



Kidney Stones

Research Team:

Dr.H. Bhojraj Ph 9845649914

Dr.Nateshan Murthy Ph 9844123705

Dr.Jacob Mathew Ph 9902728492

What are Kidney Stones?



A kidney stone is a hard, crystalline mineral material formed within the kidney or urinary tract. It is also known as Renal Calculi (Ren – kidney, Calculi – pebble). The condition of having kidney stones is termed as Nephrolithiasis. If the stones are located in the urinary tract, it is known as Urolithiasis and if found in the ureters, it is known as Ureterolithiasis. If found in the bladder, it is known as Cystolithiasis.

What are the causes of Kidney Stones?

Kidney stones are formed when there is a decrease in urine volume and/or an excess of stone-forming substances in the urine. Chemical compounds such as calcium combined with oxalate or phosphate, uric acid and amino acid cysteine can form stones in the urinary tract. High intake of animal protein, sodium, refined sugars, grapefruit juice, apple juice and fizzy drinks can also lead to kidney stones. Dehydration or strenuous exercise without adequate fluid replacement increases the risk of kidney stones. Urinary tract infection can also result in kidney stones known as Struvite or infection stones. Medical conditions such as Gout, Hypercalciuria (high calcium in the urine), Hyperparathyroidism, Renal Tubular Acidosis, chronic diabetes and high blood pressure and some inherited metabolic conditions can also lead to kidney stones. Some medications such as diuretics, calcium-containing antacids can also raise the risk of kidney stones.

What are the symptoms?

Excruciating intermittent pain that radiates from the flank to the groin or to the genital area and inner thigh, urinary urgency, restlessness, blood in the urine, sweating, nausea and vomiting are some of the symptoms associated with kidney stones.

Who is at risk for Kidney Stones?

Anyone may develop a kidney stone, but people with certain diseases and conditions (as mentioned above) or those who are taking certain medications are more susceptible to their development. In residents of industrialized countries, kidney stones are more common than stones in the bladder whereas the opposite is true for residents in developing areas. Urinary tract stones are about three times more common in males than in females. People who have already had more than one kidney stone are prone to developing further stones. Uric acid kidney stones are more common in people with chronically elevated uric acid levels in their blood. There is some evidence that pregnancy-related changes may increase the risk of stone formation (factors that contribute to this are the slowing of the passage of urine due to increased progesterone levels and diminished fluid intake due to decreasing bladder capacity from the enlarging uterus). A family history of kidney stones is also a risk factor for developing kidney stones.

How to prevent formation of Kidney Stones?

Fluid intake such as citrate rich fluids (lemonade and orange juice) should be restricted. Calcium intake if required must be 1000-1200mg per day. Sodium intake must be lesser than 2300mg per day. Vitamin intake if required must be lesser than 1000mg per day. Limit your animal protein intake to less than 8 ounces per day. Limit consuming high oxalate food such as spinach, strawberries, nuts, dark chocolate, cocoa and brewed tea.

What is the treatment for Kidney Stones?

Most kidney stones eventually pass through the urinary tract on their own within 48 hours, with ample fluid intake. Ninety eight per cent of stones, lesser than 5mm, may pass through the urinary tract within 4 weeks. Anti-inflammatory drugs can be used to control the pain and intravenous pain medications can be given when nausea and vomiting are present.



that is passed through the urethra and bladder up into the ureter.

For kidney stones that do not pass on their own, a procedure called **lithotripsy** is often used. In this procedure, shock waves are used to break up a large stone into smaller pieces that can then pass through the urinary system. Surgical techniques are used when other treatment methods are not effective. This may be done through a small incision in the skin (percutaneous nephrolithotomy) or through an instrument known as a ureteroscope

Note: There are several factors which influence the ability to pass a stone. These include the size of the person, prior stone passage, prostate enlargement, pregnancy, and the size of the stone.

Acupressure and Acupuncture points for Kidney Stones

Both have the potential to dissolve the stones by increasing the heat in the kidney and reducing the coldness. Normally within few sittings one can expect good results.

K 2 (↑) K 10 (↓) K 3 (↑) P 8 (↑)

Those interested in trying acupuncture may contact the research team.

Images used in this article are for ease of illustration.

Courtesy: Internet