

PUJ Obstruction and Pyeloplasty

**Information for
parents and carers**



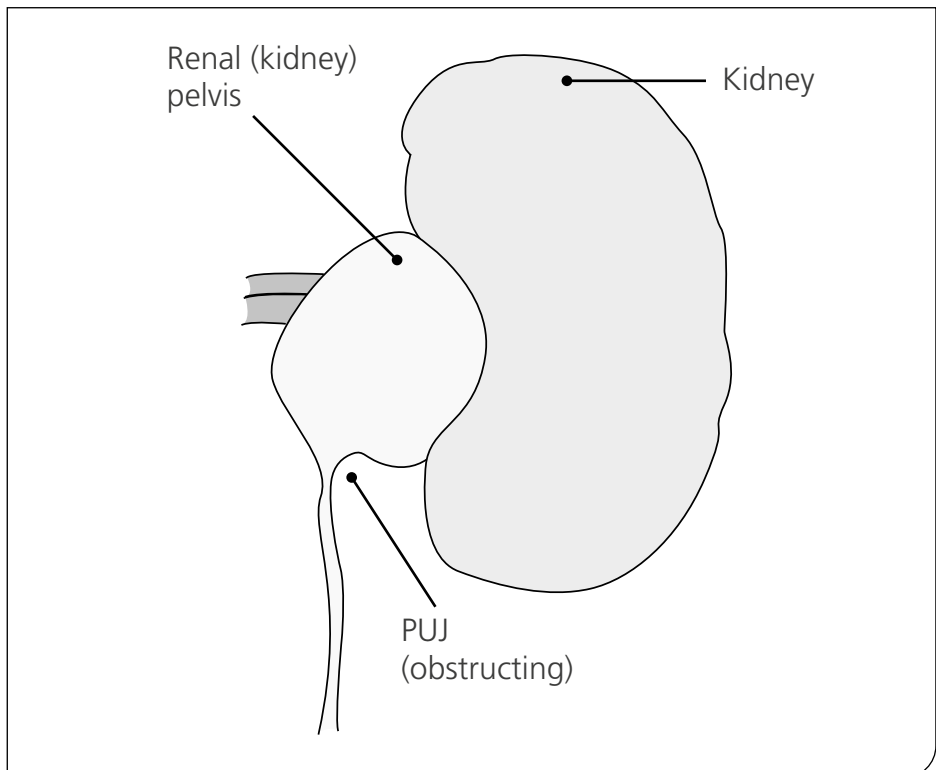
What is PUJ obstruction?

PUJ stands for 'pelvic ureteric junction'. This is the connection between the renal pelvis and the ureter (tube running from the kidney to the bladder).

The kidneys are made up of two parts; the filtering part and the collecting part. The renal pelvis is where the urine collects, to then drain down the ureter into the bladder.

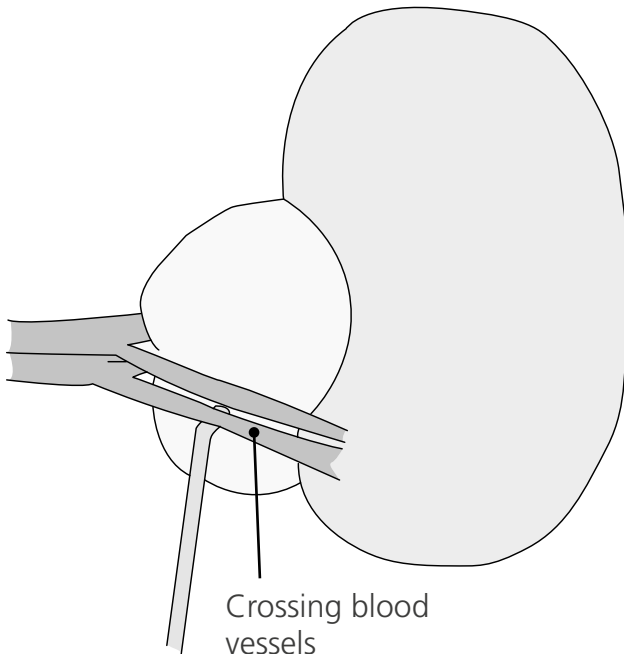
Sometimes the connection between the renal pelvis and the ureter is too narrow. This is called a pelvic ureteric junction obstruction (PUJ obstruction).

PUJ obstruction is quite rare, affecting only 1 in 1500 children. It can be present from birth, although it can take time for symptoms to become obvious.



Less commonly, the obstruction is caused by a blood vessel which crosses the renal pelvis, causing a blockage. This type of PUJ is often seen in older children. Because the obstruction is affected by blood flow the problem might stop and start, depending on how much blood is going through the vessel.

PUJ obstruction can cause pain, repeated urine infections, blood in urine, stone formation and progressive damage to the affected kidney, but often there are no symptoms at all.



How do we diagnose PUJ obstruction?

Diagnosis is normally made by using an ultrasound scan. This will show up dilatation (enlargement) of the renal pelvis but a normal size ureter. We also perform a special test called a MAG-3 which can show how well the kidney is working and draining.

Does it always need an operation?

No. If the MAG-3 shows that the kidney is draining and working well and your child does not have any pain or repeated urine infections, we will often not perform an operation. In this case we will monitor your child as an outpatient (checking urine, blood samples, weight, blood pressure, and ultrasonogram).

If a kidney is very badly damaged, it may be better to remove it instead of trying to repair it.

While your child is being monitored (non-operatively), we may recommend a low dose antibiotic. This helps prevent infections. You will be prescribed this while in the hospital, or started by the local team/GP. The dosage may need adjusting every 3–6 months as your child gains weight. These low dose antibiotics should continue until all the investigations have been completed, and your child has been reviewed in a Urology clinic by a consultant.

What happens before the operation?

If your child does need an operation, their surgeon will visit to explain the operation in more detail and discuss any worries or 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 child 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.

If your child has any medical problems or allergies, please tell the doctors. Please also bring in any medicines your child is currently taking. Your child will be admitted on the day of surgery.

What does the operation involve?

The operation is done under a general anaesthetic. This means your child will be asleep throughout the operation. You can go with your child to the anaesthetic room and stay with them until they are asleep. The nurse will then take you back to the ward.

The operation can be done both laparoscopically (by key hole surgery) and by open surgery. Laparoscopic surgery would involve several small cuts in the abdomen. Open surgery would be through a cut in their side just below the ribs.

The ureter is then disconnected from the renal pelvis and the narrow part of the ureter is removed. It is then reattached to the renal pelvis. This procedure is called **pyeloplasty**.

If there are blood vessels crossing the ureter, the ureter will be reattached to the renal pelvis in front of the vessels. This stops them from squashing the ureter and causing a blockage.

We use a temporary drainage tube while reattaching the pelvis to the ureter, this may be external (on the side) or internal (JJ stent). This temporary drainage tube helps in healing of the joint section. The external tube is removed within 5–7 days while the internal tube is removed within 3 weeks–3 months time. During this period, your child will remain on low dose antibiotics to prevent infection. They may occasionally develop intermittent rosea coloured urine, this goes away on it's own and harmless.

Are there any risks?

Surgical risks:

All operations carry with them risks and these will be explained in detail before you sign the consent form. However the risks are rare.

The most common risks are:

- bleeding
- infection
- slight muscle bulging (seen in open surgery). This is temporary and improves with time.
- urine may leak at the site where the ureter has been reattached
- re-narrowing may happen rarely.

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 children recover quickly after their operation and anaesthetic. Some children may suffer side effects like a sore throat or 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 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 child wakes up and is ready to return to the ward, a nurse will take you to recovery to collect them.

The nurses will monitor your child and give them pain relief to keep them comfortable. Your child will be assessed regularly for pain using a pain assessment chart. This will help the nurse to effectively manage your child's pain after the operation.

They will be able to drink 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 child may have a plastic tube (catheter) draining urine from their bladder. Your nurse will measure what is coming out of this tube as well as what fluid your child is taking in, either by drinking or by drip. This is to make sure that there is a good balance of urine being produced compared to how much fluid they are being given.

We do an abdominal X-Ray after catheter removal to check the position of the internal stent.

Most children go home within two days of surgery when they are more comfortable and are able to walk around.

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?

After the operation we will arrange for a follow-up outpatient appointment and scans. Usually the first scan we do is an ultrasound scan to check on your child's kidneys.

How to contact us

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

Tom's ward:

01865 234 111 or 01865 234 110 (24 hours)

For non-urgent queries, please email:

Paediatric.Urology@ouh.nhs.uk

Please include your child's NHS number and date of birth in the subject line when emailing.

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.

Author: Tom's Ward and Paediatric Urology Team

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