



Risk factors

- Factors that increase your risk of developing kidney stones include:
 - Family or personal history. If someone in your family has kidney stones, you're more likely to develop stones, too. And if you've already had one or more kidney stones, you're at increased risk of developing another.
 - Dehydration. Not drinking enough water each day can increase your risk of kidney stones. People who live in warm climates and those who sweat a lot may be at higher risk than others.
 - Certain diets. Eating a diet that's high in protein, sodium (salt) and sugar may increase your risk of some types of kidney stones. This is especially true with a high-sodium diet. Too much salt in your diet increases the amount of calcium your kidneys must filter and significantly increases your risk of kidney stones.
 - Being obese. High body mass index (BMI), large waist size and weight gain have been linked to an increased risk of kidney stones.
 - Digestive diseases and surgery. Gastric bypass surgery, inflammatory bowel

What are renal calculi?

A small, hard deposit that forms in the kidneys and is often painful when passed.

Kidney stones are hard deposits of minerals and acid salts that stick together in concentrated urine. They can be painful when passing through the urinary tract, but usually don't cause permanent damage.

Symptoms:

A kidney stone may not cause symptoms until it moves around within your kidney or passes into your ureter — the tube connecting the kidney and bladder. At that point, you may experience these signs and symptoms:

- **Severe pain in the side and back, below the ribs**
- **Pain that radiates to the lower abdomen and groin**
- **Pain that comes in waves and fluctuates in intensity**



Your Kidney's and You!

By Tamara Ryan

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Etch these in Stone

SYMPTOMS

- Sudden severe pain in abdomen, back side, groin or genitals
- Urge to urinate more often than normal
- Feeling restless and unable to lie still
- Pain while urinating
- Blood in the urine
- Urinary infection
- Feeling sick and vomiting
- Bad-smelling urine
- Diarrhoea



FOODS THAT CAN CAUSE KIDNEY STONES

• Beets	• Colas rich in phosphates
• Chocolates	• Tomatoes
• Spinach	• Too much salty food
• Tea	• Soft drinks
• Nuts rich in oxalates	• Wheat bran
	• Retchup

WHO IS AT RISK FOR GETTING STONES?

• Those not drinking enough water	• Consuming lots of drinks high in fructose
• Those not getting enough calcium in diet	• Having family members with kidney stones
• Eating a lot of foods high in oxalates	• Having kidney stones before

Types of Renal Calculi

Calcium oxalate

Calcium phosphate

Cystine

Struvite

Uric acid

Calcium stones. Most kidney stones are calcium stones, usually in the form of calcium oxalate. Oxalate is a naturally occurring substance found in food and is also made daily by your liver. Some fruits and vegetables, as well as nuts and chocolate, have high oxalate content.

Dietary factors, high doses of vitamin D, intestinal bypass surgery and several metabolic disorders can increase the concentration of calcium or oxalate in urine.

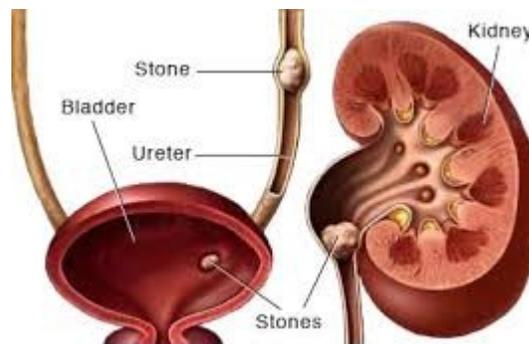
Calcium stones may also occur in the form of calcium phosphate. This type of stone is more common in metabolic conditions, such as renal tubular acidosis. It may also be associated with certain migraine headaches or with taking certain seizure medications.

Struvite stones. Struvite stones form in response to an infection, such as a urinary tract infection. These stones can grow quickly and become quite large, sometimes with few symptoms or little warning.

- **Uric acid stones.** Uric acid stones can form in people who don't drink enough fluids or who lose too much fluid, those who eat a high-protein diet, and those who have gout. Certain genetic factors also may increase your risk of uric acid stones.
- **Cystine stones.** These stones form in people with a hereditary disorder that causes the kidneys to excrete too much of certain amino acids (cystinuria).

Prevention

- Maintain adequate hydration of 2.5 – 3 Liters of fluid per day.
- Maintain a healthy diet by reducing sodium intake.
- Limit consumption of colas, coffee, and tea.
- Avoid potential nephrotoxic over-the-counter medications such as: Ibuprofen or other Non-steroidal anti-inflammatories.



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