

Metabolic Medical Management for Kidney Stones

HELPING YOU STAY STONE FREE



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What is metabolic management of kidney stones?

The passing or surgical removal of a kidney stone is just one part in your journey to becoming kidney stone free.

Chesapeake Urology's unique metabolic medical management program is an important part of your overall kidney stone treatment plan. For our urologists, it's not just about getting rid of a kidney stone; it's about identifying why you made the stone in the first place and putting a comprehensive and long-term treatment plan in place to help keep you from producing new stones.

OUR GOAL IS TO KEEP YOU STONE FREE FOR THE LONG-TERM



COMPONENTS OF THE METABOLIC EVALUATION

Metabolic evaluations are a vital component to a well-designed kidney stone prevention plan. This series of diagnostic tests helps determine causes of your stone disease. The metabolic work-up includes several key components:

- A 24-hour urine test. This test is an important diagnostic tool that provides your doctor with the most information on why you're forming stones. Patients urinate in a collection jug for a full 24 hours. The urine is then analyzed for levels of calcium, oxalate, uric acid, urinary sodium and other indicators of kidney stones.
- Blood work can show increased levels of minerals such as uric acid and calcium that lead to kidney stone formation.
- Crystal analysis (when a kidney stone or fragment of the stone is available) helps your urologist determine the type of stone your body formed. This can aid in the development of a prevention plan including changes to diet.

Results from the metabolic evaluation often yield a diagnosis such as dehydration, low urinary citrate, or elevated levels of urinary sodium. Understanding the factors that caused your body to produce kidney stones ultimately helps your doctor map out a comprehensive treatment and prevention plan.

HOW METABOLIC MANAGEMENT WORKS

Our metabolic medical management program is a combination of comprehensive medical management, patient education and prevention. Managing your stone disease includes:

- Regular testing and a thorough medical evaluation including blood work and 24-hour urine collection.
- Ongoing medical exams to ensure your body is not producing more kidney stones. These may include imaging of your kidneys via X-ray, ultrasound or CT scan.
- Changes to diet that can help prevent stones from forming in the future.
- Adding medications and/or supplements that help reduce kidney stone formation.

WHEN IS THE RIGHT TIME TO GET EVALUATED?

Metabolic evaluation for kidney stones is performed about one month or more after an active kidney stone has passed or has been surgically treated and/or removed. Our specialists will follow-up with you on an ongoing basis and recommend an individualized treatment and stone prevention plan to keep you stone-free for the long-term.

STEPS TO TAKE NOW TO HELP PREVENT KIDNEY STONES IN THE FUTURE

1. Stay well hydrated. The single most important thing you can do if you are forming kidney stones is to increase your fluid intake. Drink enough fluids (lemon water is best) to make 2L or about 1/2 gallon of urine a day. Notice the color of your urine; strive to have your urine be colorless, which means you are taking in an adequate amount of fluid. Depending on the heat and your level of activity, drink about ten 10-ounce glasses of fluid per day. Drink more in the summer months when you're apt to lose more water through sweat. Lemonade made with real lemons has citrate which can be good for the prevention of kidney stones.

2. Cut the salt. Limit the amount of sodium in your diet. The recommended daily allowance of sodium is 2,000 to 2,500 mg/day (about one teaspoon), yet the average American diet takes in about 5,000 mg of sodium a day. Don't add salt to food and take the salt shaker off the table to avoid temptation. Limit eating out and processed foods which also contribute to higher sodium intake. Decreasing urinary sodium also decreases urinary calcium, which is a leading cause of kidney stone formation.

3. Moderate calcium intake. If you have a history of stone formation, your doctor may recommend a moderate intake of calcium—about 800–1,200 mg/day (2 to 3 servings). Calcium, however, is necessary in the diet. Completely eliminating calcium is not advisable and can actually lead to more kidney stones. “Normal” calcium intake helps avoid over-absorption of oxalate and allows for healthy bone maintenance.

4. Limit animal-based protein. Your doctor may recommend that you cut down on consuming animal-based protein (beef, chicken, pork and/or fish), as these foods can increase the rate of kidney stone formation.

5. Avoid heavy intake of oxalate. Some stone producers should avoid heavy intake of oxalate-rich foods including greens like spinach, kale, mustard and collard greens as well as strawberries, rhubarb, chocolate, tea and nuts. Excessive doses of vitamin C can also produce surges in urinary oxalate levels and should be avoided. If you are going to eat oxalate-rich foods, have dietary calcium with these foods at the same meal.

6. Add more citrate to your diet. Citrate inhibits kidney stone formation. Increase your intake of potassium-rich citrus foods such as lemons, oranges and grapefruits, both as the whole fruit and as juice.

