

Keywords used: kidney stones

Problem: Kidney stones are excruciating. The pain causes many thoughts and questions that PCPs need to be ready to answer.

Solution: This piece answers common questions related to kidney stones.

Kidney Stones: Answering 7 Key Patient Questions

Kidney stones send 500,000 Americans rushing to the emergency department annually. What begins as mild back pain can quickly shift to pain that causes people to consider end-of-life plans. Patients consistently report, "I thought I was going to die." Though some stones mandate medical intervention, most are resolved by increasing water intake.

More and more people seek medical treatment for kidney stones, and recurrence rates are high. Approximately 40% of people have another stone within five years of the initial incident. Therefore, providers must be prepared to answer common questions related to kidney stones.

Key Takeaways

- Kidney stone incident rates are on the rise, sending half a million Americans to the emergency department annually.
- Imaging and urinalysis are tests often used to diagnose kidney stones. CT scans help physicians determine the size and location of the stone.
- Patients often think it odd that they have to save their kidney stone. However, studying the stone helps physicians classify it, which aids in developing an appropriate care plan.
- Physicians categorize stones as calcium, struvite, uric acid or cystine.
- Adequate fluid consumption is vital for preventing kidney stones in adults and children.

#1: "What's a kidney stone, and how did I get it?"

Kidney stones are not actually stones but crystals. Nevertheless, a crystal traveling down the urinary tract often feels like a stone, scraping and stabbing as it goes. The kidneys usually excrete extra salt and waste. However, **crystals form when the urine's waste concentration rises.**

The crystals attract elements like calcium, oxalate, urate, cystine, xanthine and phosphate. The longer it takes to excrete the stone, the larger it becomes. Common causes of kidney stones are:

- Dehydration
- Excessive sweating

- A diet high in salt, sugar, fructose or animal-sourced protein
- Recent bariatric surgery

Stones are more prevalent for those with:

- Hyperparathyroidism
- Renal tubular acidosis
- Diabetes
- Obesity

Increased water consumption is often the only therapy needed to flush the stone and relieve the pain. However, some stones become lodged in the kidneys, causing blockage and decreased urine flow.

#2: “What are the most common symptoms?”

Kidney stones vary in size. Some resemble a grain of sand, and others a pebble. However, stones can grow to the size of a golf ball. Clearly, **the larger the stone, the more prominent the symptoms**. Symptoms associated with kidney stones are:

- Severe pain developing on either side of the lower back
- Persistent generalized pain or stomach discomfort
- Hematuria
- Nausea or vomiting
- Fever and chills
- Odorous or cloudy urine
- Renal colic (intermittent, radiating abdominal pain)

A kidney stone rubs and irritates the sensitive lining of the urinary tract. Though intensely painful, most people pass kidney stones without long-term damage. Stones larger than 5 mm are less likely to pass naturally. Persistent symptoms may necessitate medical intervention.

#3: “How do you know it’s a kidney stone and not something else?”

Sometimes, symptoms and physical examinations adequately indicate kidney stones, making further testing unnecessary. However, a CT scan and urinalysis help physicians rule out other possible causes:

- Peritonitis
- Acute cholecystitis
- Bowel obstruction
- Pancreatitis
- Dissecting aortic aneurysm

A helical CT scan without radiopaque contrast is the preferred diagnostic method. This imaging test helps visualize the size and location of the stone and shows the extent of urinary blockage.

#4: “Why do you need to examine the stone?”

Patients often think that saving kidney stones is strange. It feels awkward to strain and deliver a stone to the doctor. However, **stone evaluation allows physicians to classify them** as calcium, struvite, uric acid or cystine.

Calcium stones

Calcium stones are the most common type, accounting for 80%. These stones are often the result of hypercalciuria, an excess calcium in the urine. Calcium oxalate is the most common crystal combination of kidney stones.

Struvite stones

Struvite stones are associated with chronic urinary tract infections (UTIs). These magnesium and ammonia crystals account for 10% of kidney stones. Struvite stones are often large and fast-growing.

Uric acid stones

Uric acid stones thrive in acidic urine and produce 5-10% of stones. People with acidic urine tend to have chronic diarrhea, elevated blood sugar or gout. Being overweight or eating a diet high in animal protein increases people's risk of uric acid stones.

Cystine stones

Only 1% of kidney stones are cystine. They result from an inherited metabolic disorder, with symptoms frequently beginning in childhood.

Though it seems strange to patients, stone evaluation is imperative. Understanding the composition of the kidney stone helps with classification. Patients can then better adjust their diet and lifestyle to promote urinary health.

#5: “When should I notify my doctor?”

Patients should notify their doctor when they notice kidney stone symptoms. The longer the stones stay in the urinary tract, the larger they become. **Imaging shows the size and location of the stone, helping clinicians determine if patients can pass it naturally.** With increased water consumption, people can often flush stones without medical intervention. However, input from a physician can save patients time and discomfort.

#6: “Can I do anything to prevent another one?”

Adequate fluid consumption is vital for kidney stone prevention. Fluids low in sugar, fructose and salt are most effective. **Water is the body's optimal resource for hydration and stone prevention.**

Patients can evaluate how well they are doing with fluid intake. Adequate fluid intake produces pale yellow or clear urine. If the urine is dark yellow, they need to drink more water. Patients should shoot for at least 64 ounces of water or other hydrating drinks daily.

#7: “Is it true that kids can get kidney stones?”

Yes, kidney stones are **common in children, and the rate is rising annually.** They are so prevalent that hospitals often conduct 'stone' clinics to help medical professionals recognize symptoms in pediatric patients. Kidney stones in children are partly due to insufficient fluid intake and diets high in salt and sugar.

Imaging and urological services for quick relief

Kidney stones are annoying at best. But they often result in excruciating pain and can lead to urological damage. Patients typically pass stones naturally. However, imaging is essential to determine the size and location of the stone.

<Facility Name> provides prompt evaluation, so your patients receive quick relief. We would be honored to be your partner in care. If your patient needs imaging or urological services, click the "Refer" button.

Resources

“What are Kidney Stones?” American Urological Association: Urology Care Foundation, Kidney Stones: Symptoms, Diagnosis & Treatment - Urology Care Foundation.

“Stones in the Urinary Tract.” Merck Manuals Consumer Version, 2023, Stones in the Urinary Tract - Kidney and Urinary Tract Disorders - Merck Manuals Consumer Version.

“NKF Answers Top 10 Questions about Kidney Stones.” National Kidney Foundation, 2014, NKF Answers Top 10 Questions about Kidney Stones | National Kidney Foundation.