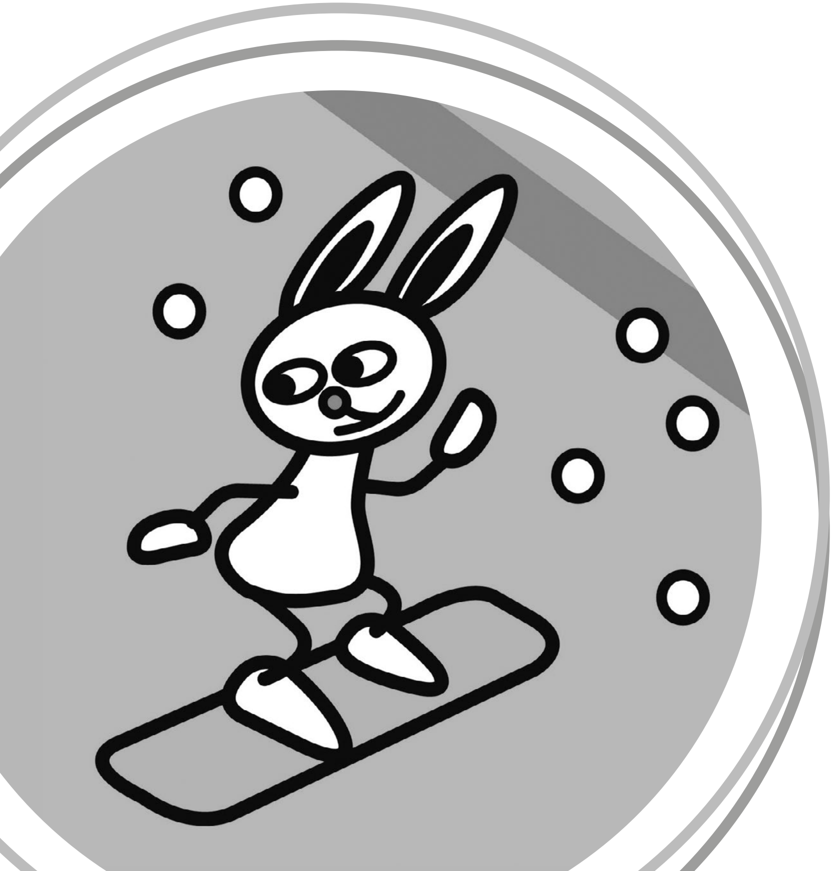
Oxford University Hospitals
NHS Foundation Trust

Posterior urethral valves

Information for parents and carers



Oxford Children's Hospital

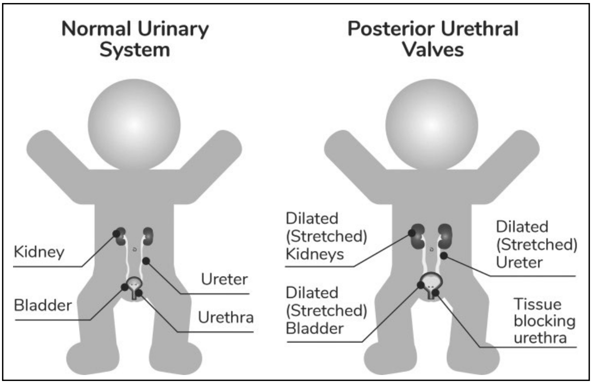
What are posterior urethral valves (PUV)?

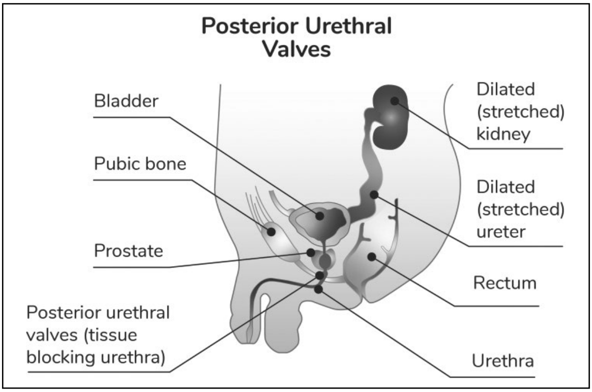
Posterior urethral valves (PUV) is a problem that occurs only occurs in boys and is usually diagnosed antenatally. It affects the urethra (the tube which carries urine from the bladder to the outside).

The urethra is made up of two main parts; the part which runs through the penis (anterior urethra) and the part which is close to the bladder (posterior urethra).

PUV occurs when there is a blockage in the posterior urethra, near the bladder. This makes it difficult for your baby to pass urine (have a wee). As the bladder squeezes to try to pass urine, it causes pressure which may result in urine being pushed back from the bladder into the ureters and kidneys. This causes the kidneys and bladder to swell and may lead to kidney damage.

PUV affects 1 in 8000 new born baby boys. It happens in the early stage of pregnancy when the organs of the baby are developing. It is not thought to be inherited or due to anything a mother did or ate during pregnancy.





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How can we diagnose PUV?

PUV are often picked up on antenatal scans when a baby boy is found to have an enlarged bladder, kidneys or ureters.

It can also be diagnosed when a baby is born, as they won't be able to pass urine easily, if at all.

However, in less severe cases, it might not be until your child is older when symptoms develop such as:

- difficulty in passing urine
- a weak stream of urine
- an enlarged bladder which can be felt as a hard lump in their abdomen (tummy area)
- urinary tract infections (UTIs)
- increased frequency of passing urine
- dribbling urine after weeing and day-time and/or night wetting in toilet-trained children.

An important part of the diagnosis of PUV is to use scans and X-rays.

- **Ultrasound scan**: Antenatal and postnatal ultrasound (during and after your pregnancy) is very useful for looking at your child's kidneys and bladder and detecting any obvious swelling or abnormalities.
- **Micturating cystourethrogram (MCUG)**: This test involves inserting a urinary catheter (very fine tube) into your child's bladder and injecting contrast (dye) through it and then taking X-rays of the abdomen. This helps to show up the urethra and any blockages within it. It is also the best way to check whether your child has urinary reflux (a flow back of urine from the bladder into the ureters and kidneys).
- **Cystoscopy**: This involves inserting a small tube with a camera attached to it into your child's bladder through their urethra. This allows the inside of the urethra and bladder to be seen and gives the best view of the valves. This test is done under general anaesthetic so your child will be asleep throughout the procedure.

- **Blood tests**: Kidney function can be checked using simple blood tests to see how well your child's kidneys are working.

How is PUV treated?

Most cases of PUV are treated with surgery. This involves using a cystoscope (small tube with a camera attached to it) being inserted into the urethra in the penis. The blockage can be seen through the camera and then removed.

What happens before the operation?

Once your child is diagnosed as having PUV, he will be admitted to hospital. He will have a catheter inserted to help remove the urine. A catheter is a very thin plastic tube which is inserted into the urethra, past the blockage into the bladder. This should help him to feel more comfortable as it will relieve any pressure which has been building up. It will remain in place until the operation and usually stay in for about 2 days afterwards.

The doctor will explain the operation in more detail and talk with you about any concerns you may have.

An anaesthetist will visit you to discuss the anaesthetic your child will have for the operation. They will also talk with you about the pain relief which your baby will need after the operation.

We will ask you for your written consent for the operation to go ahead. If there is anything you are unsure about, or if you have any questions, please ask the doctor before signing the consent form.

What does the operation involve?

The operation is carried out under a general anaesthetic.

This means your baby/child will be asleep throughout the operation. You can go with them to the anaesthetic room and stay with them until they are asleep, unless your baby is on the neonatal unit as they will go straight to surgery. The surgeon uses a cystoscope so they can see the PUV. They will then remove the blockage, this is called ablation.

Your baby may also have an extra tube put in their bladder through the lower part of their abdomen (a suprapubic catheter) immediately after the blockage removal. This will help drain their bladder and reduce the pressure on their kidneys.

We may need to repeat the cystoscopy a few weeks after the first test to divide any residual valves.

Are there any risks?

Surgical risks:

Any surgery carries a small risk of infection or bleeding.

Excess bleeding during and after the procedure is rare. There is also a small risk of infection and your child will be given antibiotics to help prevent this from happening.

In some cases, it is not possible to successfully remove the blockage. This is a problem which doesn’t happen very often but is more likely in very small babies. If this is the case for your baby, the procedure will be repeated when they are a few weeks older. During this time, they will continue to have the urinary catheter in place to help drain their bladder.

Very rarely, the urethra can be injured during the procedure. If this happens, the urinary catheter will remain in place for longer to allow any damage to heal.

Anaesthetic risks:

In modern anaesthesia, serious problems are uncommon. Risk cannot be removed completely, but modern equipment, training and drugs have made general anaesthesia a much safer procedure in recent years.

Most babies and children recover quickly after their operation and anaesthetic. Some babies may suffer side effects like sickness. These usually last only a short time and there are medicines available to treat them if necessary.

The exact likelihood of complications depends on your baby/child’s medical condition and on the nature of the surgery and anaesthesia they need. The anaesthetist can talk to you about this in detail prior to the operation.

What happens after the operation?

When your baby wakes up and is ready to return to the ward, a nurse will take you to recovery to collect them. However, if your baby is on the neonatal unit, they will go back to the intensive care unit straight from surgery and you will be able to see them when they arrive. In this case, they keep their breathing tube until they wake up from the anaesthetic in intensive care. They will be able to drink/feed shortly after the operation but may need a ‘drip’ overnight to ensure they are getting enough fluid. This is a small tube which will be put into a vein. It is attached to a bag of liquid which will slowly ‘drip’ into their vein.

Your nurse will measure what is coming out of the urinary catheter tube as well as how much fluid your child is taking in, either by drinking or by drip. This is to make sure that there is good balance of urine being produced compared to how much liquid they are being given. Your baby/child will stay in hospital overnight and should be able to go home the next day, as long as they have no other medical needs.

The hospital experience is strange and unsettling for some children so do not be concerned if your child is more clingy, easily upset or has disturbed sleep. Just be patient and understanding.

What happens next?

The catheter will be removed after a few days. Your child will have an ultrasound of his kidneys 4-6 weeks after discharge home, and the doctor will see your child again for a check-up about three months after the operation.

Because PUV is congenital (present at birth) it can have a detrimental effect on his kidneys and/or bladder. Even when the valves have been corrected he will require monitoring throughout his childhood. Therefore, the doctors, including Paediatricians, Paediatric Nephrologists (medical kidney doctors) and Paediatric Urologists, will keep an eye on your child's bladder and kidney function using a series of tests and scans, usually until he is an adult.

How to contact us

If you have any questions or concerns about your child when you return home you can telephone:

Tom's Ward:

Telephone: **01865 234 109** or **01865 234 110** (24 hours)

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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