

Fever Pathway

Clinical Assessment / Management Tool for Children



Management - Primary Care and Community Settings

Patient presents with or has a history of fever Temp $\geq 38^{\circ}$

Do the symptoms and/or signs suggest an immediately life threatening (high risk) illness?

Yes

- Refer immediately to emergency care by 999
- Alert Paediatrician
- Stay with child whilst waiting and prepare documentation

No

Is the child older or younger than 3 months of age?

Younger

Older

Table 1

Clinical Findings	Green - low risk	Amber - intermediate risk	Red - high risk
Colour	• Normal colour of skin, lips and tongue	• Pallor reported by parent/carer	• Pale/mottled/ashen/blue
Activity	• Responds normally to social cues • Content / smiles • Stays awake or awakens quickly • Strong normal cry / not crying	• Reduced response to social cues • Wakes only with prolonged stimulation • Decreased activity • No smile • Poor feeding in infants	• No response to social cues • Unable to rouse or if roused does not stay awake • Weak, high pitched or continuous cry • Appears ill to a healthcare professional
Respiratory	• None of the amber or red symptoms or signs	• Nasal flaring • Tachypnoea: RR 40-50 if 1-5 years; RR 25-30 if 6-11 years; RR 20-25 if ≥ 12 years • Oxygen saturation $\leq 95\%$ in air • Crackles	• Grunting • Tachypnoea: RR >60 breaths/min if aged <12 months; RR >50 if 1-5 years; RR >30 if 6-11 years; RR >25 if ≥ 12 years • Moderate or severe chest indrawing
Circulation and Hydration	• Normal skin and eyes	• Tachycardia: HR > 160 beats/min if age < 1 yr; HR > 150 beats/min if age 1 - 2 years; HR > 140 beats/min if age 3 - 5 years; HR > 120 beats/min if 6-11 years; HR >100 beats/min if age >12 years • Dry mucous membranes • Reduced urine output • Central refill 2-3 seconds	• Reduced skin turgor • Capillary refill >3 seconds
Other	• None of the amber or red symptoms or signs	• Fever for ≥ 5 days • Swelling of a limb or joint • Non-weight bearing / not using an extremity • A new lump ≥ 2 cm • Age 3-6 months temp $\geq 39^{\circ}\text{C}$ (102.2°F) with no clear focus of infection • Additional parental/carer support required? • Recent return from malaria endemic area in preceding 3 months	• Bulging fontanelle • Neck stiffness • Focal seizures • Sustained tachycardia • Non-blanching rash • Focal neurological signs • Bile-stained vomiting Age 0-3 months with axillary temp $\geq 38^{\circ}\text{C}$ (100.4°F) - note children under 1 month of age at highest risk of sepsis/ meningitis. If 1-3 months of age with fever within 48 hours of Men B vaccine and clinically well, consider safety netting Limb pain

Green Action

- Perform:**
- Assess for focus of infection - If no focus in child under 5 years of age, consider clean catch urine specimen and evaluate for [Urinary Tract Infection](#).

Provide advice to send home

Provide the parent/carer with appropriate parent advice sheet and advise on signs, symptoms and changes - signpost the parent/carer where to go, should things change.

Amber Action

If no focus of fever in child under 5 years of age, consider clean catch urine specimen and evaluate for [urinary tract infection](#). Advice from [Paediatrician](#) should be sought and/or a clear management plan agreed with parents.

Refer

Management Plan

- Provide the parent/carer with appropriate parent advice sheet [fever](#) and advise on signs, symptoms and changes - signpost the parent/carer where to go, should things change
- Arrange any required follow up or review
- Send any relevant documentation to the provider of follow up or review

Urgent Action

- Refer immediately to emergency care - consider 999
- Alert Paediatrician
- Commence relevant treatment to stabilise child for transfer
- Send relevant documentation

Hospital Emergency Department / Paediatric Unit



GMC Best Practice recommends: Record your findings (See "Good Medical Practice" <http://bit.ly/1DPX12b>)

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Table 2

Normal Paediatric Values:			
(APLS [†])	Respiratory Rate at rest: [b/min]	Heart Rate [bpm]	Systolic Blood Pressure [mmHg]
< 1 year	30 - 40	110 - 160	70 - 90
1-2 years	25 - 35	100 - 150	80 - 95
> 2-5 years	25 - 30	95 - 140	80 - 100
5-12 years	20 - 25	80 - 120	90 - 110
>12 years	15 - 20	60 - 100	100 - 120

[†] Advanced Paediatric Life Support The Practical Approach Fifth Edition Advanced Life Support Group Edited by Martin Samuels; Susan Wieteska Wiley-Blackwell / 2011 BMJ Books.

Glossary of Terms	
ABC	Airways, Breathing, Circulation
APLS	Advanced Paediatric Life Support
AVPU	Alert Voice Pain Unresponsive
B/P	Blood Pressure
CPD	Continuous Professional Development
CRT	Capillary Refill Time
ED	Hospital Emergency Department
GCS	Glasgow Coma Scale
HR	Heart Rate
MOI	Mechanism of Injury
PEWS	Paediatric Early Warning Score
RR	Respiratory Rate
WBC	White Blood Cell Count

Symptoms and Signs of Specific Disease

Diagnoses to be considered	Symptoms and signs in conjunction with fever
Meningococcal septicaemia	<p>Non blanching rash (this may not be the first sign), 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) CRT =3 secs Neck stiffness Limb pain
Meningitis	<ul style="list-style-type: none"> Neck stiffness Bulging fontanelle Decreased level of consciousness Convulsive status epilepticus Cold extremities
Herpes simplex encephalitis	<ul style="list-style-type: none"> Focal neurological signs Focal seizures Decreased level of consciousness
Pneumonia	<p>Tachypnoea, measured as:</p> <ul style="list-style-type: none"> 0 – 5 mths - RR >60 breaths/min 6 – 12 mths - RR >50 breaths/min >12 mths - RR >40 breaths/min Crackles in the chest Nasal flaring Chest recession Cyanosis Oxygen saturation =95%
Urinary tract infection (in children aged older than 3 months)	<ul style="list-style-type: none"> Vomiting Abdominal pain or tenderness Lethargy Urinary frequency or dysuria Irritability Offensive urine, haematuria Poor feeding
Septic arthritis/osteomyelitis	<ul style="list-style-type: none"> Swelling of a limb or joint Non-weight bearing Not using an extremity
Kawasaki disease	<p>Fever lasting longer than 5 days and at least 4 of the following:</p> <ul style="list-style-type: none"> Bilateral conjunctival injection Change in upper respiratory tract mucous membranes (e.g. injected pharynx, dry cracked lips or strawberry tongue) Change in the peripheral extremities (e.g. oedema, erythema or desquamation) Polymorphous rash

Classical sign (neck stiffness, bulging fontanelle, high pitched cry) are often absent in infants with bacterial meningitis

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 CG054, August 2007)

Note: in rare cases, incomplete / atypical Kawasaki disease may be diagnosed with fewer features.

Thompson MJ, Ninis N, Perera R, et al. Clinical recognition of meningococcal disease in children and adolescents. *Lancet*. 2006; 367 (9508): 397-403.