

## What are kidney stones?

Kidney stones are hard clusters of crystals that form when your kidneys do not get rid of all the waste in your blood. After you have kidney stones once, you may have them again.

**Chronic kidney stones** are stones that come back throughout your life. They can be caused by:

- Conditions like primary hyperoxaluria (PH1) and cystinuria
- Lifestyle factors, such as not drinking enough water or the food you eat

## What are the different kinds of kidney stones?

### Calcium stones



- The most common – 8 out of 10 kidney stones are calcium stones.
- There are two types of calcium stones:

Calcium oxalate (most common)

Calcium phosphate stones

### Uric Stones



- 1 out of 10 kidney stones are uric stones
- They are caused by high levels of uric acid that build up in your body. Uric acid is made when your body breaks down chemicals called purines.

### Struvite stones (or infection stones)



- These stones are more common in females than in males.
- They are caused by urinary tract infections (UTIs).

### Cystine stones



- These stones are caused by a rare genetic condition (passed down through families) called cystinuria.
- In cystinuria, the body has trouble dissolving cystine, an amino acid. Cystine then leaks into urine, builds up and forms kidney stones.

### Staghorn stones



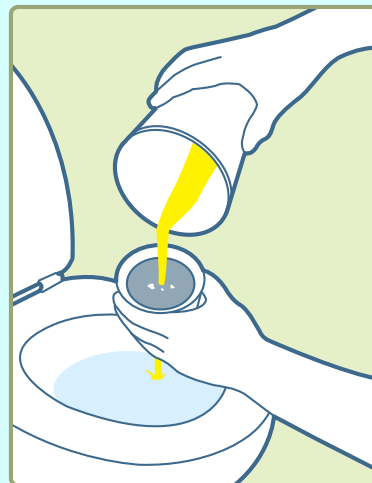
- These stones are large stones named for their shape, which has “branches” like deer antlers.
- They grow large enough to fill multiple branches of your kidney, which can block the pathways in your kidneys.

## How can I tell what kind of kidney stones I have?

To find out what kind of kidney stones you have, your doctor may recommend that you collect your stones or collect a urine sample.

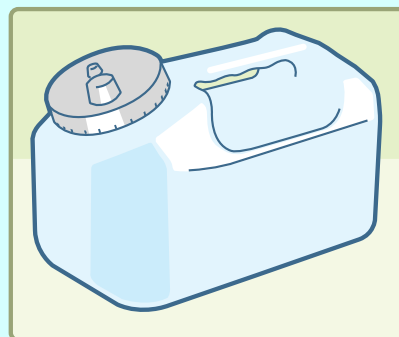
### When you strain your urine

- 1 You urinate (pee) into a container.
- 2 You then pour your urine through a strainer to “catch” a stone. Your doctor may give you a strainer or you can use a kitchen or tea strainer.
- 3 You give the stone to your doctor.
- 4 Your doctor will send the stone to a lab.
- 5 The lab will look at its shape, size and the chemicals it is made of.



### When you do a 24-hour urine test

- 1 You urinate into a container over 24 hours.
- 2 You give the container to a lab.
- 3 The lab will measure the chemicals in your urine to see if any can cause kidney stones.



## Talk to your doctor about your kidney stones

If you have kidney stones that come back, and do not know what kind of stones they are, ask your doctor about your options to test them.

Knowing your kind of kidney stone can help your doctor:

Find out what  
caused it

Decide the best  
treatment for you

Know how to prevent  
future stones



If you have cystine stones, your doctor may also recommend a genetic test to see if you have cystinuria.



For more information visit:  
[KidneyFund.org/KidneyStones](https://KidneyFund.org/KidneyStones)

