

## PATIENT'S GUIDE TO KIDNEY STONES

### WHAT IS A KIDNEY STONE?

A kidney stone is a solid piece of material that forms in a kidney when there are high levels of certain substances in the urine. These substances are normally found in the urine and do not cause problems at lower levels.

A stone may stay in the kidney or travel down the urinary tract. Kidney stones vary in size. A small stone may pass on its own, causing little or no pain. A larger stone may get stuck along the urinary tract. A stone that gets stuck can block the flow of urine, causing severe pain or bleeding.

### CAUSES OF KIDNEY STONES

Kidney stones are caused by high levels of calcium, oxalate, and phosphorus in the urine. Some foods may cause kidney stones in certain people. You may be more likely to get a kidney stone if you have

- a condition that affects levels of substances in your urine that can cause stones to form
- a family history of kidney stones
- repeating, or recurrent, urinary tract infections
- blockage of your urinary tract
- digestive problems

You may also be more likely to get a kidney stone if you don't drink enough fluids or if you take certain medicines.

### SYMPTOMS

You may have a kidney stone if you

- have pain while urinating
- see blood in your urine
- feel a sharp pain in your back or lower abdomen—the area between your chest and hips

The pain may last for a short or long time. You may have nausea and vomiting with the pain. If you have a small stone that passes on its own easily, you may not have symptoms at all.

### DIAGNOSIS

To diagnose kidney stones, your doctor will do a physical exam and ask about your medical history. The doctor may ask if you have a family history of kidney stones and about your diet, digestive problems, and other health problems. The doctor may perform urine, blood, and imaging tests to complete the diagnosis.

- Urine tests can show whether you have an infection or your urine contains substances that form stones.
- Blood tests can show problems that lead to kidney stones.
- Imaging tests are used to find the location of kidney stones in your body. The tests may also be able to show problems that caused a kidney stone to form.

### TREATMENT

The treatment for kidney stones usually depends on their size and composition. Kidney stones may be treated by your regular doctor or by a urologist—a doctor who specializes in the urinary tract. You may need treatment if you have symptoms or if a kidney stone is blocking your urinary tract. Small stones don't usually need treatment. Still, you may need pain medicine. You should also drink lots of fluids to help move the stone along. If you are vomiting often or don't drink enough fluids, you may need to go to the hospital and get fluids through a needle in your arm.

### PREVENTING KIDNEY STONES

To prevent kidney stones, you need to know what caused your kidney stone. Your doctor may ask you to try to catch the kidney stone as it passes in your urine. The kidney stone can then be sent to a lab to find out what type of stone it is. If you have treatment in the hospital and the doctor removes the stone, it will also be sent to a lab for testing.

Your doctor may ask you to collect your urine for 24 hours after the stone has passed or been removed. Your doctor can then measure how much urine you produce in a day and mineral levels in the urine. You are more likely to form stones if you don't make enough urine each day or have a problem with mineral levels.

Once you know what type of kidney stone you had, you can make changes in your diet, and take medicines to prevent future kidney stones.

