

Paediatric Clinical Assessment Tools For Fever



Purpose of this Guideline

This Guideline is intended to act as a quick reference guide to some of the most common medical conditions for unscheduled healthcare attendances in children and young people (ages 0-16), which are: respiratory tract infections (croup/ bronchiolitis), asthma, fever, gastroenteritis and abdominal pain. It is aimed to assist primary care professionals when treating children and guide appropriate escalation. Parent / Carer information leaflets are included.

Clinicians are expected to take this guideline fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient or carer.

When you feel a GP review in a specific time period is clinically appropriate, but falls outside of the 'in hours' GP service, please advise your patient/family to call NHS 111 (at an agreed time interval/ level of deterioration depending on your concerns) and advise that there is a 'predetermined plan to speak with an Out of Hours GP'.

Please provide your patient/family with a letter detailing your clinical findings and concerns to help the Out of Hours GP. The patient should also be given the appropriate Parent / Carer information leaflets.

The clinical assessment tools were arrived at after careful consideration of the evidence available including, but not exclusively SIGN, NICE Guidelines, Birmingham Children's Hospital guidelines, existing Birmingham Children's Hospital Information Leaflets, EBM date and NHS Evidence.

With thanks to the team at Gloucestershire CCG who produced the original Big 6 Pathways, on which this guideline is based.

Normal Values

Normal values at different ages (APLS, Edition 5)

Age of child (years)	Under 1	1–2	2–5	5–12	Over 12
Respiratory rate	30–40	25–35	25–30	20–25	15–20
Heart rate	110–160	100–150	95–140	80–120	60–100
Systolic blood pressure	80–90	85–95	85–100	90–110	100–120

Calculations for commonly used emergency drugs (APLS, Edition 5)

	Formula	Maximum dose
Weight (kg)	Child 0–12 months Weight = $(0.5 \times \text{age in months}) + 4$	
	Child 1–5 years Weight = $(2 \times \text{age in years}) + 8$	
	Child 6–12 years Weight = $(3 \times \text{age in years}) + 7$	
Energy (J)	4 J/kg	150–200 J biphasic for first shock 150–360 J biphasic for subsequent shocks
Tube size	Pre-term babies 2.5 mm tube Babies usually 3 or 3.5 mm tube Children >1 year Tube size = $(\text{age in years}/4) + 4$	
Fluid Bolus (IV or IO)	20 mL/kg of 0.9% saline Exceptions: Trauma/DKA/cardiac problems use 10 mL/kg of 0.9% saline	500 mL of 0.9% saline in trauma/ DKA/cardiac problems 1000 mL of 0.9% saline
Lorazepam	100 micrograms/kg (IV or IO)	Max single dose 4 mg
Adrenaline (IV or IO)	10 micrograms/kg (0.1 mL/kg of 1:10,000 strength)	Max single dose 1 mg
Glucose 10% (IV or IO)	2–5 mL/kg of 10% dextrose	150–160 mL of 10% dextrose single bolus

UK immunisation schedule

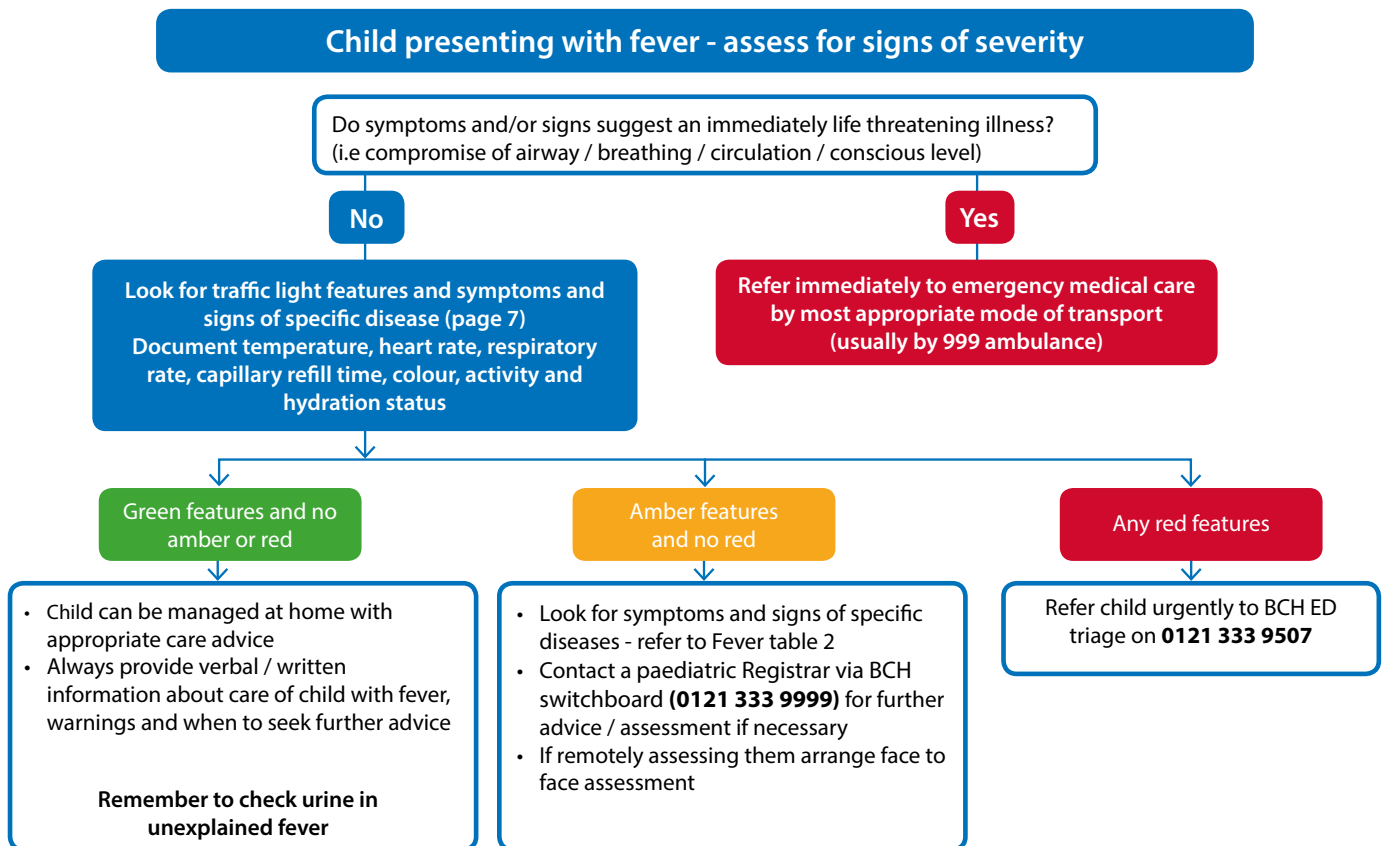
Age of child (months)	Rota virus (oral vaccine)	Diphtheria and tetanus	Pertussus	Polio	Hib	PCV	MenC	MMR	HPV	No. of injections
2 months	✓	✓	✓	✓	✓	✓				2
3 months	✓	✓	✓	✓	✓		✓			2
4 months		✓	✓	✓	✓	✓	✓			3
12 months					✓		✓			1

Neonatal Fluid Requirements

Age	Total volume of fluid required per day (mL/kg)
Day 1	60
Day 2	90
Day 3	120
Day 4 to 28	150

Clinical Assessment Tool

Child with fever



Fever Table 1: Traffic light system for identifying severity of illness

	Green - low risk	Amber - intermediate risk	Red - High Risk
Colour	<ul style="list-style-type: none"> Normal colour of skin, lips and tongue 	<ul style="list-style-type: none"> Pallor reported by parent / carer 	<ul style="list-style-type: none"> Pale / mottled / ashen / blue
Activity	<ul style="list-style-type: none"> Responds normally to social cues Content/smiles stays awake or awakens quickly strong normal cry/not crying 	<ul style="list-style-type: none"> Not responding normally to social cues Wakes only with prolonged stimulation Decreased activity No smile 	<ul style="list-style-type: none"> No response to social cues Appears ill to a healthcare professional Unable to rouse or if roused does not stay awake Weak, high-pitched or continuous cry
Respiratory		<ul style="list-style-type: none"> Nasal flaring Tachypnoea: Under 12mths - over 50 breaths/minute Over 12mths - over 40 breaths/minute Oxygen saturation <95% in air Crackles in the chest 	<ul style="list-style-type: none"> Grunting Tachypnoea: over 60 breaths/minute
Circulation and Hydration	<ul style="list-style-type: none"> Normal skin and eyes Moist mucous membranes 	<ul style="list-style-type: none"> Dry mucus membrane Poor feeding in infants CRT over 3 seconds Tachycardia: Under 1yr - over 160 beats/minute 2-5yrs - over 150 beats/minute Reduced urine output 	Reduced skin turgor
Other	None of the amber or red symptoms or signs	<ul style="list-style-type: none"> Fever for more than 5 days Swelling of a limb or joint Non-weight bearing/not using an extremity A new lump more than 2cm Age 3-6 months, temperature over 39°C Rigors 	<ul style="list-style-type: none"> Age 0-3 months, temperature over 38°C Non-blanching rash Bulging fontanelle Neck stiffness Status epilepticus Focal neurological signs Focal seizures

CRT - Capillary refill time

Diagnostic Considerations in Fever

Fever Table 2

Diagnosis to be considered	Symptoms and signs in conjunction with fever
Meningococcal disease	<p>Non- blanching rash, particularly with one or more of the following:</p> <ul style="list-style-type: none"> • An ill-looking child • Lesions larger than 2mm in diameter (purpura) • Capillary refill time longer than 3 seconds • Neck stiffness • Administer parental antibiotics and refer urgently to hospital
Meningitis ¹	<ul style="list-style-type: none"> • Neck stiffness • Bulging fontanelle • Decreased level of consciousness • Convulsive status epilepticus
Herpes simplex encephalitis	<ul style="list-style-type: none"> • Focal neurological signs • Focal seizures • Decreased level of consciousness
Pneumonia	<ul style="list-style-type: none"> • Tachypnoea, measured as: Respiratory rate: <ul style="list-style-type: none"> • 0-5 months - over 60 breaths/minute • 6-12 months - over 50 breaths/minute • Over 12 months - over 40 breaths/minute • Crackles in the chest • Nasal flaring • Chest indrawing • Cyanosis • Oxygen saturation less than 95%
Urinary tract infection (in children ages older than 3 months) ²	<ul style="list-style-type: none"> • Vomiting • Poor feeding • Lethargy • Irritability • Abdominal pain or tenderness • Urinary frequency or dysuria • Offensive urine or haematuria
Septic arthritis/ osteomyelitis	<ul style="list-style-type: none"> • Swelling of a limb or joint • Not using an extremity • Non-weight bearing
Kawasaki disease ³	<p>Fever lasting longer than 5 days and at least four of following:</p> <ul style="list-style-type: none"> • Bilateral conjunctival injection • change in upper respiratory tract mucous membranes (for example, injected pharynx, dry cracked lips or strawberry tongue) • change in the peripheral extremities (for example, oedema, erythema or desquamation) • Polymorphous rash • Cervical lymphadenopathy
Refer to normal values page 1	
<p>¹ classical signs (neck stiffness, bulging fontanelle, high- pitched cry) are often absent in infants with bacterial meningitis, ² Urinary tract infection should be considered in any child aged younger than 3 months with fever. See 'Urinary tract infection in children' (NICE clinical guideline, publication August 2013) ³ Note: In rare cases, incomplete/ atypical kawasaki disease may be diagnosed with fewer features.</p>	

Information for Parents / Carers:

Caring for your child with fever



What is a fever?

A fever is an increase in body temperature. This in itself is not dangerous. Your child's body temperature is normally between 36°C and 37°C, variations between 0.5 and 1 degree are common.

Fevers in children are common. This leaflet provides advice on when to seek help and what you can do to help your child feel better. Often the fever lasts a short duration and many children can be cared for at home if the child continues to drink, remain alert and does not develop any worrying symptoms.

However, if you are worried or your child is getting worse with warning symptoms as listed in this leaflet, then you should seek the advice of a healthcare professional.

What causes fever in children?

Most children with fever can be safely cared for at home. Viral infections are common and cause many childhood problems such as colds, coughs, flu, diarrhoea, rashes etc. Bacterial infections are less common than viral infections but more likely to cause serious illness.

Sometimes your healthcare professional will not find a reason for your child's fever, even after a full examination. If your child is otherwise looking well, then treatment may not be necessary.

Looking after your feverish child

- Give your child plenty of drinks e.g. water or squash. If you are breastfeeding then continue.
- Give babies smaller but more frequent feeds to help keep them hydrated.
- Do not worry about food if your child does not feel like eating but encourage them to drink more fluids.




- Look for signs of dehydration such as a dry mouth, lack of tears, sunken eyes, sunken fontanelle (the soft spot on your baby's head) and passing less amounts of urine.
- Children with a fever should not be over or underdressed. If your child is shivering or sweating a lot, change the amount of clothing they are wearing.
- Physical methods of cooling your child such as fanning them, cold bathing and tepid sponging can cause discomfort and may make fever worse.
- It is not necessary to use medicines to treat your child's fever but if your child is distressed, you can help them feel better by giving them medicine like paracetamol or ibuprofen. Always follow the instructions on the bottle to avoid overdosing your child. These medicines can make your child feel more comfortable but they do not treat the cause of the temperature.
- Check on your child regularly, including during the night, especially if your child is under 6 months old as they are at higher risk of serious infection.
- Keep your child away from nursery or school whilst they have a fever.

The tumbler test

If a rash appears, do the tumbler test. Press a glass tumbler firmly against the rash. If you can see spots through the glass and they do not fade, this is called a 'non blanching rash'. If this rash is present, seek medical advice urgently to rule out serious infection. The rash is harder to see on dark skin so check paler areas such as the palms of hands and soles of feet.

Fever Advice Guide:

How is your child?

 <p>Red</p>	<ul style="list-style-type: none">• Has a non-blanching rash using the tumbler test• Is not responding and very irritable	<p>You need urgent help Please phone 999 or go to the nearest Accident and Emergency</p>
 <p>Amber</p>	<ul style="list-style-type: none">• The fever does not settle despite paracetamol/ibuprofen• Looks unwell even when temperature settles• Has an unusual breathing pattern/is lethargic once temperature settles• Has reduced fluid intake and dry nappies/ fewer wees	<p>You need to contact a doctor or nurse today Please ring your GP surgery or call NHS 111 - dial 111</p>
 <p>Green</p>	<ul style="list-style-type: none">• If none of the above features are present	<p>Self care Using the advice in this guide you can provide the care your child needs at home</p>

What should I look out for?

A child with a high temperature may look quite unwell. They may become lethargic, sleepy, flushed and miserable. However, most temperatures are not caused by serious illness, temperature often come down quickly. This is reassuring.

A child with a serious infection may have other symptoms of concern. There include breathing problems, drowsiness or rash.

Talking with your doctor

If you are talking to a healthcare professional on the telephone, they will ask you questions about your child's health and symptoms. This will help them to decide if your child is best cared for at the home or needs to see a healthcare professional face to face.

Your healthcare professional may decide that your child needs a follow-up appointment. They will give you information on how to look for symptoms that may suggest more serious illness and how to get further help if they occur.

Name of Child

Age Date/Time advice given

Further advice / Follow up

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Name of professional

Signature of professional

Some Useful Phone Numbers

GP Surgery (make a note of the number here)

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NHS 111 - Dial 111
(available 24hrs - 7 days a week)

GP Out of Hours Service - appointments booked via NHS 111
(Open from 6:30pm - 8:30am, 7 days a week)

For online advice:
NHS Choices www.nhs.uk
(available 24hrs - 7 days a week)

Urgent Care Centre

Warren Farm Urgent Care Centre

Warren Farm Road, Birmingham, West Midlands, B44 0PU
8.00am-8.00pm

Erdington Health and Wellbeing Walk In Centre

196 High Street, 1st Floor, Erdington, Birmingham, B23 6SJ
8.00am-8.00pm

Washwood Heath Urgent Care Centre

Clodeshall Road, Washwood Heath, Birmingham, West Midlands, B8 3SN
9.00am-9.00pm

The Hill Urgent Care Centre

Sparkhill Primary Care Centre, 856 Stratford Road,
Sparkhill, Birmingham, B11 4BW
8.00am-8.00pm

South Birmingham GP Walk In Centre

0121 415 2095

15 Katie Road, Selly Oak, Birmingham, B29 6JG.

8.00am-8.00pm

Birmingham NHS Walk In Centre

0121 255 4500

Lower Ground Floor, Boots The Chemists Ltd,
66 High Street, Birmingham, West Midlands, B4 7TA

Mon-Fri: 8.00am – 7.00pm (last patient seen at 6:30pm)

Sat: 9.00am – 6.00pm (last patient seen at 5:30pm)

Sun: 1.00am – 4.00pm (last patient seen at 3:30pm)

Solihull UCC

Solihull Hospital, Lode Lane, Solihull, B91 2JL

8.00am-8.00pm

Summerfield GP and Urgent Care Centre

Summerfield Primary Care Centre, 134 Heath Street,
Winson Green, Birmingham, B18 7AL.

8.00am-8.00pm

If you require an interpreter, inform the member of staff you are speaking with.

Data Protection

Looking after and sharing information about your child

We have a duty of care to help patients and families understand how information about them is kept and shared and we include the following information in all our patient leaflets:

Information is collected about your child relevant to their diagnosis, treatment and care. We store it in written records and electronically on computer. As a necessary part of that care and treatment we may have to share some of your information with other people and organisations who are either responsible or directly involved in your child's care. This may involve taking your child's information off site. We may also have to share some of your information for other purposes, such as research etc. Any information that is shared in this way will not identify your child unless we have your consent. If you have any questions and/or do not want us to share that information with others, please talk to the people looking after your child or contact PALS (Patient Advice and Liaison Service) on 0121 333 8403.

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