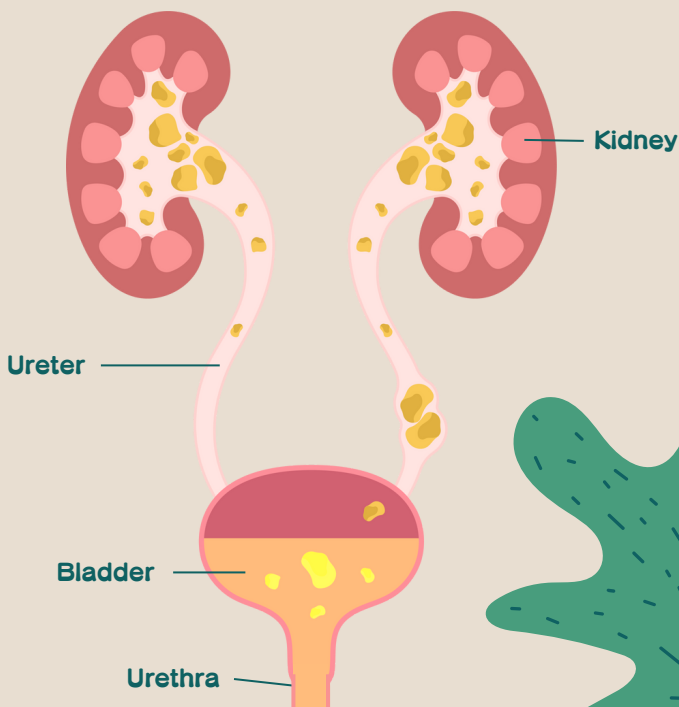




Kidney STONES

HARD, CRYSTALLINE DEPOSITS THAT DEVELOP WHEN THERE IS AN EXCESS IN THE SUBSTANCES THAT MAKE UP URINE





01

CALCIUM OXALATE STONES

Account for approximately 75 -85% of all stones, and is caused by eating food rich in oxalate.



02

URIC ACID STONES

Account for 5-10% and is caused by loss of too much fluid from the body and taking high protein diet.

03

STRUVITE STONES

They usually caused by urinary tract infections and are composed of magnesium, ammonium, and phosphate. They are less common but can grow quite large and quickly.

04

CYSTINE STONES

These are rare and are formed due to a genetic disorder that causes the kidneys to excrete excessive amounts of cystine, an amino acid. These stones are typically hereditary.

05

XANTHINE STONES

These are rare. They can be related to a rare genetic disorder or drug-induced stones, which can form due to medications.



Risk Factors



- Family history of stones
- Dehydration
- A diet high in chemicals that make up the stone
- Certain medical conditions

Symptoms

- Intense pain when they move from the kidney into the ureter. This pain is often sharp and colicky and can radiate to the lower abdomen and groin or back.



- Blood in the urine,
- Frequent urination,
- Urinary hesitancy and
- Nausea.



Complications

If left untreated, kidney stones can lead to complications like urinary tract infections or kidney damage.

Diagnosis



- Your doctor will ask about your medical history, including any previous episodes of kidney stones, family history, and your symptoms.

- A physical examination may be conducted to check for signs of pain or tenderness in the abdomen or back.



- An ultrasound may be recommended to determine the location and size of the stone.

- Analysis of a passed stone can help identify its composition.





Treatment

Treatment depends on the size, type, and location of the stone.



01

Small calcium oxalate stones

May pass on their own with increase fluid intake and oral medicines.



02

Uric acid stones

Often be dissolved or prevented from forming by maintaining a more alkaline urine environment through dietary changes or medications like allopurinol.



03

Larger or more problematic stones

May require interventions like extracorporeal shockwave lithotripsy, ureteroscopy, or percutaneous nephrolithotomy (surgical removal).




04

Struvite stones

Typically require surgical removal because they tend to grow large and quickly.

Antibiotics to treat the underlying urinary tract infection are also necessary.



Prevention

- If you've passed a kidney stone, your doctor may ask you to collect it for analysis. The composition of the stone can help determine its type and guide treatment and prevention strategies.



- Stay well-hydrated.
- Maintain a balanced diet.
- In some cases, take medications as prescribed by a healthcare provider.



- For prevention of calcium oxalate stones, maintain adequate hydration, limit high-oxalate foods (such as spinach and rhubarb), and moderate calcium intake.



- For prevention of uric acid and cysteine stones, drink plenty of fluids to keep urine diluted and reduce uric acid and cysteine concentration.

- Avoid purine-rich foods like organ meats and limit alcohol consumption if you're prone to uric acid stones.

