

# **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: children aged under 5 years out of hospital

## High risk criteria

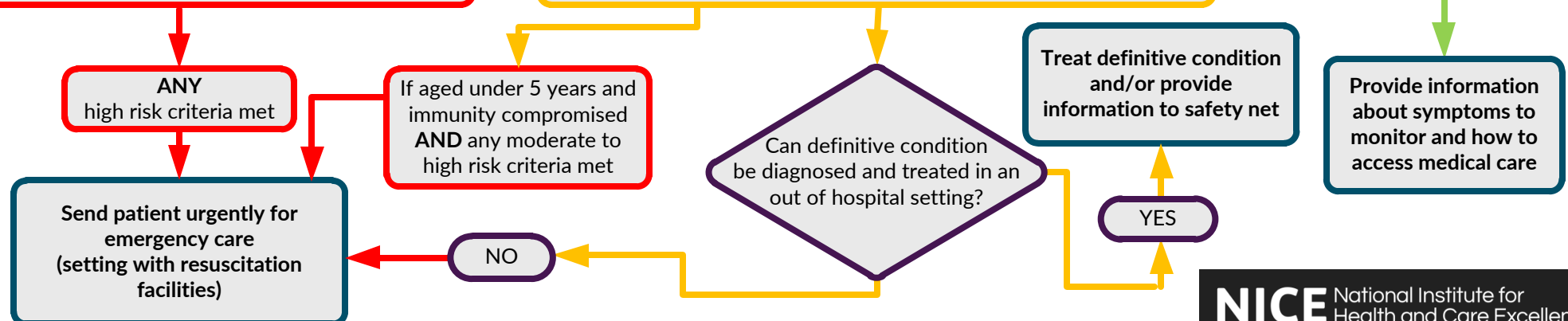
- Behaviour:
  - no response to social cues
  - appears ill to a healthcare professional
  - does not wake, or if roused does not stay awake
  - weak high-pitched or continuous cry
- Heart rate:
  - aged under 1 year: 160 beats per minute or more
  - aged 1–2 years: 150 beats per minute or more
  - aged 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 under 5 years in 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
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- Heart rate:
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  - 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

1 or more high risk criteria met

2 or more moderate to high risk criteria met

Only 1 moderate to high risk criterion met

Suspected sepsis, no high or high to moderate risk criteria met

Arrange immediate review by senior clinical decision maker (paediatric or emergency care ST4 or above or equivalent)

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Give intravenous antibiotics without delay (within a maximum of 1 hour)

Discuss with consultant

Carry out venous blood tests for the following:

- blood gas for lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine

Clinician review and results review within 1 hour

Clinician review and consider blood tests within 1 hour

Clinical assessment and manage according to clinical judgement

Can definitive condition be diagnosed and treated?

YES

NO

Lactate over 4 mmol/L

Lactate 2–4 mmol/L

Lactate less than 2 mmol/L

Lactate over 2 mmol/L  
escalate to high risk

Lactate 2 mmol/L or less  
definitive condition diagnosed?

Give intravenous fluid (bolus injection) without delay and within 1 hour  
Discuss with critical care

Give intravenous fluid (bolus injection) without delay and within 1 hour

Consider intravenous fluid (bolus injection) without delay and within 1 hour

If no definitive condition identified, repeat structured assessment at least hourly

Manage definitive condition. If appropriate, discharge with information depending on setting

Carry out observations at least every 30 minutes or continuous monitoring in emergency department  
Consultant to attend (if not already present) if the person does not improve

Ensure review by a senior decision maker within 3 hours for consideration of antibiotics

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

## High risk criteria

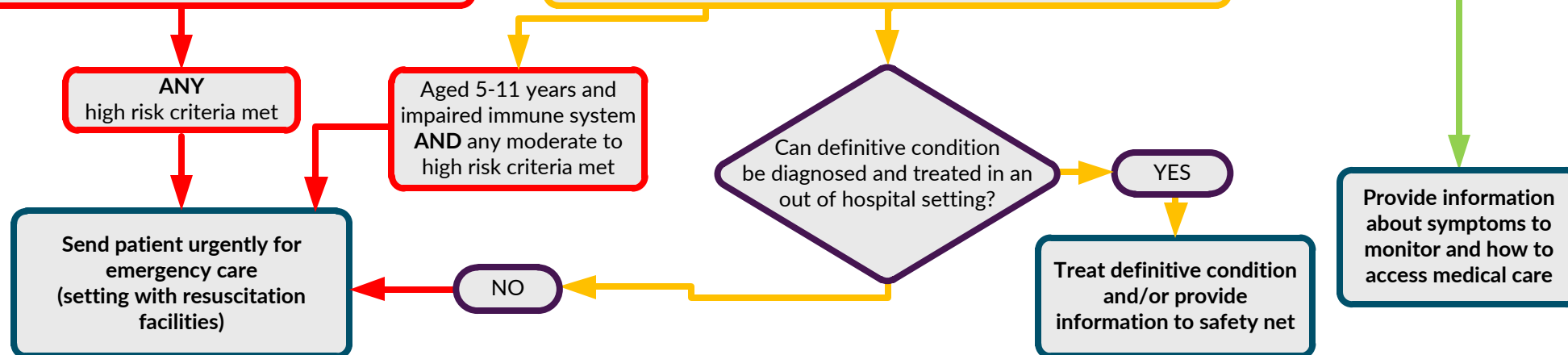
- Behaviour:
  - objective evidence of altered behaviour or mental state
  - appears ill to a healthcare professional
  - does not wake, or if roused does not stay awake
- Respiratory rate:
  - aged 5 years: 29 breaths per minute or more
  - aged 6–7 years: 27 breaths per minute or more
  - aged 8–11 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 aged 5-11 years in 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
- 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
  - heart rate less than 60 beats per minute at any age
- 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
- Mottled or ashen appearance
- Cyanosis of skin, lips or tongue
- Non-blanching rash of skin

1 or more high risk criteria met

Arrange immediate review by senior clinical decision maker (paediatric or emergency care ST4 or above or equivalent)

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Give intravenous antibiotics without delay (within a maximum of 1 hour)

Discuss with consultant

Lactate over 4 mmol/L

Lactate 2-4 mmol/L

Lactate less than 2 mmol/L

Give intravenous fluid (bolus injection) without delay and within 1 hour  
Discuss with critical care

Give intravenous fluid (bolus injection) without delay and within 1 hour

Consider intravenous fluid (bolus injection) without delay and within 1 hour

Carry out observations at least every 30 minutes or continuous monitoring in emergency department  
Consultant to attend (if not already present) if the person does not improve

## Moderate to high risk criteria

- Behaviour:
  - not behaving normally
  - decreased activity
  - parent or carer concern that child is behaving differently from usual
- 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
- 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
- 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

2 or more moderate to high risk criteria met

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine

Clinician review and results review within 1 hour

Lactate over 2 mmol/L  
escalate to high risk

Lactate 2 mmol/L or less  
definitive condition diagnosed?

If no definitive condition identified, repeat structured assessment at least hourly

Ensure review by a senior decision maker within 3 hours for consideration of antibiotics

Only 1 moderate to high risk criterion met

Clinician review and consider blood tests within 1 hour

Can definitive condition be diagnosed and treated?

YES

NO

Manage definitive condition. If appropriate, discharge with information depending on setting

## Low risk criteria

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

Suspected sepsis, no high or high to moderate risk criteria met

Clinical assessment and manage according to clinical judgement

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

## High risk criteria

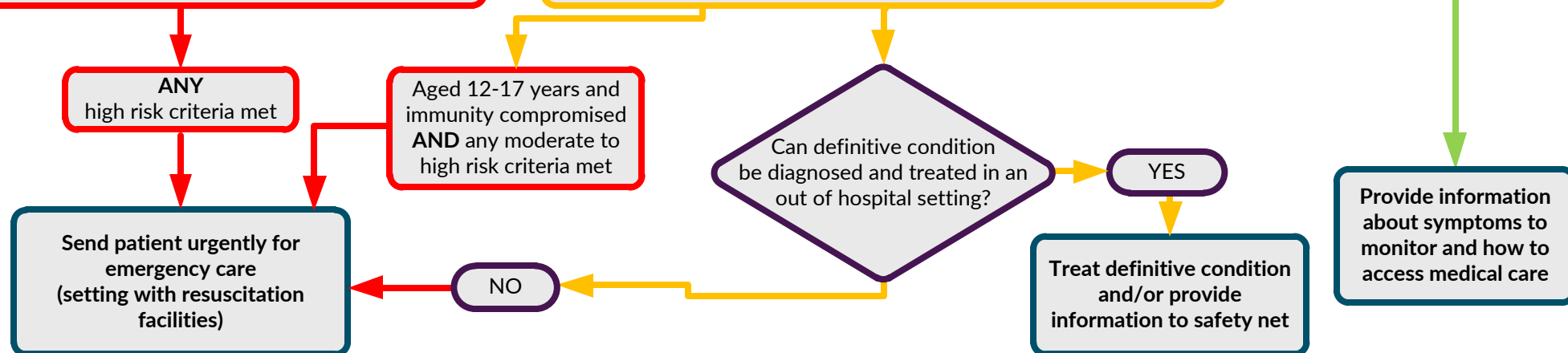
- Behaviour:
  - objective evidence of altered behaviour or mental state
- Respiratory rate:
  - all ages: 25 breaths per minute or more **OR**
  - new need for 40% oxygen or more to maintain saturation more than 92% (or more than 88% in known chronic obstructive pulmonary disease)
- Heart rate:
  - 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: children and young people aged 12-17 in hospital

## High risk criteria

- Behaviour:
  - objective evidence of new altered mental state
- Heart rate:
  - all ages: more than 130 beats per minute
- 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)
- 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

1 or more high risk criteria met

Arrange immediate review by senior clinical decision maker (paediatric or emergency care ST4 or above or equivalent)

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Give intravenous antibiotics without delay (within a maximum of 1 hour)

Discuss with consultant

Lactate over 4 mmol/L **OR** systolic blood pressure less than 90 mmHg

Give intravenous fluid (bolus injection) without delay and within 1 hour  
Discuss with critical care

Lactate 2-4 mmol/L

Give intravenous fluid (bolus injection) without delay and within 1 hour

Lactate less than 2 mmol/L

Consider intravenous fluid (bolus injection) without delay and within 1 hour

Carry out observations at least every 30 minutes or continuous monitoring in emergency department

Consultant to attend (if not already present) if the person does not improve

## Moderate to high risk criteria

- Behaviour:
  - 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
- Respiratory rate: 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

2 or more moderate to high risk criteria met **OR** systolic blood pressure of 91-100 mmHg

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Clinician review and results review within 1 hour

Lactate over 2 mmol/L **OR** assessed as having acute kidney injury\* **escalate to high risk**

Lactate 2 mmol/L or less and no acute kidney injury\* **definitive condition diagnosed?**

If no definitive condition identified, repeat structured assessment at least hourly

Ensure review by a senior decision maker within 3 hours for consideration of antibiotics

Only 1 moderate to high risk criterion met

Clinician review and consider blood tests within 1 hour

Can definitive condition be diagnosed and treated?

YES

NO

Manage definitive condition. If appropriate, discharge with information depending on setting

## Low risk criteria

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

Suspected sepsis, no high or high to moderate risk criteria met

Clinical assessment and manage according to clinical judgement

\* see NICE's guideline on Acute kidney injury (CG169)

# 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

# Sepsis risk stratification tool: people aged 18 and over in hospital

## High risk criteria

- Behaviour:
  - objective evidence of new altered mental state
- Heart rate:
  - more than 130 beats per minute
- 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)
- 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

1 or more high risk criteria met

Arrange immediate review by senior clinical decision maker (emergency care ST4 or above or equivalent)

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Give intravenous antibiotics without delay (within a maximum of 1 hour)

Discuss with consultant

Lactate over 4 mmol/L **OR** systolic blood pressure less than 90 mmHg

Give intravenous fluid (500 ml over less than 15 mins) without delay and within 1 hour  
Discuss with critical care

Lactate 2-4 mmol/L

Give intravenous fluid (bolus injection) without delay and within 1 hour

Lactate less than 2 mmol/L

Consider intravenous fluid (bolus injection) without delay and within 1 hour

Carry out observations at least every 30 minutes or continuous monitoring in emergency department  
Consultant to attend (if not already present) if the person does not improve

## Moderate to high risk criteria

- Behaviour:
  - 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
- 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

2 or more moderate to high risk criteria met **OR** systolic blood pressure of 91-100 mmHg

Carry out venous blood tests for the following:

- blood gas for glucose and lactate
- blood culture
- full blood count
- C-reactive protein
- urea and electrolytes
- creatinine
- clotting screen

Clinician review and results review within 1 hour

Lactate over 2 mmol/L **OR** assessed as having acute kidney injury\* **escalate to high risk**

Lactate 2 mmol/L or less and no acute kidney injury\* **definitive condition diagnosed?**

If no definitive condition identified, repeat structured assessment at least hourly

Ensure review by a senior decision maker within 3 hours for consideration of antibiotics

Only 1 moderate to high risk criterion met

Clinician review and consider blood tests within 1 hour

Can definitive condition be diagnosed and treated?

YES

NO

Manage definitive condition. If appropriate, discharge with information depending on setting

\* see NICE's guideline on Acute kidney injury (CG169)

## Low risk criteria

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

Suspected sepsis, no high or high to moderate risk criteria met

Clinical assessment and manage according to clinical judgement

**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
<b>History</b>	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
<b>Respiratory</b>	Raised respiratory rate: 25 breaths per minute or more New need for oxygen (40% FiO <sub>2</sub> 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
<b>Blood pressure</b>	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
<b>Circulation and hydration</b>	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
<b>Temperature</b>		Tympanic temperature less than 36°C	
<b>Skin</b>	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

**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
<b>Behaviour</b>	<b>Any</b>	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
<b>Respiratory</b>	<b>Any</b>	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
	<b>Aged 5 years</b>	Raised respiratory rate: 29 breaths per minute or more	Raised respiratory rate: 24–28 breaths per minute	
	<b>Aged 6–7 years</b>	Raised respiratory rate: 27 breaths per minute or more	Raised respiratory rate: 24–26 breaths per minute	
	<b>Aged 8–11 years</b>	Raised respiratory rate: 25 breaths per minute or more	Raised respiratory rate: 22–24 breaths per minute	
<b>Circulation and hydration</b>	<b>Any</b>	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
	<b>Aged 5 years</b>	Raised heart rate: 130 beats per minute or more	Raised heart rate: 120–129 beats per minute	
	<b>Aged 6–7 years</b>	Raised heart rate: 120 beats per minute or more	Raised heart rate: 110–119 beats per minute	
	<b>Aged 8–11 years</b>	Raised heart rate: 115 beats per minute or more	Raised heart rate: 105–114 beats per minute	
<b>Temperature</b>	<b>Any</b>		Tympanic temperature less than 36°C	
<b>Skin</b>	<b>Any</b>	Mottled or ashen appearance Cyanosis of skin, lips or tongue Non-blanching rash of skin		
<b>Other</b>	<b>Any</b>		Leg pain Cold hands or feet	No high or moderate to high risk criteria met

**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	

	<b>3–4 years</b>	Rapid heart rate: 140 beats per minute or more	Rapid heart rate: 130–139 beats per minute	
<b>Skin</b>	<b>Any</b>	Mottled or ashen appearance Cyanosis of skin, lips or tongue Non-blanching rash of skin	Pallor of skin, lips or tongue	Normal colour
<b>Temperature</b>	<b>Any</b>	Less than 36°C		
	<b>Under 3 months</b>	38°C or more		
	<b>3–6 months</b>		39°C or more	
<b>Other</b>	<b>Any</b>		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](#).