

### Why Zydus Hospital's "Stone Clinic"?

Zydus hospital has most experienced and dedicated team of Urologists in entire Gujarat

- Dornier Delta - 2 lithotripsy machine for ESWL of all types of stones including upper ureteric stones
- USG Guided Lithotripsy
- Zero Radiation Exposure to Patients
- Safe during Pregnancy also as there is no Radiation
- 120 WATT holmium laser ( first and only laser in Gujarat )
- Flexible ureteroscope for medium size renal stone
- The only hospital with highly trained staff and having all the specialties where care is taken of the patient as a whole at the most affordable prices.
- 24x7 available full time specialist under one roof



Zydus Hospital was established with a vision to be the leading provider in healthcare service delivery to the community and is now the most preferred destination for comprehensive medical care and treatment.

On a mission to extend the world-class healthcare solutions to the community through advances in medical technology, medical research and best management practices, Zydus Hospital has all major medical specialities, investigative and diagnostics facilities, rehabilitation and physical therapy care under one roof.

### DEPARTMENT OF UROLOGY



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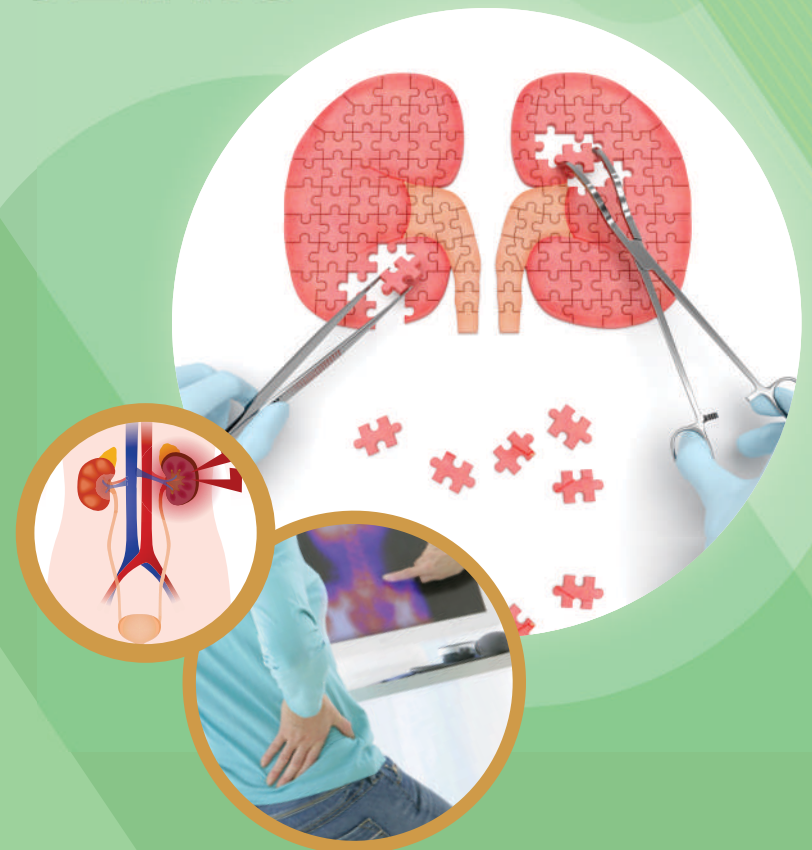
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# STONE CLINIC



## What is Kidney stone?

As the kidneys filter waste from the blood, they create urine. Sometimes, salts and other minerals in urine stick together to form small kidney stones. These range from the size of a sugar crystal to a ping pong ball, but they are rarely noticed unless they cause a blockage. They may cause intense pain if they migrate into the ureters, the narrow ducts leading to the bladder.

Both men and women can get kidney stones, but men's chances of getting them are about double that of women's.

## What are the causes for Kidney stone?

It's often hard to find out the reason of kidney stone. But they are created when urine has high levels of certain minerals. These include:

- Calcium
- Oxalate
- Uric acid

Other causes for Kidney stone are:

- Diet
- Diarrhea (which can dehydrate you)
- Obesity
- Certain medical conditions and medications
- A family history of kidney stones.

## How to identify Kidney stone pain? / What are the symptoms of Kidney stone?

Symptoms depends on the size and location of the kidney stone.

- Severe pain in the back, belly, or groin
- Frequent or painful urination
- Blood in the urine
- Nausea and vomiting
- Fever and chills

Small stones may pass without causing symptoms.

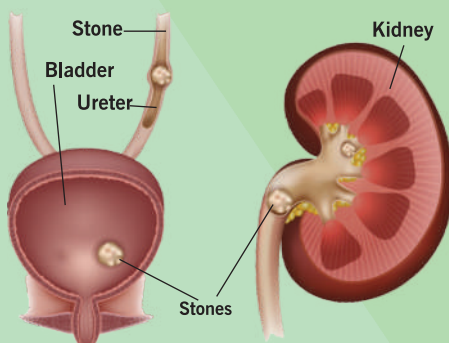
## What are the types of Kidney stone?

Kidney stones are of different types, and it's important to identify the type of stones because treatment can be determined on the basis of type of stones. They include:

**Calcium stones:** These are the most common ones. Even just eating some foods very high in oxalates, such as rhubarb, or taking unusually high levels of Vitamin D, can boost your chances of getting this type. You could get this kind if you typically



Calcium stones



don't drink enough water or if you sweat a lot and don't replace the fluids you lose.

**Cystine stones:** This is the least common type. Once you get a cystine stone, there is a chance that you may have one again. You inherit the possibility of getting them from your parents, both of whom would have to have the same type of genetic disorder.



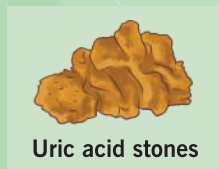
Cystine stones

**Struvite stones:** Infections, especially in the urinary tract, can cause you to have this kind of stone.



Struvite stones

**Uric acid stones:** If you typically don't drink enough liquid throughout the day, or if you sweat a lot from long periods of exercise or from work, you could get this kind. While many dieters swear by high-protein diets, eating large amounts of protein can also cause a stone to form.



Uric acid stones

## When is the need of surgery for a kidney stone?

You might have a procedure or surgery to take out kidney stones if:

- The stone is very large and can't pass on its own.
- You're in a lot of pain.
- The stone is blocking the flow of urine out of your kidney.
- You have had many urinary tract infections because of the stone.

## Diagnosing Kidney Stones

Kidney stones are rarely diagnosed before they begin causing pain. This pain is often severe enough to send patients to the ER, where a variety of tests can uncover the stones. These may include a CT scan, X-rays, ultrasound, and urinalysis. Blood tests can help look for high levels of minerals involved in forming kidney stones.

The CT scan shows a stone blocking the ureter, the duct that empties into the bladder

## Treatment: Medication

There are prescription medications that can help the body pass a kidney stone. Drugs known as alpha-blockers relax the walls of the ureter. This widens the passages so that a stone can pass through more easily. Side effects are generally mild. Other types of medications can help prevent new stones from forming.

These four treatments can be used on your kidney stones:

- Shock wave lithotripsy
- Ureteroscopy
- Percutaneous nephrolithotomy or percutaneous nephrolithotripsy
- Open surgery

**Shock wave lithotripsy (SWL):** The most common medical procedure for treating kidney stones is known as extracorporeal shock wave lithotripsy (ESWL). This therapy uses high-energy shock waves to break a kidney stone into little pieces. The small pieces can then move through the urinary tract more easily. Side effects can include bleeding, bruising, or pain after the procedure.

**Ureteroscopy:** When a stone has made its way out of the kidney and is close to the bladder, the most common procedure is ureteroscopy. A thin tube is passed through the urinary tract to the location of the stone. A surgeon breaks up the stone and removes the fragments through the tube. No incisions are made on the body. For very large stones, surgical procedures may be needed.

**Mini percutaneous nephrolithotomy (mini PERC)** Percutaneous Nephrolithotomy (PCNL) is the preferred technique for treating larger kidney stones (over 2cm in diameter) located within the kidney. It involves keyhole surgery that is performed through a 1cm incision in the skin (see diagram). A mini-PERC is similar in approach, but represents a refinement in the technique due to having smaller cameras, better stone lasers and specialized tools. The incision that is made in the skin is much smaller and allows for quicker patient recovery and results in a safer procedure.

## Kidney Stone Analysis

Once a kidney stone has passed or been removed, your doctor may want to know what it's made of. Nearly 80% of kidney stones are calcium-based. The remainder are made primarily of uric acid, struvite, or cystine. A chemical analysis can determine which type of stone you have. Once you know, you can take steps to prevent new ones from forming in the future.

