



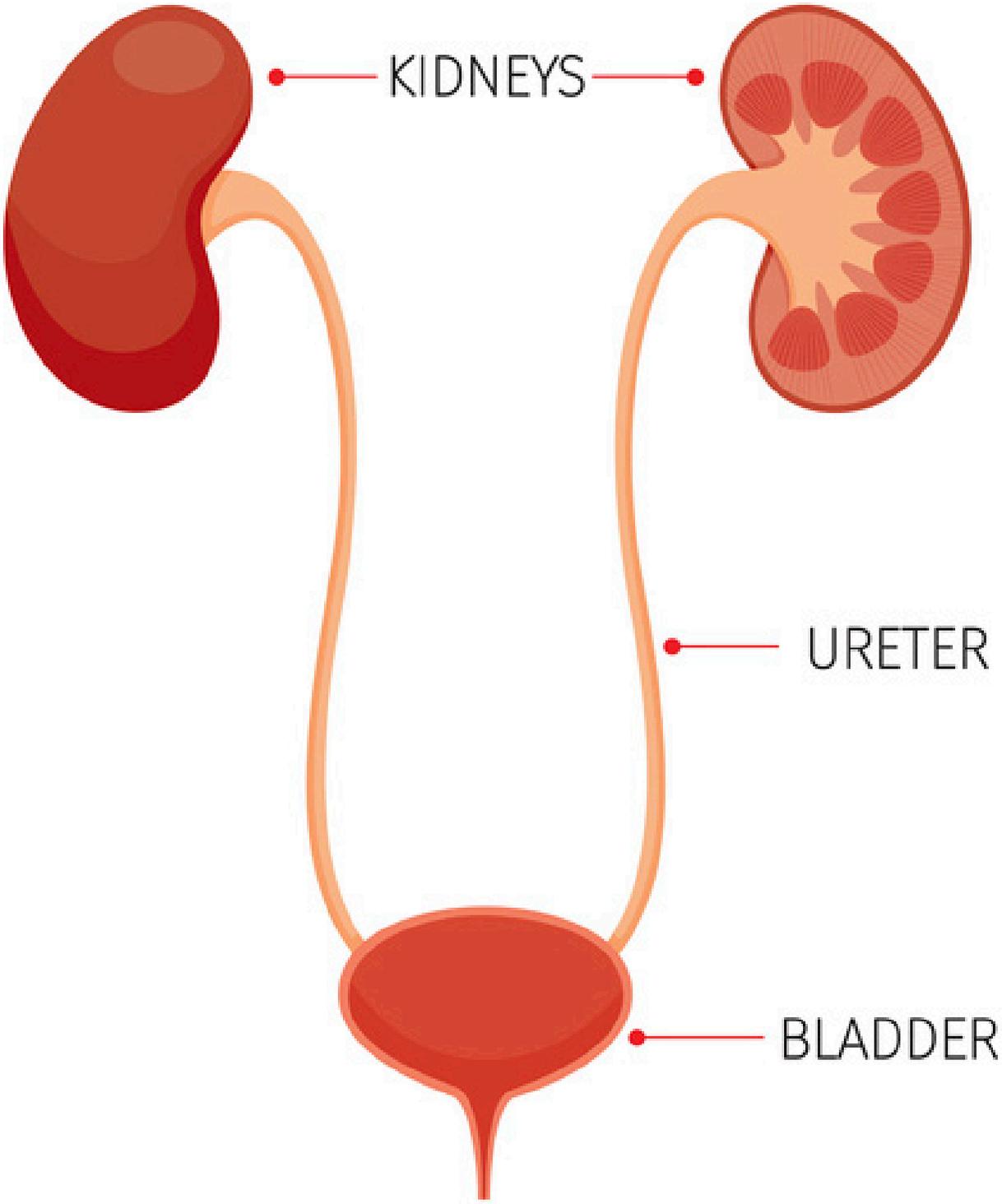
About Kidney Stones



Kidney stone disease is a common problem that affects many people. In fact 1 in 10 people will have a kidney stone in their lifetime. If you do not treat them, kidney stones can be very painful and cause you more problems. Some have to be treated. Others we watch to see how they progress. This guide will help you learn about kidney stones, how they're treated and how you can prevent them in the future.

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KIDNEYS

URETER

BLADDER

Let's talk about your kidneys

To understand what happens with a kidney stone, first you need to know a little about your kidneys. Your kidneys are 2 organs, one on each side of your body. They're the size of your fists. They sit below your ribs toward the middle of your back. Some people only have 1 kidney and can live a healthy and normal life with just 1.

What do my kidneys do

Kidneys do many things. One of the main things is to make urine from the water and waste in your body. This urine travels through narrow tubes called ureters to the bladder. The bladder stores urine. When you go to the bathroom, your bladder sends the urine through your urethra and out of your body.



What are kidney stones?

Kidney stones are small, hard objects that form in your body. When chemicals in your urine form a crystal, these turn in to kidney stones.

They can be small, like a grain of sand, and cause no problems. They can also grow big, like a pearl, and cause a lot of pain.

When a stone leaves your kidney to exit your body, it travels down your ureter. The ureter is a small tube (about 1/8 of an inch). This tube is where stones that are too big can get stuck and cause you pain.

There are different types

Kidney stones come in many shapes and colors. There are 4 major types.

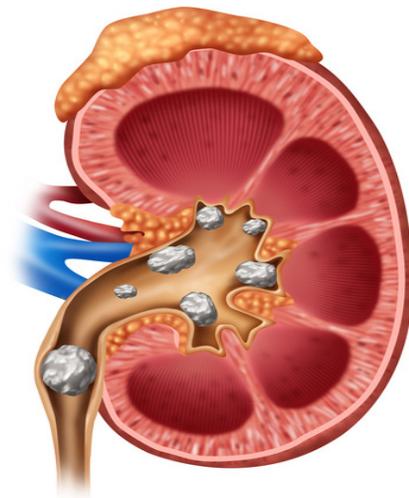
1. Calcium stones (80 percent are calcium stones)
2. Uric Acid stones
3. Struvite/infection stones
4. Cystine stones

There are a few more types, but these are very rare. Your provider will talk to you about the types of stones you have and how we treat them.

There are many things that cause them

These include:

- not drinking enough water
- too many sugar drinks
- too much salt in your diet
- being overweight
- certain medical conditions
- certain medicines
- family history.



Kidney stones are many different shapes and sizes.

What are the signs of kidney stones?

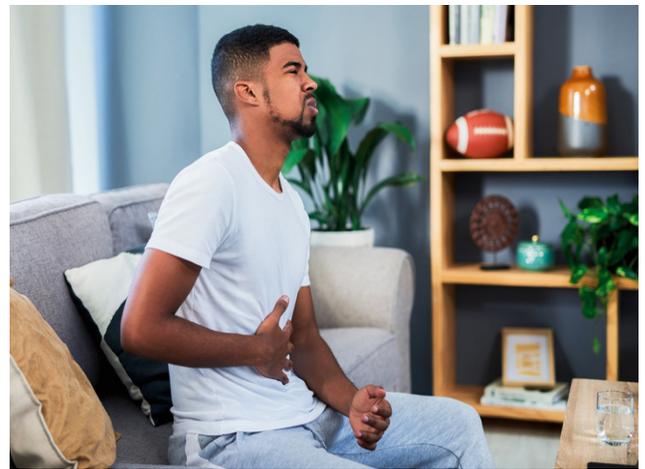
You may not have signs for all kidney stones. Some stones don't have any symptoms. Many can pass through your body with no pain or treatment. When stones get too big, this is when you start to know there's something wrong.

The most common sign is very bad pain that starts and stops. It happens all of sudden.

Other signs include:

- very bad pain in your back
- very bad pain in your stomach
- it burns or hurts when you pee
- chills
- fever
- nausea
- throwing up
- dark or cloudy urine
- blood in urine.

When you have any of these symptoms, call your provider right away.



Kidney stones can cause very bad back and stomach pain.

How do you diagnose kidney stones?

If your provider thinks you have kidney stones, there are many ways we diagnose them. We can do these tests.

Blood Tests

Blood tests help us find if a medical problem is the reason for your kidney stones. It lets us know if your kidneys are healthy.

Urine Tests

We test your urine to see if you have a bladder infection. This test helps us see different types of stones that might be forming in your body.

CT Scan

This scan can show us clear pictures of the stones. It tells us how big they are and where they're located in your body.

A scan is usually done if you come to the emergency room for your pain. It gives us answers quickly.

Ultrasound

This test is quick and easy to do. It's another option to see kidney stones, their size and where they're located in your body.

X-Rays

We also do x-rays. They take pictures of stones in your body.



There are many tests we can do to diagnose kidney stones.

How do you treat kidney stones?

Many times stones pass through the body on their own. If they don't, we treat them.

There are many ways to treat them. What we do, will depend on:

- the type of stone
- where the stone is
- how bad you feel
- how long you've had symptoms.

Here are different treatments

Medicine

Certain medicines can help kidney stones pass. The most common one is Tamsulosin. We can also give you pain and anti-nausea medicine while you wait for the stone to pass.

Surgery

Sometimes we need to do surgery to remove a stone. We will do surgery if:

- the stone does not pass
- the pain is too severe to wait for the stone to pass
- the stone is affecting your kidney from working well.

Shock Wave Lithotripsy (SWL)

This treatment uses high energy shock waves to break down stones. It breaks them into smaller pieces so they can pass through your body over a few weeks.

When we treat you with SWL, we give you anesthesia to help with the pain.

Ureteroscopy (URS)

This procedure uses a small camera with a light to look inside your ureter and find kidney stones. We use a small basket device to grab the stones and remove them. We can also use a laser to break them up.

- This procedure takes 1 hour.
- We'll use medicine that puts you to sleep and prevents pain.
- We may or may not put a stent in to help you go to the bathroom.

Mini and Standard

Percutaneous Nephrolithotomy (PCNL)

This is the best treatment for large kidney stones.

- We'll use medicine that puts you to sleep and prevents pain.
- We make a small incision on the back so we can break up the stones.
- We may put a stent or tube in after this procedure to help you go to the bathroom.

How do I prevent kidney stones?

People get kidney stones for different reasons. When we find out why your body makes them, we'll give you tips on how to prevent them.

Watch what you drink

Drinking lots of fluid is the best way to prevent kidney stones. When your body is hydrated, it makes it harder for stones to form. Follow these tips.

- Drink water. Drink 8-10 glasses a day.
- Limit sugar sweetened drinks.
- Limit alcohol.
- Always drink more fluids when you exercise.

It can be helpful to keep a log on paper or your phone to make sure you drink enough every day.



Drink plenty of water to stay hydrated.

Watch what you eat

What you eat will help prevent kidney stones. The best way to prevent them is to eat a diet that is low in salt.

Limit these foods that are high in salt:

- processed cheese
- deli meat, sausage and hot dogs
- canned soups and vegetables
- breads and baked goods
- chips and pretzels
- casseroles and pizza
- pickles and olives
- canned and bottled sauces
- table salt.

It's best to eat lots of fruits and vegetables.

Medicine

Sometimes what you eat and what you drink may not be enough to prevent kidney stones.

Your provider may want to give you medicine to help prevent kidney stones. We'll talk about this at your appointment.

Common Questions

Will kidney stones damage my kidney?

They can, but it's not common. They only cause damage if you have repeat or serious infections. Or, if there is a blockage for a long time. If they're not treated, some stones can cause a kidney not to work.

If my stone does not pass, will I need surgery?

Maybe. If your stone does not pass in a reasonable amount of time, causes pain, or infection, you might need surgery to remove it.

What if my body keeps making stones?

Sometimes you still get kidney stones. With the right treatment and change in diet, you'll be less likely get stones over and over again.

Is the diet for kidney stones the same as diets for diabetes and heart disease?

The diet we tell you to follow is also good for diabetes and heart disease.

How often do I need see my provider?

It depends. This is different for everyone. Things you may need to come back for are:

- urine samples
- blood work
- medicine checks
- CT scans, ultrasounds or x-rays.

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