

Children with RECURRENT URINARY TRACT INFECTION



Compiled by members of the



Nottingham University Hospitals 
NHS Trust

Design: Room at the Top Design, Nottingham • Illustrations: Jan Smith
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A guide for families

Will urine infection damage my child's kidneys?

The majority of children with urine infections, even if recurrent, have no problems and the kidneys remain perfectly healthy.

However damage to the kidneys can occur either from severe reflux in the womb before the baby is born and can occur in children who have severe reflux and infection after birth. It is therefore important for tests to be carried out to detect reflux in your child and define whether there has been any scarring or damage to the kidneys.

Scars on the kidney can lead to high blood pressure (hypertension) but again this is very uncommon. Children who have damage to both kidneys can have chronic kidney damage and need to be followed long term in clinic. Again it should be stressed that most children with urine infections do **not** have long term damage.

Will my child require an operation?

Very few children require an operation. Your child may require an operation if there is an abnormality of the kidneys or bladder that causes blockage to the urine flow. In children who have reflux we usually treat them with antibiotics and only rarely do we need to operate to tighten or reimplant the ureters as they enter the bladder (see diagram). Remember most children with urine infections recover completely. We hope that your child's problem will also improve by following some of the steps in this booklet. Please ask the doctor or nurse if you have any questions.

What is a UTI



We say that your child has a Urinary Tract Infection (or UTI for short) when we grow bacteria (germs) in a properly collected urine sample. Your child usually will have symptoms as well.

Why do recurrent UTI's in children matter?

They do matter as your child may have recurrent illness associated with urine infection. They may also lose bladder control and have problems with wetting. In some children urine infections point to an abnormality of the urinary tract (see diagram) that might need treatment. One such abnormality is a condition called 'vesicoureteric reflux' or reflux for short which we will tell you more about later in this booklet.

What are the symptoms (complaints or signs) of a UTI in children?

A lot of children have bladder or cystitis like symptoms which include:

- 1 Discomfort or crying when the child passes urine - we call this dysuria. Because of the discomfort you might notice your child being reluctant to go to the toilet.
- 2 The child needs to go to the toilet very frequently.
- 3 The child begins to wet his or her pants during the day or night.
- 4 The urine is cloudy and strong smelling
- 5 The urine has blood in it - we call this haematuria.
- 6 The child may complain of tummy pain.



Some children may have a more severe infection involving the kidneys called pyelonephritis and we suspect this when they have a very high temperature, severe stomach or back pains, vomiting and are unwell.

What shall I do if I suspect a urine infection?

To prove a urine infection we need to obtain a **proper urine sample** for sending to the laboratory. This may be obtained by one of the following methods. Please check with the nurse if you are unclear as to how to collect a sample from your child.



1 MIDSTREAM SPECIMEN OF URINE (MSU) - This is the method used to collect urine specimens in all children who can pass urine when asked to. The reason that we ask for a midstream specimen is that the beginning of the stream can be contaminated by organisms (bacteria, as mentioned earlier) which are around the entrance of the urethra (see diagram). The child should be encouraged to pass some urine, stop and then pass some into a sterile container.

2 CLEAN CATCH URINE - Infants and young children often pass urine after they have been given milk or other feeds. Although it requires some patience urine can be collected into a **sterile** tray provided by the surgery/clinic or you can catch part of the urine stream directly into the **sterile** container. Collecting urine into a potty is **NOT** acceptable.

3 A URINE BAG may be used in infants. Your child's private part should be cleaned with cool boiled water and the bag applied. The bag should be emptied immediately once urine has been passed. The urine

Please make sure that your child gets the antibiotic on a regular basis and report to the doctor if there are any problems with your child taking the medicine regularly. We have a long experience of children on prophylaxis for many years and very few problems have occurred. If you do have any objections to your child receiving long term antibiotics please be frank and discuss the point with the doctor in the clinic, The following points are very important:



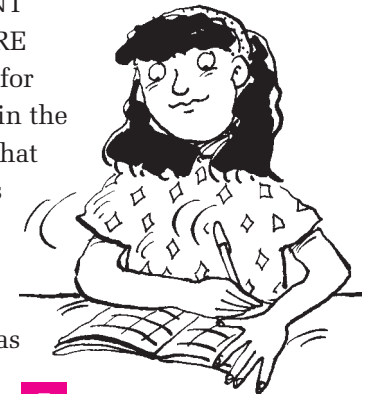
1 Try to avoid **missing** any doses.

2 Do **not** double up the dose if your child has a suspected urine infection. Do obtain a urine culture and take it to your doctor or clinic.

3 If your child is given another antibiotic for an infection such as a sore throat, then **continue** the prophylactic antibiotic.

Recording infections

If your child has symptoms then it is **IMPORTANT** that your child always has a urine culture **BEFORE** the antibiotic is changed. Please ask your doctor for the result of the urine culture and write it down in the back of this book. You should also write down what antibiotic was given and check that the urine has cleared of infection with a follow up culture one week after stopping the antibiotics. Please **bring the book** to the childrens clinic whenever you attend so that the hospital doctor can see what has happened since you were last seen.





2 Encourage your child to drink plenty and **EMPTY THE BLADDER** adequately. Sometimes children have to be reminded to use the toilet every 2-3 hours. Also check that your child is using the toilet at breaktime at school.

3 In young girls it is important to **AVOID ANY IRRITANTS** in the vaginal area. Sometimes bubble bath and soaps can be such an irritant and we generally advise you avoid these in young children suffering recurrent problems.

4 Also in young girls proper wiping from front to back after they have been to the toilet may also be important.

5 Try to ensure that your child wears loose cotton underwear rather than tight nylon underwear.

6 In young boys the foreskin may be a source of infection and this area should be kept clean.

What if my child is found to have reflux?

This refers to the passage of urine back up the bladder to the kidney or kidneys as illustrated in the diagram. Urine may carry infection with it and this could lead to damage of the kidneys.

We may suggest that your child should receive antibiotics in a single dose every night. We call this 'prophylaxis'. By using a very small dose we hope to prevent further infections occurring, whilst avoiding problems with your child becoming resistant to the antibiotics.

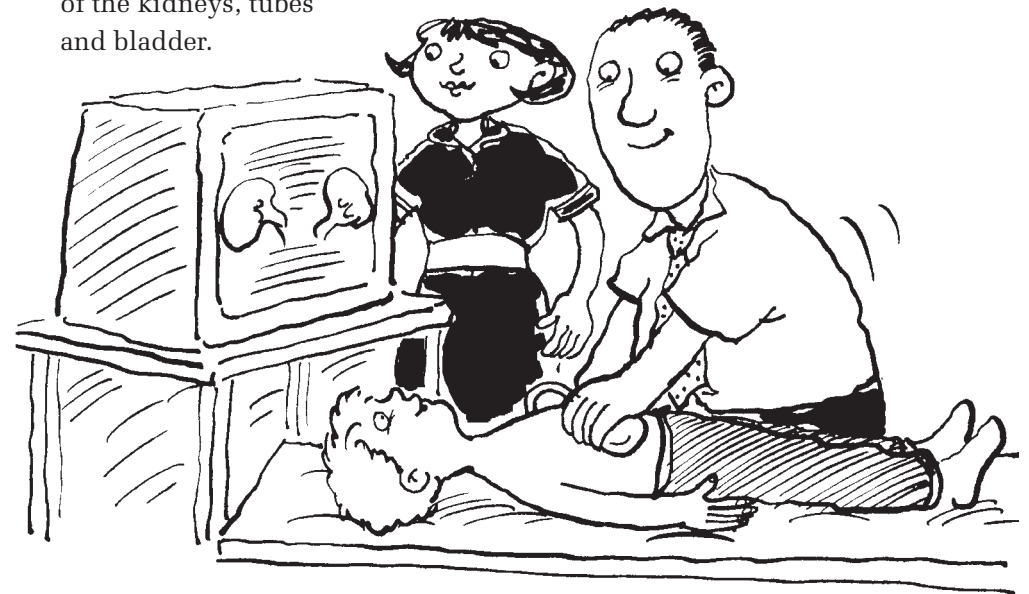
should be put into the proper urine container from the bottom end of the bag and not out through the top. It is easy to contaminate such bags and you may have to start again. Some units use special PADS to collect urine.

4 SUPRAPUBIC OR CATHETER SPECIMEN

Only in special circumstances in young children do we obtain urine from the bladder by using a needle or using a catheter directly into the bladder.

What investigations will my child require?

1 The first investigation we usually do for children with UTI is an **ULTRASOUND** scan (US Scan). This test does not involve any injections or x-rays but just some cold jelly on your child's stomach and back. It helps us to see the outline of the kidneys, tubes and bladder.



2 BLADDER X-RAY (known as micturating cystourethrogram or MCUG).

We only use this test in very young children or those in whom we want to check whether there is an abnormality of the bladder or a weakness of the tubes leading back from the bladder to the kidneys (known as vesicoureteric reflux or reflux for short). This test does involve x-rays and the injection of a dye through a small tube which is passed up the urethra into the bladder. Your child should always be on antibiotics for the day before the day of the test and one day afterwards to guard against any infection that might have been introduced by the tube.

3 RADIONUCLIDE TESTS involve an injection of dye into the vein. This enables us to see the kidneys in more detail and/or check whether there is blockage to the out flow from the kidneys. These two types of tests are known as DMSA or MAG 3 scan. You will need to bring your child to the day case ward for these tests.

4 INTRAVENOUS UROGRAM (or IVU) CT or MRI SCANS - These tests are only carried out in certain circumstances. The need for them will be carefully explained by the doctor.

How can I find out more about these tests and prepare my child?

Our unit and others have produced information booklets about these tests which help prepare you and your child. You should be sent one of these booklets when the test is booked. If you can read the booklet to your child it will help to prepare them for the test they are to undergo.

Some parents are anxious about telling their children about procedures as they are afraid this will upset them.

However, research has shown that it is beneficial to prepare them.

Although the child may

become upset when

told at home, this

gives them a chance

to learn what lies

ahead and gain

reassurance of their

parents. Further help

may be available from

the hospital. Do talk to the

nurse or doctor if you have any questions.

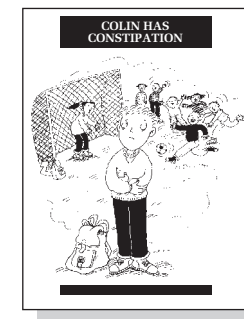


What can I do to prevent further infection?

You have probably already received some information about this already but in case not we would advise the following:

1 Avoiding constipation - Children who are constipated may not empty their bladder very well.

Often parents do not know that their children are constipated but if you suspect it then ask for advice about dietary treatment for your child. A healthy eating diet which includes high fibre food such as wholemeal bread, wholewheat cereals with fresh fruit and vegetables should be encouraged. There is a story booklet available called 'Colin has Constipation'.



Sometimes laxatives may be prescribed for your child but these are not the answer in the long term.

