

UNDERSTANDING, IDENTIFYING & TREATING URINARY STONES

YOUR QUESTIONS ANSWERED.

WHAT CAUSES THEM?

Urinary stones are crystals primarily made of calcium oxalate. This can be due to high levels of calcium or oxalate in the blood or urine due to excessive consumption of oxalate-heavy foods such as beans, nuts, chocolate and red meats, or excessive intake of calcium or vitamin D and C supplements.

Uric acid stones occur in 10% of patients and are caused by high uric acid in the blood or urine. Bacteria in the urine can also cause stones, which tend to be large and can take the form of staghorns. All these types of stones are also associated with an insufficient intake of water.

Conditions such as hyperparathyroidism, gout and recurrent urine infection can also lead to recurring urinary stones, especially when there is a family history of stones.

WHAT ARE THE SYMPTOMS?

Most patients present with the classical loin to groin pain associated with some blood in the urine. It is sudden in onset, severe, and not relieved with change of position. If the stone is close to the bladder, it can be mistaken for a urinary tract infection with urinary urgency and frequency.

Stones can also present with blood in the urine or urinary tract infections, especially after heavy physical activity. Infections that occur in an obstructed urinary system are very dangerous and can lead to shock and even death if not treated early.

WHAT ARE THE COMMON TREATMENTS?

About 60–90% of stones smaller than 5mm will be passed out in the urine with consumption of enough water. Larger stones causing ureter blockage and pain need treatment.

The most common treatment is a non-invasive shockwave lithotripsy, which breaks up 90% of stones. Stones that are too large, obstructive and hard can be reached with an endoscope while the patient is under anaesthesia.

The stone is broken down with a laser or a mechanical lithotripter (like a mini-jackhammer). Staghorn stones larger than 2.5cm are treated with a minimally invasive technique, during which a puncture is made through the kidney to remove the stone.

NEW TREATMENTS

Stones flushed out with conservative water diuresis treatment can be further aided by muscle relaxants that are also used to treat prostate enlargement. Shockwave therapy — now in its fourth generation — is still the mainstay of treatment.

The newest technique is retrograde intrarenal surgery, a no-puncture treatment using small, flexible endoscopes and laser machines inserted through natural urinary orifices and tracts to remove renal stones.

Most of these treatments can be done in a day surgery for quick recovery. Even with large obstructive urinary stones, early treatment can lead to complete recovery of renal function.

PNG UROLOGY

www.pngurology.com.sg

3 Mount Elizabeth
#07-08 Mount Elizabeth
Medical Centre
Singapore 228510
Tel (65) 6732 2966
Fax (65) 6732 2960



DR DAMIAN PNG
UROLOGIST

Dr Damian Png specialises in minimally invasive urology, reconstructive urology, urinary stone treatment, prostate conditions and urinary strictures. A long-time academic at the National University Hospital and National University of Singapore, he has conducted multicentre trials and published extensively.

SERVICES

- Urological evaluation and surgery
- Kidney, bladder and prostate treatment
- Laparoscopic surgery
- Surgery (penile, testicular and scrotal)
- Vasectomy and reversal
- Varicocele
- Robotic radical prostatectomy/surgery
- Men's health issues