

Calcium Oxalate Stones

What is a calcium oxalate stone?

Calcium oxalate stones are the most common type of kidney stone. Kidney stones are solid masses that form in the kidney when there are high levels of calcium, oxalate, cystine, or phosphate and too little liquid. There are different types of kidney stones. Your healthcare provider can test your stones to find what type you have. Calcium oxalate stones are caused by too much oxalate in the urine.

What is oxalate and how does it form stones?

Oxalate is a natural substance found in many foods. Waste products, such as oxalate, from your food travel through the bloodstream to the kidneys and are removed through urine. If there is too much waste and too little liquid in the urine, crystals can begin to form. These crystals may stick together and form a solid mass, called a kidney stone.

Who is at risk for calcium oxalate stones?

Certain risk factors may cause your body to form calcium oxalate stones. These risk factors include:

- Dehydration from not drinking enough fluid
- A diet too high in:
 - Protein
 - Oxalate
 - Sodium (salt)
 - Sugar (like high fructose corn syrup)
- Obesity
- Medical conditions such as:
 - Dent Disease (a rare genetic disorder that affects the kidneys)
 - Hyperparathyroidism (a very high amount of parathyroid hormone in the blood that causes a loss of calcium, and high levels of oxalate)
- Digestive diseases and surgeries, such as:
 - Inflammatory Bowel Disease (IBD):
 - Ulcerative Colitis
 - Crohn's Disease
 - Gastric bypass surgery

It is important to know that kidney stones are more common if you have Inflammatory Bowel Disease (IBD). This affects your body's ability to absorb fats properly. When fat is not absorbed the right way, the fat binds to calcium and leaves oxalate behind. The oxalate is then absorbed and taken to the kidney, where it can form stones.

Similarly, following gastric bypass surgery, your body absorbs less calcium from your digestive system. Because of this, higher levels of oxalate are found in the urinary tract. The build-up of oxalate can form crystals, which can form kidney stones.

How can I lower my chances of forming calcium oxalate stones?

- **Drink enough fluids.** The number one thing you can do is to drink enough fluids, especially water. Drinking enough fluids will thin out your urine and make it harder for chemicals to build up and form crystals. Your healthcare provider will look at your overall health, diet, and lifestyle and recommend the right amount of fluid you should have each day.
- **Avoid eating too much protein.** Eating too many animal proteins (such as poultry, beef, pork, fish) can cause stones to form.
- **Eat less salt (sodium).** A diet high in salt (sodium) causes calcium to build in your urine.
- **Include the right amount of calcium in your diet.** Calcium is a nutrient that is found in dairy products, such as yogurt, milk and cheese. Eating foods with calcium is a good way for oxalates to leave the body and not form stones. The best way to get calcium into your body is through the foods you eat. Do not take a calcium supplement; calcium in the form of a supplement may raise your chances of forming new stones. Your healthcare provider will help you find the best way to include calcium in your diet.
- **Eat less oxalate-rich foods.** Limiting how many oxalate-rich foods you eat each day may help lower your chance of forming new stones. These are some foods you should limit because of their high oxalate levels:
 - Nuts and nut butters
 - Beans
 - Rhubarb
 - Beets
 - Soy products
 - Chocolate
 - All Bran[®]
 - Buckwheat flour
 - Miso
 - Tahini
 - Sesame seeds
 - Dark green vegetables, such as spinach
 - Sweet Potatoes
 - Berries
 - Oranges
 - Coffee
 - Tea (black)

Should I cut out all foods that have oxalate or calcium?


No, this is a common mistake. Some people think that cutting out all foods that have oxalate or all foods with calcium will keep stones from forming. However, this approach is not healthy. It can lead to poor nutrition and can cause other health problems. Eat and drink calcium and oxalate-rich foods together during a meal. Doing this helps oxalate and calcium bind to one another in the stomach and intestines before reaching the kidneys, making it less likely for kidney stones to form.

Taking supplements and vitamins: It's always best to check with your healthcare provider before use as some vitamins and supplements can increase risk of kidney stones.

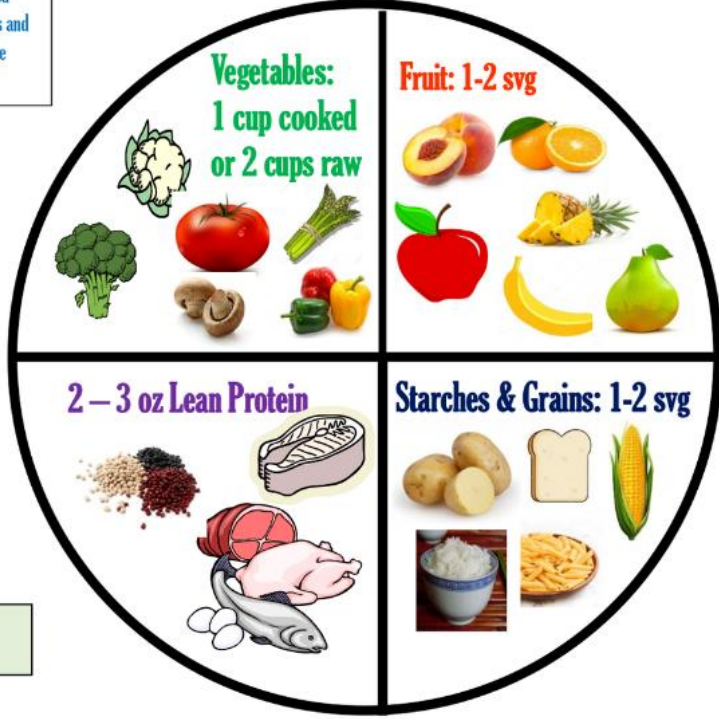
Plan Your Plate For Kidney Stones

Lunch & Dinner

Your diet plan will be customized based on your urine, blood tests and medical conditions when you are followed by a nutritionist



Total fluid intake : 3L
(quarts)/day




Vegetables:
1 cup cooked
or 2 cups raw

Fruit: 1-2 svq

2 – 3 oz Lean Protein

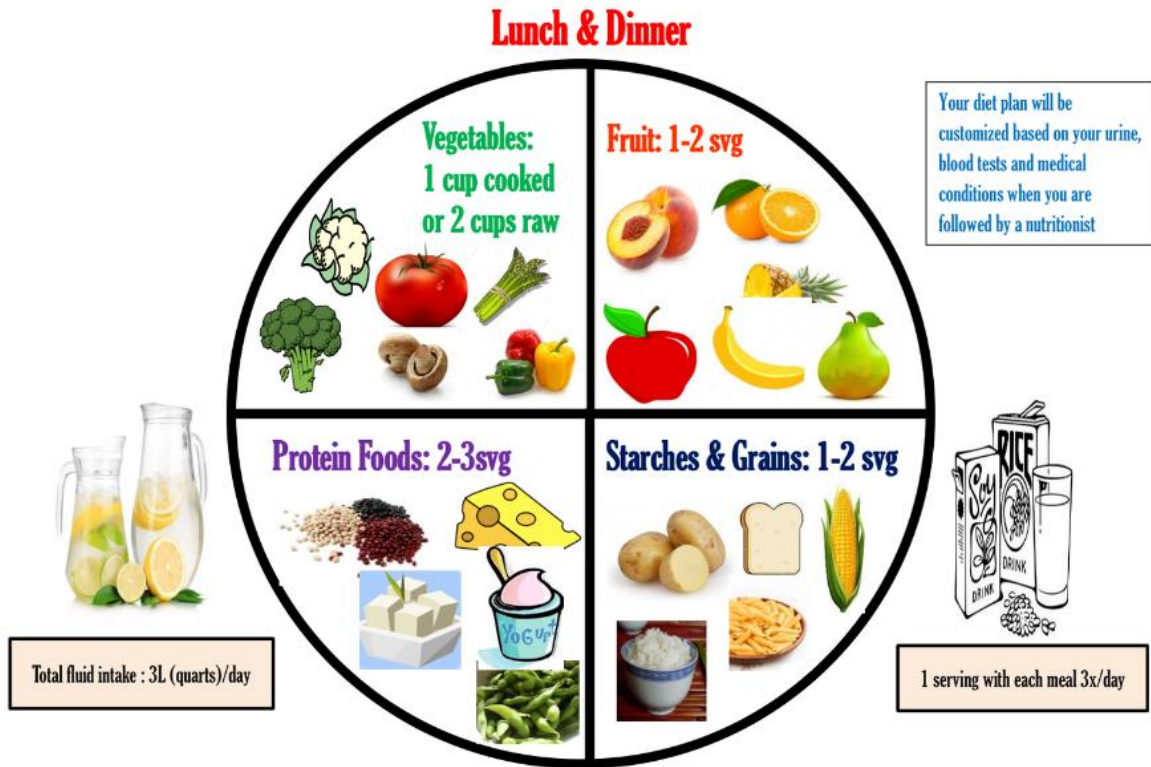
Starches & Grains: 1-2 svq



1 serving with each meal
3x/day

Plan Your Plate For Kidney Stones (Calcium Oxalate)

Plan Your Vegetarian Plate For Kidney Stones



Plan Your Vegetarian Plate For Kidney Stones (Calcium Oxalate)

This document is adapted from the National Kidney Foundation website (<https://www.kidney.org/>)

If you are in need of immediate assistance, please call 732-235-2465 and select the option that best meets your needs.

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