



## MANAGEMENT OF URETERIC STONES

### What are the symptoms of ureteral calculi?

Usually when a kidney stone passes into the ureter it causes a block in the flow of urine which causes severe pain - renal colic which is classically described as a login to groin pain. In several form of obstruction , the stone may lead to collection of urine in the kidney leading to swelling ( Hydronephrosis) and urinary infection.

A long standing ureteric stone may block the urine passage and may eventually lead to damage of kidney cells ( nephrons ) and may be the cause of renal failure.

### What are the treatment options for Ureteric calculi ?

This depends on the size of the stone.

Stones smaller than 5mm pass out on their own with the help of medicines like alpha blockers.

Larger stones usually require surgical intervention.

If there is fever, increased WBC count, increased creatinine or a collection around the kidneys it is better to place a Double J stent to bypass the stone and help the kidney recover.

Once there is recovery the stone can be removed with a Ureteroscope ( URSL)- semi rigid if in the lower part and flexible if in the upper part of the ureter.

For stones in the upper one third of the ureter ESWL can be attempted if it is not impacted and is seen on an X ray.

Many times due to long standing obstruction, the kidney may have lost its functioning capacity and may require surgery for removal of kidney.

### What is URSL?

It is the Ureteroscopic removal of stones.

Ureteroscopy is a procedure performed by urologists to visualize the ureter which is a tube that connects the kidney to the urinary bladder.

Ureteroscopy is typically performed using a small instrument the size of the tip of a pen, called the 'ureteroscope'. The ureteroscope is passed through the urethra into the urinary bladder and up the ureter and into the kidney.

Ureteroscope are of two types- semirigid for lower ureteric stones and flexible for upper ureteric and renal stones

By directly visualizing the stone, it is broken with holmium laser or pneumatic energy and by removing it using a stone basket / forceps.

A ureteral stent is often necessary after ureteroscopy. The stent is typically removed within 1-2 weeks after ureteroscopy but sometimes may be needed for a prolonged period of time.

### When Should I Choose Ureteroscopy?

Ureteroscopy is very effective for treatment of ureteral and kidney stones. It is somewhat more involved than shockwave lithotripsy and more effective and is more likely to render patient stone-free in one procedure. Ureteroscopy with laser lithotripsy is a preferred option



for men and women who cannot stop aspirin to have a surgery for kidney stones.

### **What is the post operative course after Ureteroscopy?**

Usually you will require hospitalisation for 1 to 2 days. Ureteral stent is typically removed 1-2 weeks after ureteroscopy. If the stone was impacted in the ureter or the ureteroscopy was more complicated, the stent may be left for a prolonged period of time typically up to 6-8 weeks.

Stone fragments collected maybe sent for analysis.

### **Why do I need to have a stent placed?**

The purpose of the ureteral stent is to keep the ureter open. After urological procedures, the ureter tends to swell up from irritation. The stent keeps the ureter patent and open and allows the urine to pass easily from the kidney to the bladder.

Ureteral stent treats pain caused by ureteral obstruction and also protects kidney from damaging effects of obstruction.

### **What are the complications of URSL ?**

Complications seen are urinary infection and reddish tinge in urine colour.

Many times the stone is so eroded and embedded into the adjacent wall of the ureter that inserting a wire or a stent adjacent to the stone is not possible.

Because in these situations the stone erodes into the wall of the ureter, there is a high risk of ureteral stricture formation postoperatively

### **What is the success rate of URSL?**

Success rate depends on stone location and burden. Usually success rates are good around 90 to 95 percent. In case of large ureteral stones multiple sessions may be required to be made completely stone free.



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