key points

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Ten per cent of girls and 3% of boys will have had a UTI by 16 years of age. The majority are acute, isolated illnesses that resolve quickly, with no long-term implications for the patient. However, UTIs may be associated with underlying congenital abnormalities, and recurrent infections can lead to renal scarring. UTI is defined as bacteriuria in the presence of symptoms. Asymptomatic bacteriuria does not require treatment or investigation.

The presentation of UTI is extremely variable. The only way to differentiate a UTI from a viral infection is by testing the urine and this should be carried out within 24 hours in children with non-specific fever. UTIs can also present with vomiting, failure to thrive or persistent irritability. A urine infection in the presence of any of the above symptoms is a pyelonephritis (upper UTI). Children may also present with classical symptoms of cystitis (lower UTI) such as urinary frequency, dysuria and abdominal pain.

Most children with UTI, even if febrile, can be managed in the community. However, if the initial assessment shows the child is at high risk of serious illness, there should be an urgent referral to the local paediatric service. The same applies to any infant under three months of age with suspected UTI.

It is better to obtain a urine sample by catching it in a sterile container, rather than using urine pads or bags. Leucocyte esterase and nitrite dipsticks are not reliable in children under three years, so a negative dipstick does not rule out UTI in this age group.

Not every child needs to be referred after a first UTI. However, they should all be evaluated to help determine which require renal imaging as well as identifying triggers for recurrent UTIs. GPs are central to the identification of children at risk of renal pathology. All children who are appropriately diagnosed and treated for a UTI must be assessed for risk of renal abnormalities and/or recurrence.