Specialist Pharmacy Service

NICE Bites

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A summary of prescribing recommendations from NICE guidance

This edition includes one guideline.

Fever in under 5s

NICE NG143; 2019

This guideline covers the assessment and early management of fever (elevation of body temperature above the normal daily variation) with no obvious cause in children aged under 5 years. It aims to improve clinical assessment and diagnosis of serious illness among young children who present with fever in primary and secondary care.

Measuring temperature and detecting fever

- Do not routinely use oral or rectal routes to measure body temperature of children aged ≤5 years.
- In infants aged <4 weeks, measure body temperature with an electronic thermometer in the axilla.
- In children aged 4 weeks to 5 years, measure body temperature by one of the following methods:
  - electronic thermometer in the axilla,
  - chemical dot thermometer in the axilla,
  - infra-red tympanic thermometer.
- Healthcare professionals who routinely use disposable chemical dot thermometers should consider a different type of thermometer when multiple temperature measurements are required.
- Forehead chemical thermometers are unreliable and should not be used by healthcare professionals.
- Reported parental perception of a fever should be considered valid and taken seriously by healthcare professionals.

Clinical assessment

- First, identify any immediately life-threatening features, including compromise of the airway, breathing or circulation, and decreased level of consciousness.
- Think "Could this be sepsis?" and refer to NG51 Sepsis if a child presents with symptoms or signs that indicate possible sepsis.

Assessment of risk of serious illness

- Assess children for the presence or absence of symptoms and signs that can be used to predict the risk of serious illness using the traffic light system - see **Box 1** or the online colour version.
- When assessing children with learning disabilities, take the individual child's learning disability into account when interpreting the traffic light system.
- Measure and record temperature, heart rate, respiratory rate and capillary refill time as part of the routine assessment.
- Measure blood pressure if the heart rate or capillary refill time is abnormal and the facilities to measure it are available.
- In children >6 months do not use body temperature alone to identify those with serious illness.
- Do not use duration of fever to predict the likelihood of serious illness. However, children with a fever lasting ≥5 days should be assessed for Kawasaki disease (see pathway).
- Assess children with fever for signs of dehydration. Look for prolonged capillary refill time, abnormal skin turgor, abnormal respiratory pattern, weak pulse or cool extremities.
- Test urine as recommended in NICE CG54 UTIs.
- When a child has been given antipyretics, do not rely on a decrease or lack of decrease in temperature to differentiate between serious and non-serious illness.

Please go to www.nice.org.uk to check for any recent updates to this guidance.

Box 1

Traffic-light system for identifying risk of serious illness

- **RED** Children with **any** of the following are in a **high-risk** group for serious illness:
  - pale/mottled/ashen/blue skin, lips or tongue,
  - 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,
  - grunting,
  - tachypnoea: respiratory rate >60 breaths/minute,
  - moderate or severe chest indrawing,
  - reduced skin turgor,
  - age <3 months **AND** temperature ≥38 degrees,**
  - bulging fontanelle,
  - neck stiffness,
  - status epilepticus,
  - focal neurological signs,
  - focal seizures.
- **AMBER** Children with **any** of the following are in **at least** an **intermediate-risk** group for serious illness:
  - pallor of skin, lips or tongue reported by parent or carer,
  - not responding normally to social cues*,
  - no smile,
  - wakes only with prolonged stimulation,
  - decreased activity,
  - nasal flaring,
  - tachypnoea (age 6-12 months **AND** >50 breaths/minute; age >12 months **AND** >40 breaths/minute),
  - oxygen saturation ≤95% in air,
  - crackles in the chest,
  - tachycardia (age <12 months **AND** >160 beats/minute; age 12-24 months **AND** >150 beats/minute; age 2-5 years **AND** >140 beats/minute),
  - capillary refill time ≥3 seconds,
  - dry mucous membranes,
  - poor feeding in infants,
  - reduced urine output,
  - age 3-6 months **AND** temperature ≥39 degrees,
  - fever ≥5 days (consider Kawasaki disease - see pathway),
  - rigors,
  - swelling of a limb or joint,
  - non-weight bearing limb/ not using an extremity.
- **GREEN** Children who have **all** of the following features, and **none** of the high- or intermediate-risk features, are in **a low-risk** group for serious illness:
  - normal colour of skin, lips and tongue,
  - responds normally to social cues*,
  - content/smiles,
  - stays awake or awakens quickly,
  - strong normal cry or not crying,
  - normal skin and eyes,
  - moist mucous membranes.

* E.g. response to their name, smiling and/or giggling.
** Some vaccines induce fever in children < 3 months.

A colour version of the traffic-light system is available.

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Symptoms and signs of specific illnesses

- Look for a source of fever and check for symptoms and signs associated with specific diseases (see pathway for details):
  - Sepsis
  - Meningococcal disease and bacterial meningitis (see also NICE CG102 meningitis and septicaemia)
  - Herpes simplex encephalitis
  - Pneumonia
  - Urinary tract infection (see also NICE CG54 UTIs)
  - Septic arthritis or osteomyelitis
  - Kawasaki disease
- Enquire about recent travel abroad and consider the possibility of imported infections according to the region visited.

Treatment and management

Management by remote assessment[1] or by a non-paediatric practitioner[2]

(See also **Box 1** for 'red', 'amber' and 'green' features.)

- Children whose symptoms or combination of symptoms suggest an immediately life-threatening illness should be referred immediately for emergency medical care by the most appropriate means of transport (usually 999 ambulance).
- Children with any 'red' features but who are not considered to have an immediately life-threatening illness should be urgently assessed by a healthcare professional in a face-to-face setting within 2 hours (if they have been assessed remotely[1]) or referred urgently to the care of a paediatric specialist (if they have been assessed by a non-paediatric practitioner[2]).
- Children with 'amber' but no 'red' features should be assessed by a healthcare professional in a face-to-face setting (if they have been assessed remotely[1]). The urgency of this assessment should be determined by the clinical judgement of the healthcare professional carrying out the remote assessment.
- For children assessed by a non-paediatric practitioner[2], if any 'amber' features are present and no diagnosis has been reached, provide parents or carers with a 'safety net' or refer to specialist paediatric care for further assessment. The 'safety net' should be one or more of the following:
  - providing the parent or carer with verbal and/or written information on warning symptoms and how further healthcare can be accessed,
  - arranging further follow-up at a specified time and place,
  - liaising with other healthcare professionals, including out-of-hours providers, to ensure direct access for the child if further assessment is required.
- Children with 'green' features and none of the 'amber' or 'red' features can be cared for at home with appropriate advice for parents and carers, including advice on when to seek further attention from the healthcare services (see **Box 2**).

Management by the paediatric specialist - see full guideline.

1 Remote assessment covers situations where a child is not physically examined, e.g. by a community pharmacist or over the phone by NHS 111. In these situations, assessment is largely an interpretation of symptoms rather than physical signs.

2 Non-paediatric practitioners are healthcare professionals who have not had specific training or do not have expertise in the assessment and treatment of children. It includes those in primary care and may also apply to professionals in general emergency departments.

Please go to www.nice.org.uk to check for any recent updates to this guidance.

Box 2

Advice for home care

Care at home

- Advise parents or carers:
  - to manage the child's temperature – see **Box 3**.
  - to offer the child regular fluids (where a baby or child is breastfed the most appropriate fluid is breast milk).
  - how to detect signs of dehydration by looking for:
    - sunken fontanelle,
    - dry mouth,
    - sunken eyes,
    - absence of tears,
    - poor overall appearance.
  - to encourage their child to drink more fluids and consider seeking further advice if they detect signs of dehydration.
  - how to identify a non-blanching rash.
  - to check their child during the night.
  - to keep their child away from nursery or school while the child's fever persists but to notify the school or nursery of the illness.

When to seek further help

- Following contact with a healthcare professional, parents and carers should seek further advice if:
  - the child has a fit,
  - the child develops a non-blanching rash,
  - the parent or carer feels the child is less well than when they previously sought advice,
  - the parent or carer is more worried than when they previously sought advice,
  - the fever lasts 5 days or longer,
  - the parent or carer is distressed, or concerned they are unable to look after their child.

Box 3

Reducing body temperature

Antipyretic agents do not prevent febrile convulsions and should not be used specifically for this purpose.

Physical interventions

- Tepid sponging is not recommended for the treatment of fever.
- Children with fever should not be underdressed or over-wrapped.

Pharmacological interventions

- Consider using either paracetamol or ibuprofen in children with fever who appear distressed.
- Do not use antipyretic agents with the sole aim of reducing body temperature in children with fever.
- When using paracetamol or ibuprofen in children with fever:
  - continue only as long as the child appears distressed,
  - consider changing to the other agent if the child's distress is not alleviated,
  - do not give both agents simultaneously,
  - only consider alternating these agents if distress persists or recurs before the next dose is due.

Recommendations – wording used such as 'offer' and 'consider' denote the strength of the recommendation.

Drug recommendations – the guideline assumes that prescribers will use a drug's Summary of Product Characteristics (SPC) to inform treatment decisions.