

## **Renal Calculi (Kidney Stones) Treatment Center solved only in Aastha Health Care Hospital, Mumbai**

*Aastha Health Care offers diagnostic treatment against Renal Calculi or Kidney Stones, a very slow-growing disease and small tumor that takes 10 years or more to grow.*

**Sept. 9, 2009 - [PRLog](#)** -- The urinary tract, or system, consists of the kidneys, ureters, bladder, and urethra. The kidneys are two bean-shaped organs located below the ribs toward the middle of the back. They remove extra water and wastes from the blood, converting it to urine. They also keep a stable balance of salts and other substances in the blood. The kidneys produce hormones that help build strong bones and help form red blood cells. Narrow tubes called ureter carry urine from the kidneys to the bladder, an oval-shaped chamber in the lower abdomen. Like a balloon, the bladder's elastic walls stretch and expand to store urine. They flatten together when urine is emptied through the urethra to outside the body. One in every 20 people develops a kidney stone at some point in their life. A kidney stone is a hard mineral and crystalline material formed within the kidney or urinary tract.

Kidney stones are one of the most common disorders of the urinary tract. In the year 2000, patients made 2.7 million visits to health care providers and more than 600,000 patients went to emergency rooms for kidney stone problems. Men tend to be affected more frequently than women. The function of the kidneys (Renal) is to remove waste products and unwanted water from the blood, in the form of urine. If there is too much of certain waste products in the urine, these substances form crystals. Crystals can then combine to form stones.

A kidney stone is a hard mass developed from crystals that separate from the urine and build up on the inner surfaces of the kidney. Normally, urine contains chemicals that prevent or inhibit the crystals from forming. These inhibitors do not seem to work for everyone, however, so some people form stones. If the crystals remain tiny enough, they will travel through the urinary tract and pass out of the body in the urine without being noticed. However, when they pass down the ureter on their way to the bladder, pain usually occurs with anything but the smallest stone. If a stone gets stuck on its way down the ureter, pain usually occurs in the form of renal colic. The pain comes and goes in waves. Blood may be passed as well, due to the irritation of the lining of the ureter by the sharp-edged stone.

Kidney stones, one of the most painful of the urologic disorders, are not a product of modern life. Scientists have found evidence of kidney stones in a 7,000-year-old Egyptian mummy.

Urolithiasis is the medical term used to describe stones occurring in the urinary tract. Other frequently used terms are urinary tract stone disease and nephrolithiasis. Doctors also use terms that describe the location of the stone in the urinary tract. For example, a ureteral stone (or ureterolithiasis) is a kidney stone found in the ureter. To keep things simple, however, the term "kidney stones" is used throughout this fact sheet.

Types of stones include :

- \* Calcium stones are most common. They are two to three times more common in men, usually appearing at age 20 to 30. Recurrence is likely. The calcium may combine with other substances such as oxalate (the most common substance), phosphate, or carbonate to form the stone. Oxalate is present in certain foods. Diseases of the small intestine increase the tendency to form calcium oxalate stones.

- \* Uric acid stones are also more common in men. They are associated with gout or chemotherapy. Uric acid stones make up about 10% of all stones.

\* Cystine stones may form in persons with cystinuria. It is a hereditary disorder affecting both men and women.

\* Struvite stones are mainly found in women as a result of urinary tract infection. They can grow very large and may obstruct the kidney, ureter, or bladder.

### What are the Symptoms?

Most calculi originate within the kidney and proceed distally, creating various degrees of urinary obstruction as they become lodged in narrow areas, including the ureteropelvic junction, pelvic brim, and ureterovesical junction. Location and quality of pain are related to position of the stone within the urinary tract. Severity of pain is related to the degree of obstruction, presence of ureteral spasm, and presence of any associated infection. So the symptomatic presentation of renal calculi has been described below:

- \* Flank pain or back pain, which may be :
  - o on one or both sides
  - o progressive
  - o severe
  - o colicky (spasm-like)
  - o may radiate or move to lower in flank, pelvis, groin, genitals
- \* Nausea, vomiting
- \* Painful urination
- \* Urinary frequency or urgency is increased (persistent urge to urinate)
- \* Blood in the urine
- \* Rarely, a patient reports positional urinary retention (obstruction precipitated by standing, relieved by recumbency), which is due to the ball-valve effect of a large stone located at the bladder outlet.
- \* Fever with chills

### How is it Diagnosed?

An abdominal x-ray may show certain types of stones. An ultrasound test is usually able to confirm where the stone is lying, and the effect that it is having on the other structures. Sometimes, a special kidney x-ray (intravenous pyelogram: IVP or intravenous urogram: IVU) needs to be done to show the position of the stone and to find out if there is any blockage. This is done by giving an injection into the arm vein. Several x-rays are taken over the next 2 hours. This shows the stones in the kidneys, ureter or bladder. It will also show whether any stone is producing a blockage. It is also important to find out the chemical structure of the stone which has been passed. Further tests can be done by analyzing a 24-hour urine sample. Exact amounts of calcium, oxalate, uric acid and cystine can be measured. A stone may not pass on its own. It may get stuck in the ureter. When the stones are too small, sometimes abdominal CT scan may be advised.

### What are the Treatment options?

Sometimes kidney stones are "silent". They are called so because they do not cause symptoms. Infact they are found on x rays taken during a general health exam. If they are small, these stones would likely pass out of the body unnoticed. But many a times there may be complications associated with it, e.g a ureteral stone might be associated with obstruction and upper UTI and this truly is a urologic emergency. So it is very important to consult a urologist. Let us see the treatments offered for renal calculi:

### Ureteroscopic Stone Removal

Although some kidney stones in the ureters can be treated with ESWL (Read this technique below), ureteroscopy may be needed for mid- and lower-ureter stones. No incision is made in this procedure. Instead, the surgeon passes a small fiberoptic instrument called an ureteroscope through the urethra and bladder into the ureter. The surgeon then locates the stone and either removes it with a cage-like device or shatters it with a special instrument that produces a form of shock wave. A small tube or stent may be left in the ureter for a few days to help the lining of the ureter heal. Before fiber optics made ureteroscopy possible, physicians used a similar "blind basket" extraction method. But this outdated technique should not be used because it may damage the ureters.

FIGURE A: shows rigid scope which is inserted through the bladder to remove stones in the ureter.  
FIGURE B: shows flexible scope which is inserted through the bladder and ureter into the kidney to remove small stones in the kidney.

For more information, kindly visit :

<http://www.aasthahealthcare.com/Renal-Calculi-stones-Trea...>

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City/Town	Mumbai
State/Province	Maharashtra
Zip	400082
Country	India
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