



Pyeloplasty

This leaflet explains a pyeloplasty and what to expect when your child comes to Great Ormond Street Hospital (GOSH) for this operation.

How does the urinary system work?

The urinary system consists of the kidneys, the bladder and ureters. The kidneys filter the blood to remove waste products and form urine. The urine flows from the kidneys down through the ureters to the bladder.

The ureters tunnel through the wall of the bladder at an angle to form a flap that acts as a valve. There is also a ring of muscle (sphincter) at the junction of the bladder and the urethra that stops urine leaking out in between pees.

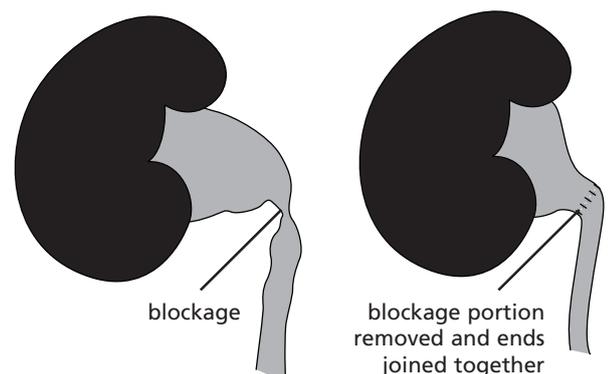
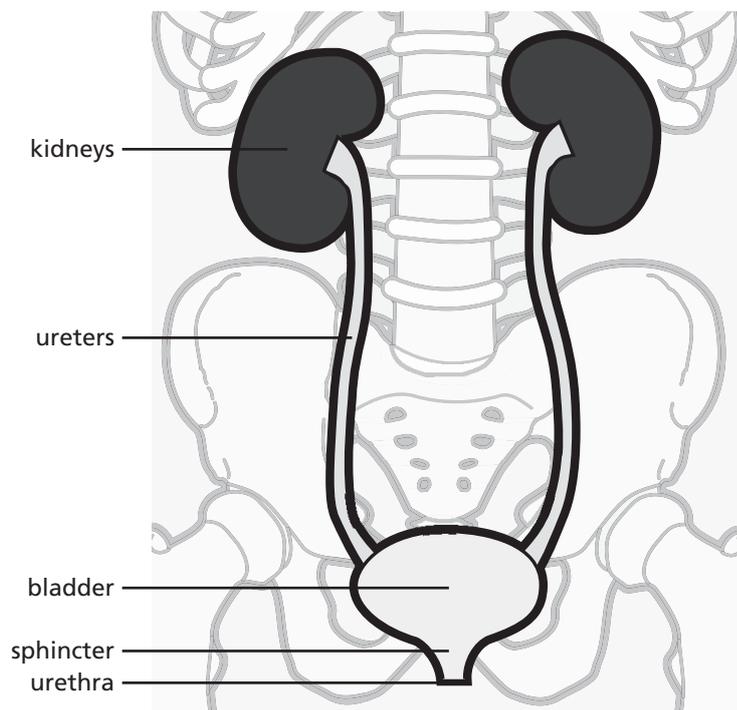
When peeing, the muscles of the bladder wall squeeze the urine out of the bladder, at the same time as the muscles in the sphincter need to relax to let the urine flow down the urethra.

The valves between the ureters and bladder prevent urine flowing backwards into the ureters, so that all the urine in the bladder is passed in one go, as the urine cannot travel anywhere else. As the urine leaves the bladder at a high pressure, the valves stop this high pressure being passed on to the kidneys.

What is a pyeloplasty and why is it needed?

A pyeloplasty is an operation to remove a blockage in one of the ureters at the junction with the kidney.

The blockage in one of the ureters is stopping urine flowing easily from the kidney into the bladder. The blockage is usually present from birth, but occasionally may appear later. If the ureter remains blocked, the kidney could become swollen and damaged. Sometimes, the blockage is caused by blood vessels getting in the way of the ureter. In this case, they will be moved and secured away from the ureter during the operation, but not removed.





What happens before the pyeloplasty?

You will receive information about how to prepare your child for the operation in your admission letter. We will also invite you to come to a pre-admission clinic. This is an outpatient appointment where you will be able to discuss the operation with the team before coming in to hospital. Your child will also have various tests and investigations during this appointment. This avoids any delays on the day of the operation.

On the day of the operation, your child should not have anything to eat or drink before the operation, for the amount of time specified in the letter. It is important to follow these instructions; otherwise your child's operation may be delayed or even cancelled.

Your child's surgeon will visit you to explain about the operation in more detail, discuss any worries you might have and ask you to give your permission for the operation, by signing a consent form. An anaesthetist will also visit you to explain about the anaesthetic and pain relief after the operation. If your child has any medical problems, such as allergies, please tell the doctors. Please also bring in any medicines your child is currently taking.

What does the operation involve?

The operation is carried out under general anaesthetic and lasts for between 1½ and 2½ hours.

The blockage can either be removed using keyhole surgery (laparoscopy) or traditional open surgery. Your surgeon will discuss with you which method is most appropriate for your child.

In keyhole surgery, the surgeon uses a telescope, with a miniature video camera mounted on it, inserted through a small incision (cut) to see inside the abdomen. Carbon dioxide gas is used to inflate the abdomen to create space in which the surgeon can operate using specialised instruments that

are also passed through other smaller incisions (cuts) in the abdomen. The small incisions are covered with Steri-strips®.

In traditional open surgery, the surgeon will make an incision (cut) in his or her side over the kidneys. The incision will be closed using dissolvable stitches and covered with Steri-strips®.

Whichever method is used, the surgeon will locate the blockage in the ureter, remove the affected section and join the cut ends of ureter again.

They may insert either a blue stent or a JJ stent into the ureter to keep it stable while it heals. Both types of stent will need to be removed some weeks after the operation. The blue stent is removed on the ward one week after surgery. The JJ stent is removed in a short procedure under anaesthetic around six weeks after the operation.

Are there any risks?

There is a chance that keyhole surgery will not be possible for your child. Sometimes the surgeon will not be able to carry out an operation using the keyhole method for technical reasons, or because of unexpected findings. If this is the case, the surgeon will carry out the operation using a larger incision (cut) instead.

All surgery carries a small risk of bleeding during or after the operation. There is a risk that bleeding could occur when the surgeon removes the blocked section of ureter, but usually there is only a small amount of bleeding, which does not cause any problems. There is a risk that urine could leak from the join in the ureter. Placing a tube ('blue stent') in the ureter to drain urine can help prevent this from happening. There is a small chance that the join may narrow so the flow of urine becomes blocked again, which may mean your child would need to have a second operation. There is a risk of infection associated with all types of surgery, but your child will usually continue to take the antibiotics previously prescribed to prevent any infection developing.



Every anaesthetic carries a risk of complications, but this is very small. Your child's anaesthetist is an experienced doctor who is trained to prevent and deal with any complications.

What happens after the operation?

Your child will recover from the anaesthetic and operation on the ward and will be able to eat and drink soon afterwards, when he or she feels like it. When he or she comes back from the operating theatre, there may be a thin, plastic tube ('blue stent') draining urine from your child's kidney to give the ureter time to heal; this is usually blocked off one or two days after the operation, after which you and your child will be able to go home.

When you get home:

It is quite normal for your child to feel uncomfortable for a day or two after the operation. Usually paracetamol will be enough to relieve any pain, if you give it every four to six hours for the next day or so.

If your child needs stronger medicine, we will give you some before you go home. If when you get home you feel that your child needs more powerful pain relief medicines, you should call your GP.

In the days after the operation, you should encourage your child to drink plenty of fluids to flush out the kidneys.

Your child should not have a bath or shower for two days after the operation. After this, it is fine for your child to have a shower, but try to avoid long baths as this may cause the scab to soften and fall off too early.

The operation site will be closed with Steri-strips®. The Steri-strips® usually fall off of their own accord, but if they have not fallen off within a week, you can soak them off using a wet flannel.

What happens next?

You will need to come back to the ward a week after your child's operation so that the 'blue stent' can be removed. This can be a bit uncomfortable, so make sure that your child has the maximum dose of pain relief possible beforehand. The ward staff will give you details of this appointment before you leave the ward. If your child has a JJ stent in place, this will be removed around six weeks afterwards in a short procedure under anaesthetic.

Your child can go back to school when he or she is feeling well again, but should avoid rough and tumble play and contact sports until after the outpatient appointment.

The doctor will see you and your child for a check up about three months after the operation. We will send details of this appointment to you by post to your home address.

You should call the ward or your family doctor (GP) if:

- Your child is in a lot of pain and pain relief does not seem to help
- The wound site looks red, inflamed and feels hotter than the surrounding skin
- There is any oozing from the wound
- Your child has a lot of blood in his or her urine
- The stent falls out
- Your child develops a high temperature

If you have any questions, please call 020 7405 9200 and ask for the ward from which your child was discharged.