

# Kidney stones

## Emergency Department factsheets



### What is a kidney stone?

Kidney stones (medical term is renal calculi) are small hard stones that form in the kidney when the salts in the urine (uric acid) turn solid. They can vary in size and location.

Most stones are small and are flushed out in the urine. Some grow over many years to become quite large. Stones can lodge anywhere in the urinary tract and cause severe pain. There can be one or more stones present at any one time.

Anyone can get a kidney stone. They affect up to 12% of men and 5% of women during their lifetime. Most occur between the ages of 20 and 60. Some people keep getting kidney stones throughout their lives.

### What causes a kidney stone?

Stones can be made up of different matter. The most common ones are made up of calcium. They form because there is the wrong mix of chemicals in the urine, which allows salts to turn into crystals.

For most people with stones, the exact cause is not found. You are more likely to have a stone if you drink only small amounts of fluids. This makes the urine more concentrated. If you have a urinary tract infection (UTI) this can also lead to a stone forming.

You may be unaware that you have a kidney stone. These stones can be as small as a grain of sand or as large as a marble. The pain from a stone is because either it has caused a blockage somewhere along the pathway from the kidney to the bladder, or because of its movement along this pathway. When this happens it causes severe pain and is called renal colic.

### What are the symptoms?

You may feel a strong gripping pain in the back below the ribs, and you may also have pain in your side, groin and thigh. Other symptoms may include:

- blood in your urine
- nausea and vomiting
- sweating, fever and shivers
- an attack may last many hours. This often settles when the stone has passed into your bladder, which may take some time
- most stones are not painful to pass (once past the bladder) and some people don't even know when this happens.

### Treatment

While in the emergency department, you may be given:

- a strong painkiller to ease your pain (such as Panadeine Forte or morphine through a drip) – do not drive home if you feel drowsy or have had morphine
- medication for the nausea
- fluids into the vein (intravenous) to help flush out the stone
- a urine test to look for infection, blood and crystals
- a blood test to look at the salts in your blood and how well your kidneys are working
- a special x-ray to see whether there is a stone and check the state of the urinary tract (this may be done as an outpatient).

A doctor may prescribe pain relief such as Panadeine Forte (paracetamol and codeine) for you to go home with. Some people need anti-inflammatory medications such as ibuprofen or Voltaren. Indomethacin suppositories may be helpful. These are not suitable for everyone. Ask your doctor or health care professional for advice

## Home care

- Drink at least eight glasses of water a day to help flush the kidney stone out.
- If you have pain, take painkillers such as paracetamol or whatever medication the doctor has prescribed. Check the packet for the correct dose and take only as directed.
- Each time you urinate, do so in a jar. Pour the urine from the jar through the strainer and into the toilet. Continue doing this until 24 hours after your pain stops. By then, if there was a kidney stone, it should pass from your bladder. Some stones dissolve into sand-like particles and pass right through the strainer. In that case, you may never see a stone.
- Save any stone that you find in the strainer and bring it to your doctor for analysis. It may be possible to prevent certain types of stones from re-forming. Therefore, it is important to know what kind of stone you have.
- Try to stay as active as possible since this will help the stone pass. Do not stay in bed unless your pain prevents you from getting up. You may notice a red, pink or brown colour to your urine. This is normal while passing a kidney stone.

## What to expect

- Most people will pass the kidney stone without any trouble in the next few days to weeks. The time it takes to pass a stone varies from person to person.
- A large stone may cause a blockage and you may be referred to an urologist (a doctor who specialises in kidney stones) for treatment. A treatment called lithotripsy may be used to break the stone up into smaller pieces. Some people need surgery to remove the stone.
- If a stone blocks the natural flow of urine this can cause an infection in the urinary tract and antibiotics will be needed.

## Prevention

If you have had a kidney stone, there is strong

possibility you will have another kidney stone in the future. Studies suggest that you can halve your risk of forming another stone by drinking two litres of water a day. If your urine is dark yellow you are not drinking enough.

You can help prevent a kidney stone by getting prompt treatment for a urinary tract infection (UTI). See your doctor if you have had more than one attack your doctor may arrange tests to check for troublesome acids and minerals in your blood.

Changes in your diet are only advised for some causes of kidney stones. Please check with your doctor before changing your diet.

## Seeking help

In a medical emergency, go to the nearest hospital emergency department or call an ambulance (dial 000).

For other medical problems see your local doctor or health-care professional.

13 HEALTH (13 43 25 84) provides health information, referral and teletriage services to the public in all parts of Queensland and is available 24 hours a day, 7 days a week, 365 days a year for the cost of a local call\*.

\*Calls from mobile phones may be charged at a higher rate. Please check with your telephone service provider

Disclaimer: This health information is for general education purposes only. Please consult with your doctor or other health professional to make sure this information is right for you.

## Want to know more?

Visit Kidney Health Australia

[www.kidney.org.au](http://www.kidney.org.au)

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