

Healthy Kidneys 16



Treatment of Kidney Stones

This booklet will tell you more about various treatments of kidney stones. It will also let you know the advantages & disadvantages of each type of treatment.

The urinary system is made up of the kidneys, the ureters, the bladder, and the urethra. Each plays an important role in helping your body to eliminate waste products in the form of urine.

A kidney stone can develop when certain chemicals in your urine form crystals those stick together. The crystals may grow into a stone ranging in size from a grain of sand to a golf ball. Small stones can pass through the urinary system without causing problems. However, larger stones might block the flow of urine or irritate the lining of the urinary tract.

Kidney stones are one of the most painful disorders to afflict humans. This ancient health problem has tormented people for thousands of years. Evidence of kidney stones have found in an Egyptian mummy. Although men tend to be affected more frequently than women, the male to female ratio is approximately 3:1, with women having a higher incidence of infectious stones. Most kidney stones pass out of the body without any intervention by a physician.

Treatments

There are many treatments of removing kidney stones. The application of a particular type of treatment depends on the type, size and position in urinary tract.

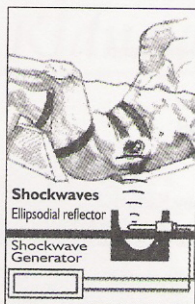
1) Extracorporeal Shock Wave Lithotripsy (ESWL)

It is one of the most important technological advances in kidney stone treatment. The machine called a lithotripter is used to generate a shock wave outside the body. The shock wave is focused on the kidney stone, to break a large stone into small stones, which can easily pass through urinary system along with urine.

There are several types of ESWL devices. In old devices, the patient reclines in a water bath while the shock waves are transmitted. Newer devices have a soft cushion on which the patient lies. Most devices use either x-rays or ultrasound to help the surgeon pinpoint the stone during treatment. For most types of ESWL procedures, anesthesia is needed.

In most cases, ESWL may be done on an outpatient basis. Recovery time is short, and most people can

resume normal activities next day. This method does not require surgery.



Complications : Most patients have blood in their urine for a few days after treatment. Bruising and minor discomfort in the back or abdomen from the shock waves are also common. To reduce the risk of complications, doctors usually tell patients to avoid taking aspirin and other drugs that affect blood clotting for 5 days before and after the treatment.

Another complication may occur if the shattered stone particles cause discomfort as they pass through the urinary tract. In some cases, the doctor will insert a small tube called a stent through the bladder into the ureter to help the fragments pass. Sometimes the stone is not completely shattered with one treatment, and additional treatments may be needed. ESWL is not ideal for very large stones.

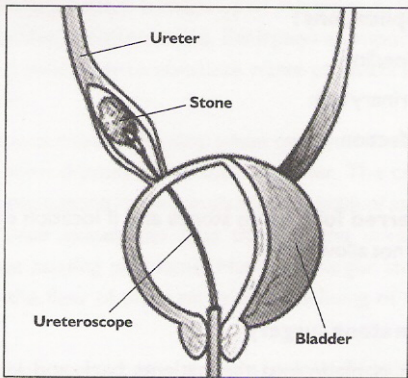
Preferred for : Upper urinary tract big stones.

(5 mm to 3 cm)

2) Ureteroscopy

A small telescope is inserted into the urethra and is passed through the bladder and finally to the ureters where the stone is located. The stone is removed using a small basket or is broken up using a very small shock wave probe. Following the procedure, a small silicone tube is left inside the ureters for 5-7 days to help relieve swelling. Patient needs hospitalisation for one day. Procedure is done under anaesthesia.

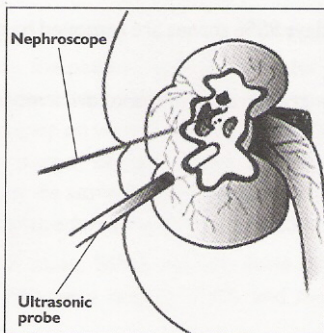
Complications : Injury to ureter may rarely occur.



Preferred for : Mid and lower ureter stones

3) Percutaneous Nephrolithotomy

If a kidney stone is larger than 3 centimeters i.e. over 1 inch, a PCN is often used for treatment. In this procedure, the surgeon makes a tiny incision in the back and creates a tunnel directly into the kidney. Using an instrument called a nephroscope, the surgeon locates and removes the stone. For large stones, some type of energy probe (ultrasonic or electrohydraulic) may be needed to break the stone into small pieces. Generally, patients stay in the hospital for four days and may have a small tube called a nephrostomy tube left in the kidney during the healing process.



Complications :

- (1) Bleeding
- (2) Urinary leak
- (3) Infection

Preferred for : Large stones and if location of stone does not allow ESWL

4) Open stone surgery

A cut is made into the patients back and kidney is approached. The stone is then removed.

Patient needs to stay in hospital for several days. He needs rest as incision required cuts back muscles which provide strength for posture and lifting weights.

Complications :

- (1) Bleeding
- (2) Infection
- (3) Urinary leak
- (4) Wound problems

Preferred for : Very large stones.

Points to remember

- Stones < 5 mm in size usually pass out in the urine
- Now-a-days 95% stones are removed by non-invasive method
- To prevent recurrence of stones drink more water

Please also refer the following information booklets from India Renal Foundation for more information.

1. Choosing Your Treatment
2. Haemodialysis
3. Peritoneal Dialysis
4. Transplantation
5. Diabetes & Kidney Failure
6. High Blood Pressure & Kidney Failure
7. Kidney Failure & Anaemia
8. Kidney Stones & Kidney Failure
9. Benign Prostate Disease (BPH)
10. Prostate Cancer
11. Urinary Tract Infection (UTI)
12. Polycystic Kidney Disease (PKD)
13. Urinary system & Kidney Stones
14. Cystine & Struvite Stones
15. Calcium & Uric Acid Stones
16. Treatment of Kidney Stones



Publication of this booklet was done with the help of
**SIDDHI VINAYAK STONE CLINIC
AND LITHOTRIPSY CENTRE**
Balvatika-Maninagar Road, Maninagar, Ahmedabad-380 008.
Phone : 079-25465128, 25471025, 25471427



India Renal Foundation

60-61, A Wing, Nobles, Opp. Nehru Bridge, Ashram Road, Ahmedabad 380 009, India.

Tel.: +91-79-2658 4251 Fax : +91-79-2658 7042

Baroda : 92271-01762 Surat : 92279-21061 Rajkot : 92272-51585

e-mail: irf@indiarenalfoundation.org visit us at: www.indiarenalfoundation.org

All contributions to India Renal Foundation are 50% tax exempt u/s 80G
& 100% tax exempt u/s 35 AC of Income Tax Act.