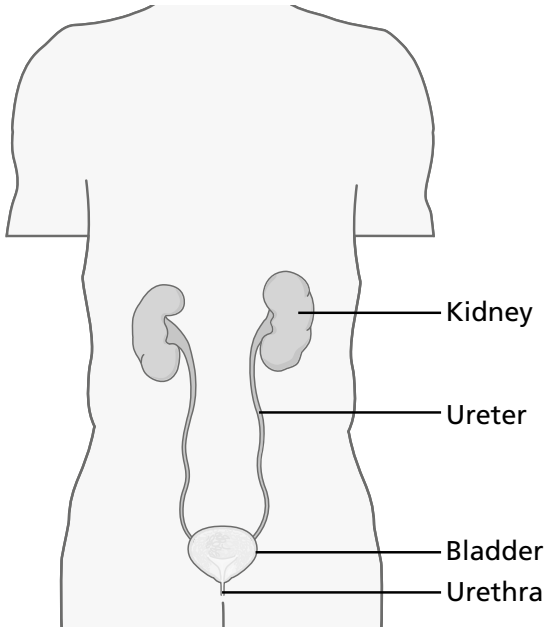
Great Ormond Street Hospital for Children NHS Trust: Information for Families

Urinary tract infections in children with abnormal urinary tracts

This information sheet explains about urinary tract infections (UTI) in children with a known problem with the urinary tract. UTI in these children are quite common but very different to urinary tract infections in other children.



What is a urine infection?

It is an infection affecting one of the various parts of the urinary system. Doctors often call it a urinary tract infection or UTI for short.

The urinary system consists of the kidneys, ureters, the bladder and urethra. The kidneys filter the blood to remove waste products and produce urine. The urine flows from the kidneys down through the ureters to the bladder, where it is stored until we go to the toilet. It passes through another tube called the urethra to the outside when urinating (peeing).

What is different about UTI in children with known problems with the urinary tract?

Some children are born with a problem with the urinary tract. There can be different malformations, such as posterior urethral valves, hydronephrosis and hydroureters or severe vesicoureteric reflux. For more information on these conditions, please see our other information sheets.

All these malformations have one thing in common, that is, the urine flow is not normal. It can be slow due to an obstruction or narrowing of the ureter for instance. There can also be 'residual urine', which means that the bladder is not emptied totally when peeing, leaving some urine behind.

These problems increase the risk of developing a UTI. A UTI has more impact on children with a known problem with the urinary tract, as often they have kidney problems present from birth (congenital). If this is the case with both kidneys, or the child only has one kidney, then there is a risk that he or she has impaired kidney function.

Ref: 2011F0273

What kinds of UTI are there?

There are three kinds of UTI, each with different symptoms, but all of which can be very important for a child with a known problem with the urinary tract.

Acute pyelonephritis means 'infection of the kidneys'. This is the most important infection as it can cause kidney damage. It is therefore very important to diagnose and treat pyelonephritis rapidly. The main sign of a kidney infection is a very high temperature. A child will also have symptoms of being generally unwell, such as vomiting, drowsiness, difficulty feeding or pain affecting the stomach or sides. If your child develops an unexplained fever or any of these symptoms, you should always make sure that his or her urine is tested for infection. If there are signs of infection, your doctor should prescribe a course of antibiotics, which can prevent kidney damage. You should always ensure that your child completes the course of antibiotics, even if he or she seems to be getting better. If your child does not complete the course of antibiotics, then this could allow the infection to come back and possibly not respond so well to antibiotics the next time.

Acute cystitis means 'infection of the bladder'. This often gives a lot of pain in the stomach and discomfort when peeing. The urine can also contain blood and so look a red or pink colour. Generally, a child with a bladder infection will not have as high a temperature as a kidney infection. The infection needs treatment to take away the pain but it does not cause kidney damage.

Asymptomatic bacteriuria (ABU) means that bacteria are growing in the urine but is not producing any symptoms. Children with normal urinary tracts sometimes get ABU and it is very common in children with any kind of problem with urine flow. It is not dangerous as it does not have any symptoms and does not lead to kidney damage. It is also very difficult to treat. Even if antibiotics treat the bacteria, it will often come back after a few days. Treatment with antibiotics is therefore reserved for when symptoms are present.

How can recurrent UTI be treated?

The most important thing is to create a good flow of urine. Encouraging drinking of plenty of fluids combined with regular peeing and avoidance of constipation are extremely important ways of preventing infections. This might mean an operation to remove any obstruction. Sometimes, this is not enough and we will ask you to regularly insert a catheter (thin, plastic tube) into your child's bladder through the urethra to drain away the urine (urethral catheterisation). Catheterisation can also be done by inserting a catheter into a 'Mitrofanoff' channel. The Mitrofanoff procedure creates a channel into the bladder through which a catheter can be inserted to empty the bladder of urine, instead of passing urine through the urethra. Information about both these methods of catheterisation are available from ward staff or on our website.

Sometimes, if catheterisation is not effective at draining away and your child is still having repeated infections, we may suggest long-term antibiotics for

prevention. This preventative treatment does not work for all children and can cause problems with antibiotic resistance, making it more difficult to treat future infections effectively.

Remember

- Children with known urinary tract problems are very prone to developing urinary tract infections (UTI).
- Only some types of UTI cause kidney damage, and these normally cause a very high temperature and symptoms of being generally unwell.
- These types of UTI need to be diagnosed and treated as early as possible to prevent kidney damage.
- If your child has a very high temperature or is generally unwell with no obvious cause, ask your doctor to test your child's urine.

Notes

Compiled by the Nephrology Department in collaboration with the Child and Family Information Group

Great Ormond Street Hospital for Children NHS Trust
Great Ormond Street
London WC1N 3JH

www.gosh.nhs.uk

