Dr Mark Liu
UROLOGY

Urological & Robotic Surgeon
MBBS BSc(Med) MS FRACS(Urology)
Phone: 1300 865 180
Fax: 02 8378 5757
reception@drmarkliu.com.au
www.drmarkliu.com.au

Laser Stone Surgery (Ureteroscopy), Laser Lithotripsy

This leaflet contains evidence-based information regarding your urological procedure. You should use it in addition to any advice already given to you.

Key Points

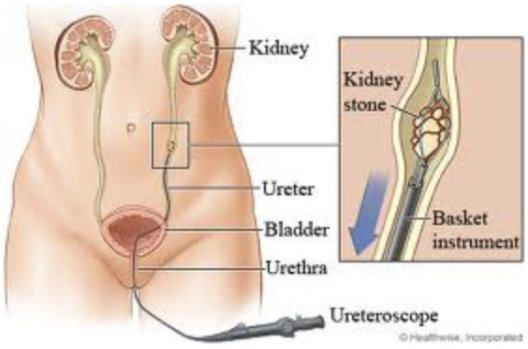
- The aim of this procedure is to fragment stones in the ureter (the tube that drains urine from the kidney into the bladder) or kidney, using a thin telescope (ureteroscope) passed into the bladder through the urethra (waterpipe).
- Stones are usually broken up using laser energy passed through a small laser fibre.
- A ureteric stent is usually placed following the laser stone treatment to ensure the kidney drains well.

What does this procedure involve?

A telescope (ureteroscope) is passed into your bladder through your urethra (waterpipe) to fragment and/or remove stones from your ureter or kidney.

We usually need to leave a temporary stent in your ureter after the procedure.

There is no incision.



What happens on the day of the procedure?

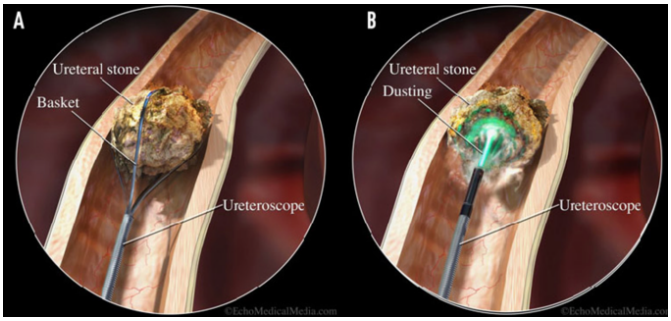
Your surgeon (or a member of their team) will briefly review your history and will discuss the surgery again with you to confirm your consent.

An Anaesthetist will see you to discuss the options of anaesthetic and post-operative pain relief.

We may provide you with a pair of TED stockings to wear. This will help prevent clots from developing in your calf and passing to your lungs.

Details of the procedure

- We normally use general anaesthetic (where you are asleep)
- Just before the procedure, you will be given intravenous antibiotics to prevent a urinary tract infection.
- A telescope (cystoscopy) will be inserted into your bladder through the urethra (waterpipe). We use it to put a guidewire into your kidney under X-ray guidance.
- A telescope (ureteroscope) will be inserted up to the stone but following the guidewire.
- A Thulium or Holmium laser is used to either “dust” the stone (pictured), leaving tiny fragments which will pass by themselves, or break it into smaller fragments which can be removed using small baskets (pictured).
- A temporary drainage tube (a ureteric stent) will be inserted into the ureter at the end of the procedure. This will be removed at a later stage.
- Occasionally, the ureter may be too tight to insert a ureteroscope on the initial procedure. If this is the case, then we will need to insert a ureteric stent, followed by a ureteroscopy within usually 2-4 weeks.



Are there any after-effects?

Possible after-effects are below. Some are self-limiting or reversible, but others are not. The impact of these after-effects can vary a lot from patient to patient; you should as your Consultant Urologist’s advice about the risk and their impact on you.

After effect	Approx. Risk
Temporary mild burning, bleeding on passing urine for a short time after the procedure	Almost all patients
Temporary insertion of a ureteric stent which needs to be removed later	Almost all patients
Residual stones requiring further surgery	5-15%
Temporary insertion of a bladder catheter	2-10%
Minor damage to the wall of the ureter (small perforation, mucosal abrasion, bleeding) requiring stenting or percutaneous nephrostomy	1%
Narrowing of the ureter due to delayed scar formation (stricture) which may require further treatment	1%
Major damage to the wall of the ureter (large perforation, avulsion of the ureter) requiring surgery	Less than 0.1%
Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack, death)	Less than 1%

What to expect afterwards

- You will be able to eat and drink normally.
- You will go home on the same day as the procedure. Occasionally, you may be admitted overnight for pain relief or monitoring.
- You may find it painful to pass urine at first. Medications such as Ural will help with this.
- You may also have urinary frequency and urgency which will improve over time. Increasing water intake and medications will help with this.
- Your urine may be bloody for 24-48 hours and you may find some tiny ‘sand’ particles get passed through your urine.

General information about surgical procedures

Before your procedure:

Please tell a member of the medical team if you have:

- a regular blood thinning agent (e.g., warfarin, aspirin, clopidogrel, rivaroxaban, apixaban, dabigatran)
- a recent or current COVID injection
- an implanted foreign body (stent, joint replacement, pacemaker, heart valve)

Before you go home:

We will tell you how the procedure went and you should:

- make sure you understand what has been done
- ask the surgeon if everything went as planned
- let the staff know if you have any discomfort
- ask what you can (and cannot) do at home
- make sure you know what happens next
- ask when you can return to normal activities

Your surgeon or nurse will give you details of follow-up appointments.

Driving after surgery

It is your responsibility to make sure you are fit to drive after any surgical procedure. By law, you are not permitted to 24 hours after a general anaesthetic or sedation.

Disclaimer

Every effort has been made to ensure this information is accurate and up to date. However, individual cases may vary. Your surgeon will thoroughly discuss your procedure and answer any questions you may have.