New Zealand Urological Nurses Society Inc.
Promoting excellence in Urology Nursing

UROLOGY NEWSLETTER

June 2026

VICE CHAIRPERSON ADDRESS

Hin Leung
NZUNS Vice Chairperson

It is my pleasure to introduce myself as the Vice Chairperson of the New Zealand Urological Nurses Society (NZUNS). I am truly honoured to have the opportunity to contribute to the advancement of urology nursing within New Zealand.

I graduated with a Bachelor of Nursing from Hong Kong Polytechnic University in 2015 and completed a Master of Nursing, specialising in Urological Nursing, in 2019. My clinical background spans both medical and surgical nursing, providing me with a holistic perspective on patient care. Following the completion of my specialty training in 2022, I was recognised as an Advanced Practice Nurse (APN) by the Nursing Council of Hong Kong.

I am particularly passionate about nursing education and professional development. I have had the privilege of teaching at the university level and developing simulation-based training programmes for surgical nursing staff. I firmly believe that empowering nurses through education, leadership, and knowledge sharing is vital for the future of healthcare. This aligns closely with a core mission of NZUNS: providing our members with access to high-quality educational opportunities.

My international background has allowed me to appreciate the diversity of healthcare systems and nursing practices. I am pleased to represent NZUNS in *EFUNcore* which is an initiative to establish the knowledge and competency standards for urology nurses, supported by leading professional associations across Australia (ANZUNS), New Zealand (NZUNS), the United Kingdom (BAUN), and continental Europe (EAUN). I look forward to keeping our members updated on the developments and implementation of these standards.

In April, a Memorandum of Understanding (MOU) was signed between ANZUNS and NZUNS. This partnership is a significant milestone, granting our members access to webinars and online educational events hosted by ANZUNS, further bolstering professional learning in our field.

Looking ahead, I hope to leverage my professional network to explore collaborative opportunities with nursing societies in Hong Kong. By promoting international exchange and shared learning, we can build professional partnerships that benefit our members and the wider nursing community.

Thank you for your continued support of NZUNS. I look forward to meeting many of you at the upcoming Urology Conference in Napier from 28–30 October.

UPCOMING EVENTS

ANZSU - NZUNS Conference 2026
28 - 30 October 2026
Napier War Memorial Conference Centre

CALL FOR ABSTRACTS NOW OPEN

2026 NZUNS Awards to be won:
NZUNS Best Paper
Endoventure Most Innovative Paper
Cardinal Points Best New Presenter

REGISTRATION OPENING SOON

WWW.UROLOGYNZ.CO.NZ

THANK YOU TO OUR SUPPORTERS

ANZUNS · mobile medical · Prostate Cancer Foundation · BEAT Bladder Cancer Australia (Supporting the bladder cancer community. Let's BEAT bladder cancer together.) · Endoventure (Improving Healthcare) · Cardinal Points Specialist Clinic

Great news! This month marks the premiere of our bi-monthly column focused on Urological conditions.
Every two months, look for deep dives into a selected urological condition.
Check out our very first feature in this month's newsletter and stay tuned for more every other month!

PELVIURETERIC JUNCTION OBSTRUCTION (PUJO)

Definition:

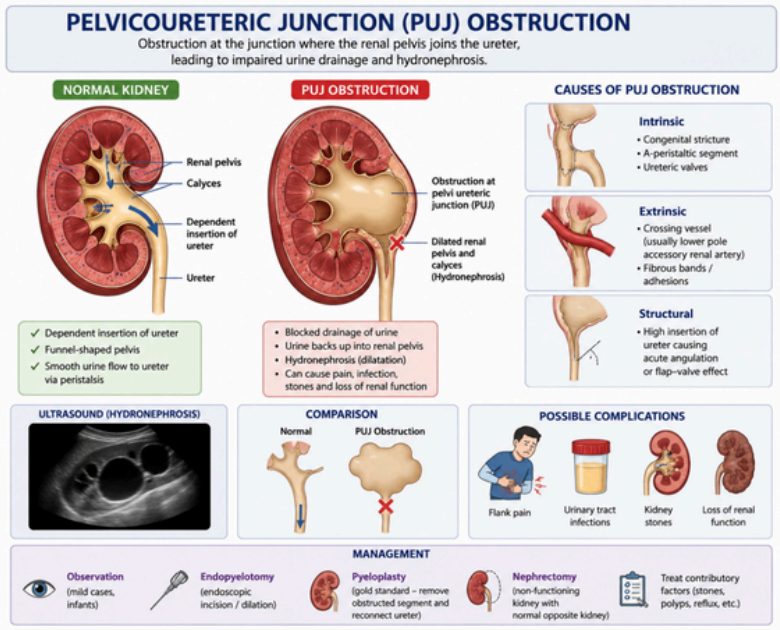
Pelviureteric junction (PUJ) obstruction, also known as ureteropelvic junction (UPJ) obstruction, is defined as a functional or anatomical blockage at the point where the renal pelvis meets the proximal ureter, preventing efficient drainage of urine and leading to dilatation of the collecting system.

Normal PUJ Configuration

In a healthy state, the PUJ has the following characteristics:

- Dependent insertion: The ureter attaches to the lowest (most dependent) part of the renal pelvis, allowing gravity-assisted drainage of urine.
- Funnel shape: The renal pelvis tapers smoothly into the ureter, ensuring continuous urine flow.
- Peristaltic continuity: The muscular layers of the renal pelvis are continuous with those of the ureter, allowing coordinated peristalsis to propel urine toward the bladder.

PUJO in a nutshell (created with ChatGPT):



Aetiology

PUJO may result from intrinsic, extrinsic, or structural causes.

1. Intrinsic causes

- Stenotic or aperistaltic segment: Normal spiral musculature is replaced by longitudinal muscle bundles or fibrous tissue, impairing propagation of peristaltic waves.
- True PUJ stricture.
- Intraluminal lesions or ureteric valves caused by persistence and exaggeration of congenital mucosal folds.
- Reduced density of Cajal-like interstitial cells and altered gene expression affecting hypoxia, fibrosis, inflammation, and neuronal regulation.
- Benign lesions (e.g., fibroepithelial polyps), urothelial malignancy, stone disease, and post-inflammatory or postoperative scarring/ischaemia.

2. Extrinsic causes

- Crossing vessel, usually an accessory lower-pole renal artery causing external compression.
- Kinking and adhesions due to fibrous bands or abnormal renal rotation.

3. Structural causes

- High insertion of the ureter: The ureter attaches higher on the renal pelvis, creating a flap-valve effect or acute angulation.

FUN FACTS

- Occurs in approximately 1 in 1,000-1,500 live births.
- Accounts for about 5% of cases of antenatal hydronephrosis.
- Male-to-female ratio: 2:1.
- Usually unilateral (90%); bilateral disease occurs in approximately 10-30% of cases.
- More common on the left side (~67%).
- Often associated with congenital anomalies such as horseshoe kidney, pelvic kidney, renal ectopia, and vesicoureteric reflux.
- No anatomically discrete PUJ can be identified, although physiologically there is evidence of a sphincter-like mechanism in this region.
- The PUJ is derived entirely from the ureteric bud rather than from fusion of different tissues.
- During embryogenesis, the PUJ forms around the fifth week, and the ureteric bud becomes recanalised by 10-12 weeks. Inadequate canalisation can result in PUJ obstruction.
- The widespread use of ultrasonography (USS) during pregnancy has increased detection of antenatal hydronephrosis

Presentation

PUJO can present at any age.

Clinical features include:

- Incidental finding of hydronephrosis.
- Dull or sharp flank pain, often worsened after drinking large volumes of fluid and frequently associated with nausea and vomiting.
- Palpable flank mass, especially in newborns and infants.
- Progressive loss of renal function.
- Recurrent urinary tract infections (UTIs).
- Kidney stones due to urinary stasis.
- Azotaemia resulting from obstruction of both kidneys or a solitary functioning kidney.
- Hypertension (rare).

Investigations

A combination of anatomic and functional studies helps plan the surgery.

- A combination of anatomical and functional studies is used to plan management.
- Prenatal USS increases detection of early hydronephrosis, some of which progresses to PUJO.
- Contrast-enhanced CT urography with delayed urographic phase to assess the level of obstruction and calyceal/vascular anatomy.
- Diuretic renography provides quantitative assessment of differential renal function.
- Ureteroscopy and retrograde pyelography help identify urothelial neoplasms and define the obstruction.
- Retrograde pyelogram, often performed at the time of surgery, defines the site and nature of the obstruction.

Management

Observation

Ongoing monitoring may be appropriate for mild cases, particularly in infants, as some improve spontaneously.

Endoscopic management

- Balloon dilatation and endopyelotomy are less invasive options for selected patients but have lower success rates than pyeloplasty.

Pyeloplasty

- Gold standard treatment.
- The obstructed segment is excised and the healthy ureter is reattached to the renal pelvis.

Nephrectomy

- Considered for a symptomatic, poorly functioning kidney (<15-20% differential function) or a non-functioning kidney when the contralateral kidney is normal.

Treat contributing factors

- Stone removal.
- Laser excision of benign lesions.

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Indications for Treatment:

- Symptomatic obstruction.
- Impaired overall renal function.
- Progressive deterioration of the affected kidney (e.g., worsening hydronephrosis or >10% decline in split renal function).
- Development of stones or infection.
- Rarely, hypertension.

The goals of treatment are to relieve symptoms and preserve renal function.

Acute decompression may be achieved with a ureteric stent or percutaneous nephrostomy to drain infected urine and assess renal recoverability.

Endourologic Approaches

Percutaneous or retrograde endopyelotomy

- Less invasive than open surgery.
- Lower success rates than laparoscopic or robotic pyeloplasty.
- Performed under direct vision using ureteroscopy.
- Used less frequently today.
- Contraindications: obstruction >2 cm, active infection, or untreated coagulopathy.
- Risk of haemorrhage is higher in thinned or atrophic renal parenchyma.
- Stones should be treated before pyelotomy to avoid migration.
- A full-thickness lateral incision is made through the obstructed segment, and a stent is inserted to allow healing.
- Avoid strenuous activity for 8-10 days.
- Follow-up commonly includes CT urography at 3 months and periodic reviews for several years.
- Recurrence-free rates may be as low as 41%.

Retrograde ureteroscopic endopyelotomy

- Current standard endopyelotomy technique.
- Lower morbidity and more cost-effective than the percutaneous approach.
- Contraindicated in long strictures and in the presence of upper-tract stones.
- Complications are usually minor: urine leak, stent migration, and infection.

Pyeloplasty: Standard of Care

- Reshapes the PUJ, removes the obstructed segment, and reattaches the ureter to the most dependent part of the pelvis.
- Success rate: 90-95%, approximately 10-30% higher than endopyelotomy.
- Can be performed by open, laparoscopic, or robot-assisted techniques.
- Open surgery is preferred in some renal anomalies, such as horseshoe kidney.
- Laparoscopic surgery offers lower morbidity, shorter hospital stay, and faster recovery.
- Absolute contraindications to laparoscopy include uncorrected coagulopathy, active UTI, and severe cardiopulmonary compromise.
- Complications may include colonic injury, haemorrhage, pneumonia, heart failure, thrombophlebitis, and urinoma formation.
- Dismembered pyeloplasty (Anderson-Hynes) is the recognised gold standard.
- Reduction pyeloplasty may be performed if the renal pelvis is redundant.
- A drain and ureteric stent are usually placed postoperatively.
- The stent is typically left for 4-6 weeks and then removed as an outpatient.
- Most failures occur within the first two years, although late failures can occur.

Key Clinical Point

- A poorly functioning kidney (<15-20% differential function) is often considered non-salvageable. In symptomatic patients with a normal contralateral kidney, nephrectomy may be considered.
- Temporary diversion does not consistently improve renal function and may increase treatment burden.
- The options of primary pyeloplasty, nephrectomy, or conservative management should be discussed with the patient and whānau.
- Additional factors such as age, symptoms, degree of hydronephrosis, renal parenchymal appearance, and patient preferences should guide decision-making.

References:

EAU guidelines. (2026). Dilatation of the upper urinary tract (PUJ obstruction). Accessed from https://uroweb.org/guidelines/paediatric-urology on 01/06/2026.

Nakada, S. Y. (2021). Management of upper urinary tract obstruction. In Partin, A. W., Dmochowski, R. R., Kavoussi, L. R., & Peters, C. A. (Eds.). (2021). Campbell-Walsh-Wein urology (12th ed., pp. 1942-1962) Elsevier.

OpenAI. (2026). ChatGPT. https://chatgpt.com/c/6a390f1d-bd28-83ec-bd8f-029c0f7f33f2

O'Sullivan, N. J., & Anderson, S. (2023). Pelviureteric junction obstruction in adults: A systematic review of the literature. Current urology, 17(2), 86–91. https://doi.org/10.1097/CU9.0000000000000154

Weerakkody, Y., Silverstone, L., Walizai, T., et al. (2026). Ureteropelvic junction obstruction. Reference article, Radiopaedia.org (Accessed on 15 June 2026). https://doi.org/10.53347/rID-9714

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