# with Treatment and Prevention Tips

# Kidney Stones Guide

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## **KIDNEY STONES: AN INTRODUCTION**

The kidney is one of the key organs of human body that helps in the process of removing waste products away from the body by way of urine. Sometimes, the waste products are not dissolved and they remain in solid form in the kidney. Such crystals or lumps of waste products are referred to as Kidney stones. The size of the kidney stone varies from small, medium to large. The stones found in the kidney are either brown or yellow in color. Some stones may be smooth and brittle while some of them are hard.

Kidney stones sometimes may block the urinary track and thereby cause pain while passing urine. This has been one of the disorders present in human beings for centuries. As years pass by, the number of people suffering from this problem of kidney stones has shown a steady increase. This situation has been aggravated in the last decade due to wrong food habits.

The problem of kidney stones is common in adults rather than children. The most common type of kidney stone found in the human body contains calcium. Therefore, some changes in the intake of diet and fluid consumption will help dissolve these stone. Some types of kidney stones would dissolve without any treatment if you just focus on increasing your intake of water per day. However, complicated and stubborn stones must be removed through proper medication or surgery.

The human body is structured in such a way that the urinary system is highly dependent on the digestive system. The Kidneys process the waste materials passed on from the digestive system. Any minor problem in the digestive system like diarrhea or constipation could trigger off the formation of kidney stone. Hence, the medical experts always insist that we need to be aware of what we eat and we drink, as a small change in that may go a long way.

## **CAUSES FOR KIDNEY STONE**

There are no definite reasons for the formation of Kidney stones. Sometimes certain food habits may cause stones. People who consume rich animal protein diet, low fibrous food combined with fewer intakes of fluids are at more risk of being a victim of Kidney stone. Eating too much of purine foods like fish, meat and poultry may sometimes cause kidney stones. In few cases kidney stone formation may just be due to more sugar consumption.

Men are more likely to get kidney stones than women. Family history may also be a cause for kidney stone. Some other reasons for developing kidney stones are as follows:

#### Gout

Gout is a condition, which cause an increase in the level of uric acid in blood and thereby deposits lumps of uric acid in the form of kidney stone. Gout may be developed by obesity, alcohol intake, high blood pressure and some malfunction in kidney.

#### HyperCalciuria

This is the main reason for kidney stones for most people. The term Hypercalciuria means that there is a presence of high calcium content in urine. In many cases, a large quantity of calcium is absorbed from the diet consumed and is excreted in the urine.

#### Inflammatory bowel diseases

People suffering from inflammatory bowel disease may have higher chances of getting kidney stones. This disease will initially affect the intestine and then the liver, eyes and other organs. In rare cases, it may cause kidney stones too.

#### Other diseases

Urinary tract infections, kidney disorders and other metabolic disorders may cause Kidney stones. Hyperparathyroidism can lead to stone formation. A popular hereditary disease known as the renal tubular acidosis could also assist in the formation of kidney stones.

Cystinuria and Hyperoxaluria are some of the disorders that may cause kidney stones. Cystinuria is a condition where lot of amino acid cystine is deposited which do not dissolve in the urine and thus lead to stone formation. Hyperoxaluria is a condition where the urine contains more oxalate than the level that can be dissolved. Oxalate is a salt that will be formed as crystals and thus cause kidney stones.

Sometimes intestinal bypass surgery may lead to kidney stone formation. People who are undergoing treatment for HIV infection with a medicine called protease inhibitor indinavir may be considered high risk.

People who are living in warm climates may also have the risk of getting kidney stones. Over dosage of Vitamin D or taking too much of vitamin supplements can cause stones, too.

### SYMPTOMS OF KIDNEY STONES

Most the kidney stones do present themselves with any symptoms. However, if the size of the stone is large, then it could lead to blockage in the urinary tract resulting in severe pain while passing urine. In such condition, the person may feel pain in the lower abdomen. He may feel nausea accompanied with vomiting.

Sometimes Blood may be seen in the urine. This is because the stone will irritate the ureter and cause blood. However all the cases with blood in urine do not really indicate the presence of Kidney stones. Some other reasons may also cause blood spots in urine.

Frequent and painful urination may also be a symptom of the presence of kidney stone. Many people feel stinging or burning sensations while passing urine. Tenderness in kidney, abdomen and Urinary tract infection may also be signs of kidney stones.

If there is a foul smell along with pus in urine, then there is a strong indication that there is a stone present in the kidney. If all these symptoms and chills persist along with any of the above symptoms then the person should seek medical help immediately.

### **HOW TO DIAGNOSE KIDNEY STONES?**

You can come to know the presence of kidney stone through self diagnosis. This should immediately be done when you feel extreme pain while passing urine. However, the doctor will confirm the same through certain tests. Such tests include the following:

#### Spiral Computed topography

Spiral Computed topography, also popularly known as CT scan is the best test to diagnose the presence of a kidney stone. By using this technology, one can get a thorough scan of the ureter and kidneys.

The results obtained through this test are accurate. It takes more time to take this test in comparison with other tests. Intravenous Pyelogram (IVP) will help to view the position of urinary tract.

This X-ray test is taken after giving an injection of certain dye into the vein in the arm. A series of X-ray tests is taken at regular intervals to diagnose the kidney stones.



An injection is required to pass certain dye into the vein. This will help in getting clear view of the stones.

In addition to the IVP or CT scan, one can also opt for Retrograde Pyelogram tests. In this test, there is no particular injection given in the vein. Instead, the dye is injected through the tubes that help in carrying urine from the kidney.

Another test to diagnose kidney stones is by the method of Urinalysis. Through this test one could determine the complete details of the components in the urine. This will help to test the pH level in urine. For example if the pH level is four, then the urine is strongly acidic, 7 is neutral and 9 is strongly alkaline. Apart from this urine test, it will also help to test if blood is present in urine.

An abdominal x-ray will help in providing the clear picture of kidney, urinary bladder and the tube connecting the kidney and bladder. This will therefore identify kidney stones.

Ultra sound tests use high frequency sound waves to give diagnostically oriented pictures of internal organs. They can detect stones in the ureter. However, it is not possible to diagnose small stones with the help of this test. This test is mainly used to detect kidney stones in a pregnant woman.

#### Who can diagnose kidney stones?

If you feel any kind of symptoms of kidney stone then you should immediately seek the help of your family doctor. He can diagnose whether you have a kidney stone and if so what is the type of kidney stone and so on. An urologist can also help you in kidney stone diagnosis. He can also provide treatment of diseases in urinary tract for both men and women.

Once you had passed kidney stones with the treatment by a specialist, then you need to get another test to diagnose whether there are any possibilities of getting the stones back and how to avoid this if so.

## **TREATMENTS FOR KIDNEY STONES**

Most kidney stones can be cured by taking medication. If the stone is small, then it may just pass out in urine. Taking adequate fluid and pain control pills will be sufficient for removing such stones. Normally 5 out of 10 small stones will pass automatically without taking any medication.

While the treatment is on, consumption of grape juice may increase the complications of kidney stone. Therefore, you should not take this while receiving treatment. Instead you could take extra two glasses of water daily to remove the small kidney stones.

The doctor will prescribe some medicines to get relief from stones. Calcium channel blockers will help in removing small stones. However, it may have some side effects. If you have severe pain then your doctor will prescribe non-steroidal anti-inflammatory to relieve pain. Sometimes pain control medicines will cause side effects like vomiting, drowsiness, constipation etc. So it is better to take such medication after consulting your doctor.