

# Bitesize Guide to:

## Kidney Stones

Kidney stones are a common condition, particularly if you have a family history of them. Some go unnoticed but others can cause mild to extreme discomfort. It is important to be aware of the symptoms to receive treatment quickly. This is our bitesize guide to the condition.

### What is it?

Kidney stones are stone-like nuggets that form in the kidneys. They consist of waste materials that have been filtered from the blood. They can either be very small, similar to grit, or very large, and take up significant space in the kidney or along the urinary tract. They are of varying compositions and calcium stones are the most common type of stone.

Smaller stones can pass through the body without detection. Larger stones, however, usually make themselves felt by causing:

- Intermittent pain spreading down the flank from the back to your lower abdomen (below the belly button) and genitals.
- Blood in the urine.
- Feverish symptoms, such as a high temperature, feeling sweaty, nausea and vomiting.

### Who gets it?

Kidney stones can affect both men and women, although men are at a higher risk. They usually occur between the ages of 30-60.

### Why does it happen?

The kidneys filter out unwanted materials from your blood. These bits of waste materials can form very small crystals, which become kidney stones over time.

In many cases, it is uncertain why this build-up happens and there could be a variety of reasons. It is thought that kidney stones are more likely to occur if your urine is more concentrated. This could happen if an individual is not drinking enough or if one is losing fluid through sweating from excessive exercise. A diet high in salt and sugar is also thought to contribute to kidney stones. Medications, such as certain antibiotics and antihypertensives, can also increase the risk of kidney stones. In a minority of cases, another medical condition or infection could cause kidney stones to build up.

### Diagnosing Kidney Stones

If you are experiencing any symptoms associated with kidney stones, book an appointment with your GP. Your doctor will ask you about your symptoms, medical history, and lifestyle. They will want to know about your diet, how much you drink, and if you have spent time in a hot climate. In these consultations, your GP will usually examine your stomach. If your doctor thinks you have kidney stones, there are a number of tests that can be done to confirm this diagnosis:

- **Urine and blood tests** - To look for signs of infection and crystals, and to check for raised levels of chemicals that make up kidney stones, such as calcium and uric acid.
- **X-Ray** - Majority of kidney stones are visible by x-ray but some may not be visible.
- **Low-dose non-contrast Computer Tomography (CT) scan** - A 3D image is formed by combining multiple x-rays and this is the definitive test as all kidney stones will show up on this.
- **Ultrasound** - Offered as first-line imaging for children and young people to avoid unnecessary exposure to radiation and may also be offered to adults to assess for signs of infection in the urinary tract as a result of the kidney stone.

## Treating Kidney Stones

If the stones are only small, you may be advised to take painkillers and drink lots of water to flush them out. Other methods can be used to remove larger kidney stones:

- **Medical expulsive therapy** - Drugs that help the spontaneous passage of stones from the body. For small stones that are far down the tract.
- **Stents** - Soft, hollow, plastic tube placed in the ureter (tube that carries urine from the kidney to the bladder) that may then be subsequently removed once the stone has passed.
- **Extracorporeal shockwave lithotripsy (ESWL)** - Ultrasound waves are sent through the skin, breaking down kidney stones and allowing them pass out of the body in smaller fragments.
- **Ureteroscopy** - The surgeon inserts a tube up in the urethra (the pipe that takes urine out of your body) which can be used to pass instruments through to crush the stones
- **Percutaneous Nephrolithotomy (PCNL)** - This procedure involves breaking the stones with a nephroscope, an instrument that applies energy waves to kidney stones.

## 4 Key Facts about Kidney Stones

1. 25% of patients with kidney stones have a family history of the condition.
2. About 10% of the population will have a kidney stone during their lifetime.
3. Key symptoms of kidney stones include flank pain and visible blood in the urine.
4. Lifestyle factors and certain medications increase your risk of developing a kidney stone.

If you think you may have kidney stones, speak to your healthcare professional.

*Our thanks to Mr Akshay Narayan, a Foundation Year 2 Doctor at NHS Grampian with a keen interest in urology, for reviewing this information.*

Ref: BG KS Oct 2021  
Planned review: Sept 2024

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