NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1.1 Guideline title

Feverish illness in children: assessment and initial management in children younger than 5 years

1.2 Short title

Feverish illness in children

2 The remit

This is a partial update of 'Feverish illness in children', NICE clinical guideline 47 (2007), available from www.nice.org.uk/guidance/CG47. See section 4.3.1 for details of which sections will be updated. We will also carry out an editorial review of all recommendations to ensure that they comply with NICE's duties under equalities legislation.

This update is being undertaken as part of the guideline review cycle.

3 Clinical need for the guideline

3.1 Epidemiology

a) Feverish illness in young children is most frequently caused by self-limiting viral infections. However, some viral infections do lead to more serious illnesses that need support and treatment in hospital. In addition, fever may be a presenting feature of bacterial illnesses such as meningitis, septicaemia, urinary tract infections and pneumonia. Feverish illness may be associated with a variety of more severe symptoms and signs, such as cough, breathlessness, vomiting, diarrhoea, rash and/or convulsions. Many symptoms and signs are non-specific and may offer no specific clue to the cause of the fever.

b) Feverish illness in young children is a great concern for parents and carers. It has been reported that 60% of children younger than 12 months in England and Wales have a GP consultation for infection, as do 36% of children aged between 1 and 4 years, and 20% of those aged between 5 and 15 years. It is one of the most common medical complaints presenting to accident and emergency departments.

c) The introduction of vaccination programmes for *Haemophilus influenzae* type B, meningococcal C and pneumococcal conjugate are likely to have significantly reduced the level of admissions to hospital resulting from associated diseases. For example, early analysis of the pneumococcal vaccination programme in England showed that the incidence of pneumococcal related disease has fallen 38% in children younger than 2 years since vaccination was introduced. However, evidence suggests an increase in the prevalence of disease caused by sub-types of bacteria not covered by vaccination programmes.

d) Potentially serious cases of feverish illness are likely to be rare, so it is important that information is in place to help healthcare professionals distinguish these from mild cases.

3.2 Current practice

a) Feverish illness in young children is a diagnostic challenge for healthcare professionals because it is often difficult to identify the cause, and to distinguish between mild or moderate illness and more severe illness. To further complicate assessment and diagnosis, the clinical picture often changes rapidly in young children.

b) The aim of this guideline update is to revise recommendations on the topics listed in section 4.3.1 in the light of new evidence.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, ‘Further information’).

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

4.1.1 Groups that will be covered

a) Children from birth up to their 5th birthday presenting with a fever that has not been previously diagnosed.

b) No patient subgroups have been identified as needing specific consideration.

4.1.2 Groups that will not be covered

a) Children already admitted to hospital.

b) Children with a pre-existing comorbidity for which fever is already covered by an established management plan by their specialist team; for example, cystic fibrosis, immunosuppression, sickle cell disease and cerebral shunts.

c) Children with recurring fever.

d) Children diagnosed with tropical diseases.

4.2 Healthcare setting

a) All settings in which care is funded by the NHS.

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

a) The predictive value of the following symptoms and signs, alone or in combination, as initial indications of serious illness:

- abnormal skin or mucosal colour (for example, pallor or cyanosis)
- appearing ill to a healthcare professional or parent/carer
- altered responsiveness or cry
- altered breathing (for example, nasal flaring, grunting, chest indrawing)
- abnormal respiratory rate, pulmonary (lung) crackles and other sounds
- oxygen desaturation
- dehydration
- prolonged capillary refill time, cold hands and feet
- poor feeding
- persistent fever (5 days or more)
- height of fever
- limb or joint swelling
- unwillingness to bear weight or use a limb
- bulging fontanelle
- rash (blanching or non-blanching)
- focal neurological signs
- focal seizures
- new lumps
- neck stiffness
- vomiting
- status epilepticus (prolonged or continuous fits).

If evidence is found on additional signs and symptoms they will added to the above list.

b) The predictive value of heart rate, including:

- how heart rate changes with temperature
- whether heart rate outside the normal range is a sign of serious illness.

c) The predictive value of pro-calcitonin and/or C-reactive protein markers.

d) Whether reducing fever with paracetamol or non-steroidal anti-inflammatory drugs (NSAIDs) affects the course of the disease.

e) The predictive value of the clinical response to paracetamol or NSAIDs.

f) Effect on fever and associated symptoms of treatment with:

- paracetamol alone or NSAIDs alone, compared with placebo and with one another
- alternating paracetamol and NSAIDs strategies, compared with placebo, either drug alone, and taking both at the same time
- paracetamol and NSAIDs taken at the same time, compared with placebo, and either drug alone.

g) Note that guideline recommendations will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

4.3.2 Clinical issues that will not be covered

The following areas will not be updated, except for specific parts that relate to the topics in section 4.3.1 and alterations to wording to comply with equalities issues or maintain consistency with areas that have been updated.

a) Types of thermometers and the site of temperature measurement.

b) Format of the ‘traffic light’ system for diagnosis.

c) Diagnosis of specific illness (outside initial risk assessment as part of the ‘traffic light’ system).

d) Management of specific illnesses.

e) Imported infections.

f) Tests, management and the use of antibiotics by a non-paediatric practitioner.

g) Management by remote assessment.

h) Management by a paediatric specialist.

i) Advice for home care.

4.4 Main outcomes

a) Mortality.

b) Morbidity, including symptomatic relief of fever and associated symptoms such as discomfort.

c) Appropriate disposition (for example, home management or referral to hospital).

d) Accuracy of diagnosis of serious illness.

e) Appropriate use of antibiotics.

f) Parents and carer satisfaction.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. In this guideline, the cost-effectiveness of alternative NSAID and paracetamol regimens will be examined, considering both the effect on immediate outcomes (reduction in fever) and longer term outcomes (morbidity

and mortality), if data are available. A review of the economic evidence will be conducted and new economic analyses will be carried out. If data are not available, a 'what if' model may be developed to support GDG recommendations on the cost-effectiveness of different scenarios.

The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see 'Further information').

4.6 Status

4.6.1 Scope

This is the final scope.

4.6.2 Timing

The development of the guideline recommendations will begin in December 2011.

5 Related NICE guidance

5.1 Published guidance

5.1.1 NICE guidance to be updated

This guideline will update and replace the following NICE guidance:

- Feverish illness in children. NICE clinical guideline 47 (2007). Available from www.nice.org.uk/guidance/CG47

5.1.2 Other related NICE guidance

- Bacterial meningitis and meningococcal septicaemia. NICE clinical guideline 102 (2010). Available from www.nice.org.uk/guidance/CG102
- Diarrhoea and vomiting in children under 5. NICE clinical guideline 84 (2009). Available from www.nice.org.uk/guidance/CG84

- Amantadine, oseltamivir and zanamivir for the treatment of influenza. NICE technology appraisal guidance 168 (2009). Available from www.nice.org.uk/guidance/TA168
- Medicines adherence. NICE clinical guideline 76 (2009). Available from www.nice.org.uk/guidance/CG76
- Oseltamivir, amantadine and zanamivir for the prophylaxis of influenza. NICE technology appraisal guidance 158 (2008). Available from www.nice.org.uk/guidance/TA158
- Urinary tract infection in children. NICE clinical guideline 54 (2007). Available from www.nice.org.uk/guidance/CG54

5.1.3 Guidance under development

NICE is currently developing the following related guidance (details available from the NICE website):

- Antibiotics for neonatal infection. NICE clinical guideline. Publication expected September 2012.

6 Further information

Information on the guideline development process is provided in:

- 'How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS'
- 'The guidelines manual'.

These are available from the NICE website (www.nice.org.uk/GuidelinesManual). Information on the progress of the guideline will also be available from the NICE website (www.nice.org.uk).