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المبادئ الإرشادية السريرية لدولة قطر  
NATIONAL CLINICAL GUIDELINES FOR QATAR

# INFORMATION FOR PATIENTS & CAREGIVERS

## What you need to know about Kidney Stones (Urolithiasis)

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## WHAT ARE KIDNEY STONES?

Kidney stones are hard stone-like lumps that can develop in one or both kidneys and sometime in the tubes (the ureters) that drain urine from the kidneys into the bladder.

People living in the Gulf region frequently develop kidney stones due to a combination of high animal protein intake and environmental factors (hot, dry climate).

Once you have a kidney stone there is a high chance of having another stone in future, depending on the type of stone and seriousness of the disease.

Most kidney stones are small and may be easily passed out with the urine without causing any symptoms. However, larger stones may become trapped in a kidney or ureter and cause damage to these organs or obstruction of urine flow and sometimes urinary tract infection. Therefore, the most common symptoms of kidney stones include:

- Flank or loin pain.
- Blood in your urine.
- Nausea and vomiting
- Symptoms of urine infection such as fever, pain on passing urine and frequent passing of urine.

If you're worried that you or a family member could have kidney stones, see your primary care physician for a full discussion.

## WHAT ARE KIDNEY STONES?

Our kidneys remove many different chemicals from our body to keep us healthy. These waste chemicals usually dissolve in urine and are passed out of our body.

Occasionally some of these chemicals may form tiny crystals in the urine and clump together to form kidney stones.

You are more likely to develop a kidney stone if you have:

- Concentrated urine due to:
  - Low fluid intake.
  - Excess loss of fluid from the body (sweating).
- Recurrent urine infections.
- An abnormal kidney or ureter.
- A positive family history of a kidney stone.
- Eat high protein, low fibre diets.

- Overweight.
- Medical conditions that produce high amounts of stone-forming chemicals in the body. Examples include:
  - Gout.
  - Metabolic syndrome.
- Taking certain medications:
  - Diuretics.
  - Calcium supplements.
  - Some HIV medicines.
  - Vitamin D supplements.

## WHEN SHOULD I SEE A DOCTOR?

It is important that you see a primary care doctor immediately if:

- Your symptoms fail to improve, become worse despite taking pain-relief medicines. It is especially important that people within these high-risk categories see a doctor right away:
- Repeated episodes of kidney stones within a short period.
- Pregnancy.
- Immunosuppression.
- A transplanted kidney.
- Only one kidney.
- Long-standing kidney disease.
- Cancer.

## WHAT YOUR DOCTOR WILL DO

To diagnose a kidney stone, your doctor will ask questions, examine your body and order some initial laboratory tests:

- Blood tests to check the functions of your kidneys and the level of common chemicals that may cause kidney stones such as calcium and uric acid.
- Urine tests to check for infection and certain crystals that can cause stones.

Your doctor may request special X-rays or scans of the kidneys and the ureters.

A CT scan may also be necessary. These tests will show the exact location of the stone.

If you know that you are passing a stone, try to catch it in a strainer.

Careful analysis of the stone will help guide your treatment.

## TREATMENTS

Treatment options include:

- **Pain-Relief Medications** e.g. Ibuprofen, help control the pain until you pass out the stone. If your stone is less than 10 millimetres in diameter, no additional treatment is necessary, and you will be able to go home once the pain has subsided.
- **Medical Expulsive Therapy** involves the use of specific medicines to increase your chances of your stone passing. Alpha-blockers are usually given. Example includes tamsulosin.
- **Surgical Treatments** to remove stones greater than 10 millimetres in diameter which are unlikely to pass out on their own.
  - Extracorporeal Shock Wave Lithotripsy. High-energy shock waves from a machine break-up the stones from the kidney.
  - Percutaneous Nephrolithotomy- telescope-like instrument is passed into the kidney to break up the stones.
  - Ureteroscopy – a telescope-like instrument is passed into the ureter to break up the stones.
  - Open Surgery is needed if other options are not suitable.
- **Other Treatments include**
  - Antibiotics to treat any co-existing infection.
  - Antiemetics to control nausea and vomiting.



## SPECIALIST CARE

If your case is very serious and you cannot pass urine, you may be referred to a specialist called a urologist for **emergency specialist care**. Based on your condition, the specialist may perform a procedure known as **urgent decompression** to relieve any obstruction you may have.

Drinks such as tea and coffee can count towards your fluid intake, but water is the healthiest option for kidney stone prevention.



## SYMPTOMS TO WATCH OUT FOR

If you or your child have any of the following symptoms, call an ambulance or go immediately to an Emergency Department or Paediatric Emergency Centre:

- **Severe or worsening loin or flank pain**
- **Fever with chills, and shivering**
- **Pain with cloudy or bad smelling urine**
- **Persistent vomiting**
- **Inability to pass urine**
- **Feeling very weak, unwell, or tired**

If you think that a medicine you are taking is the cause of your kidney stone, do not discontinue the medicine but discuss with your doctor.

## PREVENTION OF KIDNEY STONES

To help prevent kidney stones formation, do the following.

- Drink plenty of fluids daily. At least 2-3 litres per day and more during exercise.
- Reduce the amount of animal protein in your diet.
- Reduce the quantity of salt in your diet.
- Reduce the intake of oxalate-rich foods such as spinach, nuts, chocolate, and strawberries.
- Take medications to prevent kidney stones formation, if prescribed. Examples include Allopurinol and Potassium citrate.

## ADDITIONAL INFORMATION

The Ministry of Public Health has published a National Clinical Guideline advising doctors on how to treat patients with kidney stones.

The Guideline is available to the public from the MOPH website:

[www.moph.gov.qa](http://www.moph.gov.qa)

