

SCOPE

1 Guideline title

Urinary tract infection: diagnosis, treatment and long-term management of urinary tract infection in children

1.1 *Short title*

Urinary tract infection in children

2 Background

- a) The National Institute for Health and Clinical Excellence ('NICE' or 'the Institute') has commissioned the National Collaborating Centre for Women's and Children's Health to develop a clinical guideline on urinary tract infection in children for use in the NHS in England and Wales. This follows referral of the topic by the Department of Health and Welsh Assembly Government (see Appendix). The guideline will provide recommendations for good practice that are based on the best available evidence of clinical and cost effectiveness.
- b) The Institute's clinical guidelines will support the implementation of National Service Frameworks (NSFs) in those aspects of care where a Framework has been published. The statements in each NSF reflect the evidence that was used at the time the Framework was prepared. The clinical guidelines and technology appraisals published by the Institute after an NSF has been issued will have the effect of updating the Framework.
- c) NICE clinical guidelines support the role of healthcare professionals in providing care in partnership with patients, taking account of their individual needs and preferences, and ensuring that patients (and their carers and families, where appropriate) can make informed decisions about their care and treatment.

3 Clinical need for the guideline

- a) In the past 30–50 years the natural history of urinary tract infection (UTI) in children has changed, as a result of the introduction of antibiotics and improvements in healthcare. This change has contributed to uncertainty about the most appropriate and effective way to diagnose and treat UTI in children and whether or not investigations and follow up are justified.
- b) UTI is one of the commonest bacterial infections causing illness in infants and children and accounts for 5% of febrile illness in children under 2 years. The rate of UTI in newborn boys is higher than the rate in newborn girls, but by 6 months the incidence is greater in girls. At all other ages in childhood, UTIs are more common in girls.
- c) A study conducted in the UK showed that 6.3% of girls and 2.4% boys under 5 years had urinary tract infection. For the population in England and Wales this translates into approximately 30,000 children developing their first UTI each year and in addition a significant number of children, particularly girls, having recurrent UTIs requiring additional advice and assessment. There may be as many as 100-200,000 girls under 16 who suffer from recurrent UTIs.
- d) It may be difficult to recognise UTI in children because the presenting symptoms are non-specific, particularly in the youngest children. Urine collection and interpretation of urine tests in infants and toddlers are not easy and therefore may not always be possible to confirm the diagnosis.
- e) The purpose of diagnosis and treatment of UTI is first to alleviate the acute symptoms, and in the long term to protect renal tissue from the avoidable scarring that might occur if treatment is delayed. Renal scarring may lead to hypertension, chronic kidney disease, complicated pregnancies, and in more severe cases, to kidney failure.

- f) Current management – involving imaging, prophylaxis and prolonged follow up – has placed a heavy burden on NHS primary and secondary care resources, and is unpleasant for children and families, costly and not evidence-based. The aim of this guideline is to lead to more consistent clinical practice, by considering the effectiveness of investigations and treatment including surgical intervention. The importance of accurate diagnosis depends on the effectiveness of subsequent investigations and follow up in altering the outcome.

4 The guideline

- a) The guideline development process is described in detail in two publications which are available from the NICE website (see 'Further information'). *The Guideline Development Process – An Overview for Stakeholders, the Public and the NHS* describes how organisations can become involved in the development of a guideline. *Guideline Development Methods – Information for National Collaborating Centres and Guideline Developers* provides advice on the technical aspects of guideline development.
- b) This document is the scope. It defines exactly what this 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 and Welsh Assembly Government (see Appendix).
- c) 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) Infants and children from birth up to the age of 16 years with first or recurrent upper or lower tract UTI who are not already known to have underlying uropathy. (For the purpose of this guideline uropathy has

been defined as a structural anomaly of the urinary tract confirmed after birth.)

- b) Within this population, no additional patient subgroups have been identified at this stage but they will be given special consideration where supported by the evidence or clinical need.

4.1.2 Groups that will not be covered

- a) Children with urinary catheters in situ.
- b) Children with neurogenic bladders.
- c) Children already known to have significant pre-existing uropathies.
- d) Children with underlying renal disease (for example, nephrotic syndrome).
- e) Immunosuppressed children.
- f) Infants and children in intensive care units.
- g) Preventive measures or long-term management of sexually active girls with recurrent UTI.

4.2 *Healthcare setting*

- a) The guideline will cover management in primary and secondary care and indications for referral to specialist tertiary care.

4.3 *Clinical management*

- a) When to consider the diagnosis of UTI in sick and/or symptomatic infants and children who were previously healthy.
- b) When and how to collect urine for the diagnosis of UTI in infants and children.
- c) Which tests establish or exclude UTI as the cause of illness in infants and children (for example, whether dipsticks are helpful, what diagnostic criteria to use in laboratories).

d) How to treat sick and/or symptomatic infants and children, including:

- when to admit to hospital
- when to start treatment
- which antibiotics to use
- what route of administration to use
- how long to treat.

e) How and when to treat symptomatic re-infection.

f) When to use prophylactic antibiotics, which antibiotics to use and when to stop them.

g) When to use investigations to assess the structure and function of the urinary tract.

h) When to refer to secondary and tertiary care.

i) When to offer surgical intervention.

j) When to do long term follow up.

k) What advice to give carers and patients, including what to do if another UTI occurs.

Note that guideline recommendations will normally fall within licensed indications; exceptionally, and only where clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use the Summary of Product Characteristics to inform their decisions for individual patients.'

4.4 Status

4.4.1 Scope

This is the final version of the scope.

The guideline will link to the NICE clinical guideline on feverish illness in children, which is in development.

4.4.2 Guideline

The development of the guideline recommendations will begin in May 2005.

5 Further information

Information on the guideline development process is provided in:

- *The Guideline Development Process – An Overview for Stakeholders, the Public and the NHS*
- *Guideline Development Methods – Information for National Collaborating Centres and Guideline Developers*

These booklets are available as PDF files from the NICE website (www.nice.org.uk). Information on the progress of the guideline will also be available from the website.

Appendix – Referral from the Department of Health and Welsh Assembly Government

The Department of Health and Welsh Assembly Government asked the Institute to develop a guideline:

- for the investigation by imaging of the urinary tract; and
- long term management of children aged up to 8 years who have had a urinary tract infection diagnosed.

The guideline should be applicable to:

- primary care for referral; and
- for general paediatrics, paediatric nephrology and paediatric urology specialist services.

The guideline would clarify which children, following diagnosis and treatment of an acute urinary tract infection, should be referred for specialist investigation and or management and include indications for imaging of the urinary tract and for long term care including monitoring and use of prophylactic antibiotics.