged 5-11 years out of hospital

High risk criteria

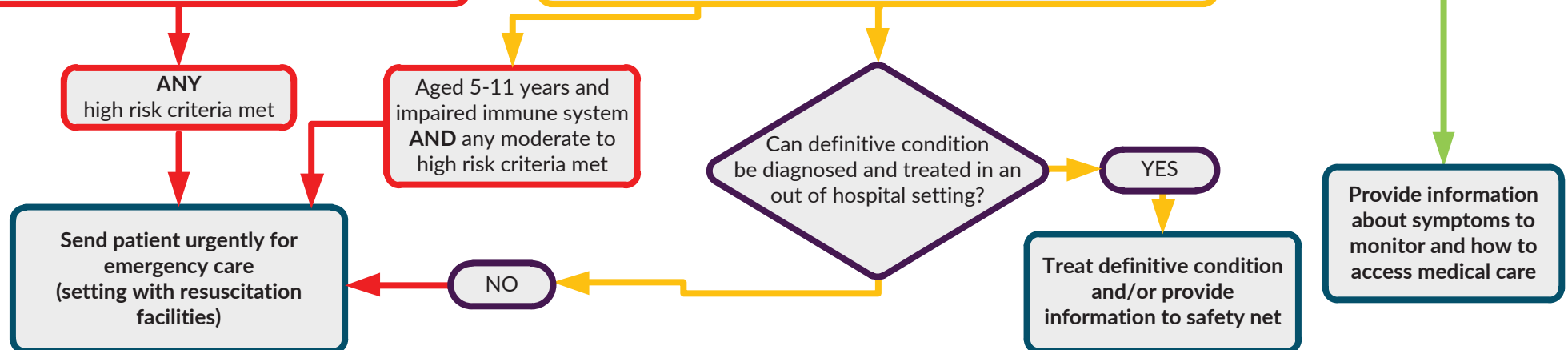
- Behaviour:
 - objective evidence of altered behaviour or mental state
 - appears ill to a healthcare professional
 - does not wake, or if roused does not stay awake
- Respiratory rate:
 - aged 5 years: 29 breaths per minute or more
 - aged 6-7 years: 27 breaths per minute or more
 - aged 8-11 years: 25 breaths per minute or more
 - oxygen saturation of less than 90% in air or increased oxygen requirement over baseline
- Heart rate:
 - aged 5 years: 130 beats per minute or more
 - aged 6-7 years: 120 beats per minute or more
 - aged 8-11 years: 115 beats per minute or more
- Mottled or ashen appearance
- Cyanosis of skin, lips or tongue
- Non-blanching rash of skin

Moderate to high risk criteria

- Behaviour:
 - not responding normally to social cues
 - decreased activity
 - parent or carer concern that child is behaving differently from usual
- Respiratory rate:
 - aged 5 years: 24-28 breaths per minute
 - aged 6-7 years: 24-26 breaths per minute
 - aged 8-11 years: 22-24 breaths per minute
 - oxygen saturation less than 92% in air or increased oxygen requirement over baseline
- Heart rate:
 - aged 5 years: 120-129 beats per minute
 - aged 6-7 years: 110-119 beats per minute
 - aged 8-11 years: 105-114 beats per minute
- Capillary refill time of 3 seconds or more
- Reduced urine output, or for catheterised patients passed less than 1 ml/kg of urine per hour
- Tympanic temperature less than 36°C
- Leg pain
- Cold hands or feet

Low risk criteria

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



Sepsis risk stratification tool: children and young people aged 12-17 years out of hospital

High risk criteria

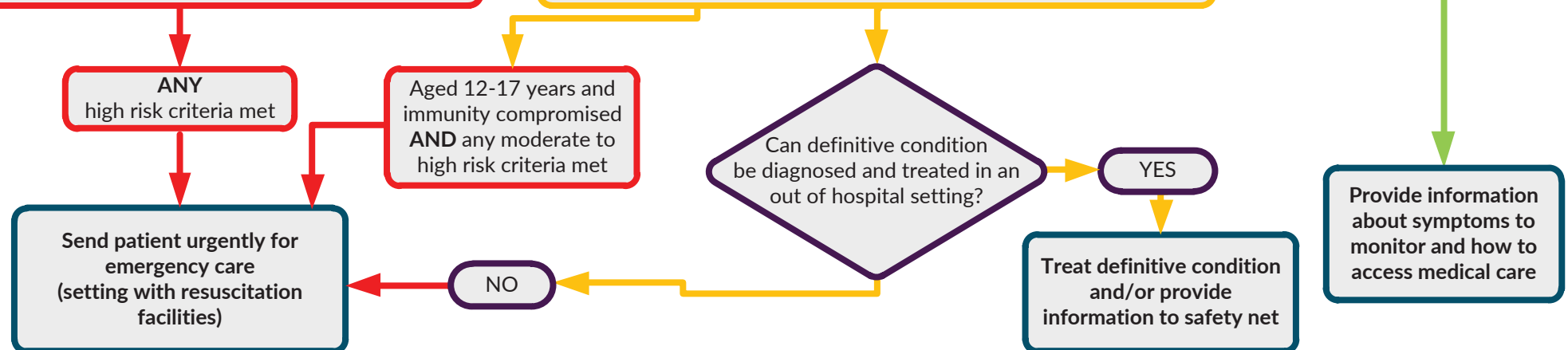
- Behaviour:
 - objective evidence of altered behaviour or mental state
- Respiratory rate:
 - all ages: 25 breaths per minute or more **OR**
 - new need for 40% oxygen or more to maintain saturation more than 92% (or more than 88% in known chronic obstructive pulmonary disease)
- Heart rate:
 - all ages: more than 130 beats per minute
- Systolic blood pressure:
 - all ages: 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

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:
 - all ages: 21–24 breaths per minute
- Heart rate:
 - all ages: 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

Low risk criteria

- Normal behaviour
- No high risk or moderate to high risk criteria met
- No non-blanching rash



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

Table 3 Risk stratification tool for children aged under 5 years with suspected sepsis

Category	Age	High risk criteria	Moderate to high risk criteria	Low risk criteria
Behaviour	Any	No response to social cues Appears ill to a healthcare professional Does not wake, or if roused does not stay awake Weak high-pitched or continuous cry	Not responding normally to social cues No smile Wakes only with prolonged stimulation Decreased activity Parent or carer concern that child is behaving differently from usual	Responds normally to social cues Content or smiles Stays awake or awakens quickly Strong normal cry or not crying
Respiratory	Any	Grunting Apnoea Oxygen saturation of less than 90% in air or increased oxygen requirement over baseline	Oxygen saturation of less than 92% in air or increased oxygen requirement over baseline Nasal flaring	No high risk or moderate to high risk criteria met
	Under 1 year	Raised respiratory rate: 60 breaths per minute or more	Raised respiratory rate: 50–59 breaths per minute	
	1–2 years	Raised respiratory rate: 50 breaths per minute or more	Raised respiratory rate: 40–49 breaths per minute	
	3–4 years	Raised respiratory rate: 40 breaths per minute or more	Raised respiratory rate: 35–39 breaths per minute	
Circulation and hydration	Any	Bradycardia: heart rate less than 60 beats per minute	Capillary refill time of 3 seconds or more Reduced urine output For catheterised patients, passed less than 1 ml/kg of urine per hour	No high risk or moderate to high risk criteria met
	Under 1 year	Rapid heart rate: 160 beats per minute or more	Rapid heart rate: 150–159 beats per minute	
	1–2 years	Rapid heart rate: 150 beats per minute or more	Rapid heart rate: 140–149 beats per minute	

	3–4 years	Rapid heart rate: 140 beats per minute or more	Rapid heart rate: 130–139 beats per minute	
Skin	Any	Mottled or ashen appearance Cyanosis of skin, lips or tongue Non-blanching rash of skin	Pallor of skin, lips or tongue	Normal colour
Temperature	Any	Less than 36°C		
	Under 3 months	38°C or more		
	3–6 months		39°C or more	
Other	Any		Leg pain Cold hands or feet	No high risk or high to moderate risk criteria met

This table is adapted from NICE's guideline on [fever in under 5s](#).

Table 2 Risk stratification tool for children aged 5–11 years with suspected sepsis

Category	Age	High risk criteria	Moderate to high risk criteria	Low risk criteria
Behaviour	Any	Objective evidence of altered behaviour or mental state Appears ill to a healthcare professional Does not wake or if roused does not stay awake	Not behaving normally Decreased activity Parent or carer concern that the child is behaving differently from usual	Behaving normally
Respiratory	Any	Oxygen saturation of less than 90% in air or increased oxygen requirement over baseline	Oxygen saturation of less than 92% in air or increased oxygen requirement over baseline	No high risk or moderate to high risk criteria met
	Aged 5 years	Raised respiratory rate: 29 breaths per minute or more	Raised respiratory rate: 24–28 breaths per minute	
	Aged 6–7 years	Raised respiratory rate: 27 breaths per minute or more	Raised respiratory rate: 24–26 breaths per minute	
	Aged 8–11 years	Raised respiratory rate: 25 breaths per minute or more	Raised respiratory rate: 22–24 breaths per minute	
Circulation and hydration	Any	Heart rate less than 60 beats per minute	Capillary refill time of 3 seconds or more Reduced urine output For catheterised patients, passed less than 1 ml/kg of urine per hour	No high risk or moderate to high risk criteria met
	Aged 5 years	Raised heart rate: 130 beats per minute or more	Raised heart rate: 120–129 beats per minute	
	Aged 6–7 years	Raised heart rate: 120 beats per minute or more	Raised heart rate: 110–119 beats per minute	
	Aged 8–11 years	Raised heart rate: 115 beats per minute or more	Raised heart rate: 105–114 beats per minute	
Temperature	Any		Tympanic temperature less than 36°C	
Skin	Any	Mottled or ashen appearance Cyanosis of skin, lips or tongue Non-blanching rash of skin		
Other	Any		Leg pain Cold hands or feet	No high or moderate to high risk criteria met

Table 1 Risk stratification tool for adults, children and young people aged 12 years and over with suspected sepsis

Category	High risk criteria	Moderate to high risk criteria	Low risk criteria
History	Objective evidence of new altered mental state	History from patient, friend or relative of new onset of altered behaviour or mental state History of acute deterioration of functional ability Impaired immune system (illness or drugs including oral steroids) Trauma, surgery or invasive procedures in the last 6 weeks	Normal behaviour
Respiratory	Raised respiratory rate: 25 breaths per minute or more New need for oxygen (40% FiO ₂ or more) to maintain saturation more than 92% (or more than 88% in known chronic obstructive pulmonary disease)	Raised respiratory rate: 21–24 breaths per minute	No high risk or moderate to high risk criteria met
Blood pressure	Systolic blood pressure 90 mmHg or less or systolic blood pressure more than 40 mmHg below normal	Systolic blood pressure 91–100 mmHg	No high risk or moderate to high risk criteria met
Circulation and hydration	Raised heart rate: more than 130 beats per minute Not passed urine in previous 18 hours. For catheterised patients, passed less than 0.5 ml/kg of urine per hour	Raised heart rate: 91–130 beats per minute (for pregnant women 100–130 beats per minute) or new onset arrhythmia Not passed urine in the past 12–18 hours For catheterised patients, passed 0.5–1 ml/kg of urine per hour	No high risk or moderate to high risk criteria met
Temperature		Tympanic temperature less than 36°C	
Skin	Mottled or ashen appearance Cyanosis of skin, lips or tongue Non-blanching rash of skin	Signs of potential infection, including redness, swelling or discharge at surgical site or breakdown of wound	No non-blanching rash