

# Urinary tract infection in children and young people

Quality standard

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[www.nice.org.uk/guidance/qs36](https://www.nice.org.uk/guidance/qs36)

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This standard is based on NG224.

This standard should be read in conjunction with QS15, QS90, QS64, QS70, QS75, QS112 and QS195.

## Quality statements

Statement 1 This statement has been removed. For more details see [update information](#).

Statement 2 Infants, children and young people with a urinary tract infection have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

Statement 3 Infants, children and young people with a urinary tract infection caused by coliform bacteria have results of microbiology laboratory testing differentiated by *Escherichia coli* (*E. coli*) or non-*E. coli* organisms.

Statement 4 Children and young people who have had a urinary tract infection are given information about how to recognise re-infection and to seek medical advice straight away.

## Quality statement 1: Presentation with unexplained fever of 38°C or higher

This statement has been removed. For more details see [update information](#).

## Quality statement 2: History and examination – recording of risk factors

### Quality statement

Infants, children and young people with a urinary tract infection have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

### Rationale

Presenting symptoms, findings on examination, results of urine testing and knowledge of risk factors are all important when a diagnosis of urinary tract infection is being considered. Recording of risk factors is a cumulative process as part of the history and examination of an infant, child or young person with a urinary tract infection. Recording of risk factors is also important in order to identify whether onward referral and further investigations will be needed.

### Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

### Structure

Evidence of local arrangements to ensure that infants, children and young people (under 16 years) with a urinary tract infection have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

**Data source:** Local data collection.

### Process

Proportion of infants, children and young people with a urinary tract infection who have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

**Numerator** – the number of people in the denominator who have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

**Denominator** – the number of infants, children and young people (under 16 years) with a urinary tract infection.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** ensure that systems are in place for infants, children and young people with a urinary tract infection to have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

**Healthcare practitioners** ensure that infants, children and young people with a urinary tract infection have risk factors for urinary tract infection and serious underlying pathology recorded as part of their history and examination.

**Commissioners** ensure that they commission services for infants, children and young people with a urinary tract infection where risk factors for urinary tract infection and serious underlying pathology are recorded as part of their history and examination.

**Infants, children and young people under 16** with a urinary tract infection have any factors that may put them at risk of urinary tract infection and of more serious underlying conditions recorded in their patient notes.

## Source guidance

Urinary tract infection in under 16s: diagnosis and management. NICE guideline NG224 (2022), recommendation 1.1.24

## Definitions of terms used in this quality statement

The NICE guideline on urinary tract infection in under 16s recommends that the following risk factors for a urinary tract infection and serious underlying pathology should be recorded as part of history and examination on confirmed urinary tract infection:

- poor urine flow
- history suggesting previous urinary tract infection or confirmed previous urinary tract infection
- recurrent fever of uncertain origin
- antenatally diagnosed renal abnormality
- family history of vesicoureteric reflux (VUR) or renal disease
- constipation
- dysfunctional voiding
- enlarged bladder
- abdominal mass
- evidence of spinal lesion
- poor growth
- high blood pressure.

[[NICE's guideline on urinary tract infection in under 16s, recommendation 1.1.24](#)]



# Quality statement 3: Laboratory reporting – differentiation of *E. coli* and non-*E. coli* organisms

## Quality statement

Infants, children and young people with a urinary tract infection caused by coliform bacteria have results of microbiology laboratory testing differentiated by *Escherichia coli* (*E. coli*) or non-*E. coli* organisms.

## Rationale

Most urine infections are caused by *E. coli* bacteria, which belong to a group of bacteria called coliforms.

If a urinary tract infection is caused by a non-*E. coli* coliform or any other type of bacteria, there is an increased risk of serious underlying pathology. NICE guidance recommends that infants, children and young people (under 16 years) with atypical urinary tract infection (which includes infection with non-*E. coli* organisms) should have ultrasound of the urinary tract during the acute infection. It is therefore important that laboratory test reports differentiate between *E. coli* and non-*E. coli* organisms to identify whether further investigations are needed.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

Evidence of local arrangements to ensure that microbiology laboratories detecting coliform bacteria as a cause of a urinary tract infection report results differentiated by *E. coli* or non-*E. coli* organisms.

**Data source:** Local data collection.

## Process

Proportion of infants, children and young people with a urinary tract infection caused by coliform bacteria who have results of microbiology laboratory testing differentiated by *E. coli* or non-*E. coli* organisms.

Numerator – the number of people in the denominator who have results of microbiology laboratory testing differentiated by *E. coli* or non-*E. coli* organisms.

Denominator – the number of infants, children and young people (under 16 years) with a urinary tract infection caused by coliform bacteria.

Data source: Local data collection.

## What the quality statement means for different audiences

**Service providers** ensure that systems are in place for infants, children and young people with a urinary tract infection caused by coliform bacteria to have results of microbiology laboratory testing differentiated by *E. coli* or non-*E. coli* organisms.

**Healthcare practitioners** ensure that infants, children and young people with a urinary tract infection caused by coliform bacteria have results of microbiology laboratory testing differentiated by *E. coli* or non-*E. coli* organisms.

**Commissioners** ensure that they commission services for infants, children and young people with a urinary tract infection caused by coliform bacteria that report results of microbiology laboratory testing differentiated by *E. coli* or non-*E. coli* organisms.

**Infants, children and young people under 16** with a urinary tract infection caused by coliform bacteria (a type of bacteria that usually live in the digestive system) have laboratory test results that show whether these bacteria were *E. coli* or not, to identify whether further investigations are needed.

## Source guidance

Derived from definitions of atypical urinary tract infection as outlined in the [NICE guideline on urinary tract infection in under 16s: diagnosis and management](#).

## Definitions of terms used in this quality statement

The [NICE guideline on urinary tract infection in under 16s](#) specifies atypical causes of urinary tract infection, and includes non-*E. coli* organisms as an atypical cause in infants, children and young people.

## Quality statement 4: Information about recognising re-infection

### Quality statement

Children and young people who have had a urinary tract infection are given information about how to recognise re-infection and to seek medical advice straight away.

### Rationale

Some children and young people will experience a recurrence of urinary tract infection, and it is important that such infections are recognised and treated quickly to reduce the risk of complications.

Children and young people (and parents and carers) should be aware of the importance of seeking medical advice straight away if they think there is another urinary tract infection.

### Quality measure

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

### Structure

Evidence of local arrangements to ensure that children and young people (under 16 years) who have had a urinary tract infection are given information about how to recognise re-infection and to seek medical advice straight away.

Data source: Local data collection.

### Process

Proportion of children and young people who have had a urinary tract infection who receive information about how to recognise re-infection and to seek medical advice straight away.

**Numerator** – the number of people in the denominator who receive information about how to recognise re-infection and to seek medical advice straight away.

**Denominator** – the number of children and young people (under 16 years) who have had a urinary tract infection.

**Data source:** Local data collection.

## Outcome

**Patient satisfaction** with information received about how to recognise re-infection and to seek medical advice straight away.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** ensure that systems are in place to give children and young people who have had a urinary tract infection information about how to recognise re-infection and to seek medical advice straight away.

**Healthcare practitioners** give information to children and young people who have had a urinary tract infection, and/or their parents or carers, about how to recognise re-infection and to seek medical advice straight away.

**Commissioners** ensure that they commission services in which children and young people who have had a urinary tract infection, and/or their parents or carers, are given information about how to recognise re-infection and to seek medical advice straight away.

**Children and young people under 16** who have had a urinary tract infection, and/or their parents or carers, are given information about how to recognise if they have another infection and to seek medical advice straight away.

## Source guidance

Urinary tract infection in under 16s: diagnosis and management. NICE guideline NG224 (2022), recommendation 1.6.1.2

## Definitions of terms used in this quality statement

The healthcare practitioner (for example, a GP or hospital paediatrician) should give children and young people who have had a confirmed urinary tract infection, and/or their parents or carers, information and advice about possible re-infection and the importance of seeking medical advice straight away if there are signs of another urinary tract infection.

## Equality and diversity considerations

Treatment and care, and the information given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

Children and young people with a suspected or confirmed urinary tract infection, or their parents or carers, should have access to an interpreter or advocate if needed.

## Update information

**July 2022:** Changes have been made to align this quality standard with the updated [NICE guideline on urinary tract infection in under 16s](#). Statement 1 on presentation with unexplained fever has been removed because it is no longer a priority area for quality improvement. Links, definitions and source guidance sections have also been updated throughout.

## About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision-making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about [how NICE quality standards are developed](#) is available from the NICE website.

See our [webpage on quality standard advisory committees](#) for details about our standing committees. Information about the topic experts invited to join the standing members is available from the [webpage for this quality standard](#).

NICE has produced a [quality standard service improvement template](#) to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

NICE produces guidance, standards and information on commissioning and providing high-quality healthcare, social care, and public health services. We have agreements to provide certain NICE services to Wales, Scotland and Northern Ireland. Decisions on how NICE guidance and other products apply in those countries are made by ministers in the Welsh government, Scottish government, and Northern Ireland Executive. NICE guidance or other products may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

## Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance. Organisations are encouraged to use the [resource impact statement for NICE's](#)



[guideline on urinary tract infection in under 16s](#) to help estimate local costs.

## Diversity, equality and language

Equality issues were considered during development and [equality assessments for this quality standard](#) are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

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## Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

## Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- [Royal College of General Practitioners \(RCGP\)](#)
- [Royal College of Nursing \(RCN\)](#)
- [Royal College of Paediatrics and Child Health](#)