

PUJ Obstruction

What is PUJ obstruction?

Pelvi-ureteric junction obstruction (PUJ obstruction) is a condition that occurs when urine flow is impaired at the point where the renal pelvis drains into the ureter.

The kidney is comprised of a urine filtering and collecting system. Filtered urine collects in the renal pelvis and is then propelled down into the bladder via the ureter. When PUJ obstruction occurs, urine drainage is impaired, resulting in build-up of pressure within the kidney. This may cause pain, kidney stones, infections and in some cases damage to the kidney over time.

What causes PUJ obstruction?

Adult diagnosis of PUJ obstruction is usually considered primary or congenital when the connection between the renal pelvis and the ureter is too narrow, inhibiting the flow of urine. This may also be caused by a blood vessel crossing the renal pelvis causing a blockage. Secondary causes of PUJ obstruction in adults include:

- Trauma (injury) to the kidney (including previous stones or surgery)
- Previous pyelitis (bacterial infection of the kidney)
- Cancer of the ureter

What are the symptoms of PUJ obstruction?

Often, there are no obvious symptoms and PUJ obstruction is identified incidentally when the kidneys are scanned for other reasons.

Symptoms and signs may include:

- Pain, especially after drinking large volumes of liquid (after alcohol is classic)
- Recurring urine infections
- Presence of kidney stones
- Palpable mass (due to swollen kidney)

How is PUJ obstruction treated?

- Treatment for PUJ obstruction will depend on the underlying cause
- In some cases, no treatment is required
- In cases where there is a definite blockage, a surgical procedure known as pyeloplasty is used to correct it and prevent damage to the kidney

Pyeloplasty for treating PUJ obstruction

- Pyeloplasty a minimally-invasive (keyhole) procedure that is performed under general anaesthesia
- Several keyhole incisions are made in the abdomen, through which robotic or laparoscopic instruments are inserted
- The surgeon carefully removes the narrowed part of the ureter, before re-joining it to the renal pelvis
- Robotic-assisted laparoscopic surgery offers patients and surgeons many benefits including:
 - shorter hospitalisation
 - faster recovery
 - less pain following surgery
 - reduced blood loss
 - enhanced vision inside the body for the surgeon, as well as improved dexterity and precision movement of the surgical instruments.
 - reduced probability of re-scarring

Procedure outcomes

Robotic-assisted pyeloplasty is associated with a 97% success rate in treating PUJ obstruction.

The surgeons at Melbourne Urology Centre are highly trained and have extensive experience in managing patients with PUJ obstruction. They have access to the latest Da Vinci robotic platform to perform the surgery with a minimally invasive approach when treatment is indicated.

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Urology Care Foundation, (2021), Uteropelvic Junction (UPJ) Obstruction, [[https://www.urologyhealth.org/urology-a-z/u/ureteropelvic-junction-\(upj\)-obstruction](https://www.urologyhealth.org/urology-a-z/u/ureteropelvic-junction-(upj)-obstruction)], accessed 18/02/21.

Aaraj, M. S., Badreldin, A. M., (2020), Uteropelvic Junction Obstruction, StatPearls, online publication, [<https://www.ncbi.nlm.nih.gov/books/NBK560740/>], accessed 18/02/21.