key points

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Most illnesses associated with fever are self-limiting and children recover with no specific treatment. However, fever can also be the presenting feature of serious illness, which may be life threatening if not diagnosed and treated appropriately. While death in childhood is rare, infection remains the most common cause in children aged one to four years, and is second only to congenital abnormalities in infants under a year. The challenge is to distinguish the small minority of children who have serious illness from the majority who do not. We need to recognise cases in which delay in investigation and treatment may influence outcome, without over-investigating and over-treating those with self-limiting illness. The NICE guidelines give evidence-based recommendations on assessing children under five.

It is important to establish whether the temperature has been measured and, if so, how. The height of the temperature should be recorded, and always enquire what device has been used, as a reading from a forehead thermometer may not be accurate. While many families will use a thermometer the impression of the child being hot to touch without formal measurement should still be taken seriously.

Check whether the child is still feeding or taking fluids adequately. Any child may be irritable when their temperature is high, but a constantly irritable or inconsolable child, or one who is extremely lethargic, drowsy or difficult to rouse is a cause for concern. Ask about any skin changes or rashes the parent may have noticed. Find out what measures the parent may already have taken to manage the fever, and in particular, whether, and at what time, antipyretics have been given. Enquire about contact with infectious illnesses, and foreign travel.

Other vital signs, including heart rate, respiratory rate and capillary refill time should also be recorded. The child should be examined for focal signs indicating the site of infection, and hydration should be assessed. Posture, tone, fontanelle (if patent), presence of a rash, neck stiffness and level of consciousness should also be assessed.

Viruses, such as adenovirus, enterovirus, and erythrovirus (formerly parvovirus) B19 can cause macular, papular or urticarial rashes, which are most commonly (but not exclusively) blanching. Urinary tract infection causes 2-7% of episodes of fever presenting to primary care, and may have no focal symptoms and signs.

Many of the NICE referral criteria are objective but not a substitute for your own gut feeling that this is a sick child. If the diagnosis is unclear, potentially serious, and specific treatment may be needed to prevent deterioration, the child should be referred. Children with amber features for whom the diagnosis is unclear can be managed in primary care, provided that there is a robust system in place for ensuring easy access to re-assessment should the child deteriorate.