
Healthy Eating Guidelines for Prevention of Recurrent Kidney Stones

Kidney stones are small hard crystals that can form in one or both of your kidneys. They can form when you have high amounts of calcium, oxalate, phosphate or uric acid in your urine.

There are different types of kidney stones. This resource covers information on calcium oxalate, calcium phosphate, and uric acid stones. Calcium oxalate stones are the most common. It is helpful to know what kind of stone you had because the advice about how to eat can be a bit different. Talk with your health care provider if you are unsure.

Over half of people who have had a kidney stone will develop another one. These guidelines will help lower your risk of having another kidney stone.



Steps you can take

1. Drink plenty of fluids, especially water. This is the **most important** thing you can do to lower your risk of getting another kidney stone.

- Aim for at least 2.5 to 3.0 liters (10 to 12 cups) of fluid each day. This should produce about 2 to 2.5 liters of urine per day. Having lots of urine helps prevent stones from forming. It also helps get rid of any small stones that have formed before they grow larger.
- If you are not used to drinking this much fluid, try adding one extra glass of fluid each day and slowly increase the number of glasses you have.
- Most of your fluid should be from water. You can also drink milk, fortified plant-based beverages, tea, or coffee.
- Limit sugary drinks such as energy drinks, sports drinks, flavored waters, soda, sweetened tea and coffee, and fruit flavored drinks. These drinks may increase your risk of kidney stones.

Try these tips to help you drink more water:

- Drink a glass of water after waking up.
- Drink a glass of water with each meal.

- Don't wait until you are thirsty to drink water.
- Use a water bottle to help you keep track of how much water you are drinking.
- Keep a pitcher of water on the counter or in the fridge when you're at home and work.
- Add some cut up lemon, lime, cucumber, watermelon or mint leaves to your glass of water for a refreshing flavour.
- Set reminders for yourself such as automated emails or texts on your smartphone or calendar pop-ups.

2. Follow a healthy eating pattern, such as the DASH diet. The DASH diet is high in vegetables, fruits, and whole grains. It includes lower fat dairy products, fish, poultry, nuts, seeds, beans, peas, and lentils. This kind of eating pattern is low in sodium and high in potassium and citrate which helps decrease the risk of kidney stones forming.

3. Limit animal protein, including meat, fish, seafood, poultry, and eggs to no more than two 3 ounce (90 gram) servings per day.

- Protein from dairy and plant foods does not increase your risk of kidney stones.
- Choose plant-based protein sources such as beans, peas and lentils, tofu, nuts and seeds more often.

4. Limit the amount of sodium you eat to less than 2300mg per day.

- If you eat highly processed foods, eat them less often or in smaller amounts. Highly processed foods are the main source of sodium in our diets. These foods include:
 - commercial bakery products such as breads, muffins, cookies, desserts, crackers, and granola bars
 - store bought mixed dishes such as pizza, lasagna, refrigerated or frozen entrees and appetizers, frozen potatoes, and prepared salads
 - processed meat such as sausages, deli meats, chicken wings, burgers, and meatballs
 - cheese, packaged and canned soups, sauces, and condiments.

- Use the food label to help you choose foods lower in sodium. The percent daily value (%DV) shows you if the food has a little or a lot of sodium. 5% DV or less is a little and 15% DV or more is a lot. You can also use it to compare products.
- Cook from scratch more often using less processed ingredients that have little to no added sodium.
- Flavour your food without salt. Use herbs, spices, seasonings, lemon, lime, garlic, ginger, or pepper.

5. Meet your needs for calcium. For most adults, 19 to 50 years, the recommended daily amount of calcium is 1000 milligrams. Females over 50 and males over 70 years need 1200 milligrams of calcium per day.

- Eat calcium-rich foods instead of taking supplements. Calcium-rich foods include:
 - Milk and dairy products such as yogurt and cheese
 - Fortified plant-based beverages such as fortified soy beverage
 - Tofu made with calcium sulphate
 - Canned fish with bones such as salmon or sardines.
- If you need to take a supplement to meet your needs, take it with meals.

6. If you had calcium oxalate stones in the past, include a source of calcium when eating high oxalate foods. This helps to lower the amount of oxalate your body absorbs and reduces the risk of kidney stones. The following foods have a high amount of oxalate:

- Beets
- Black tea 
- Dark chocolate
- Nuts and peanuts 
- Rhubarb
- Spinach
- Strawberries 

- Wheat bran.

7. Meet your vitamin C needs through food instead of supplements. Taking more than 1000mg of supplemental vitamin C per day can increase your risk of kidney stones.



Additional Resources

- Low Sodium (Salt) Eating www.pennutrition.com/viewhandout.aspx?Portal=RbCR&id=JMfrWgE=&PreviewHandout=bA==
- Food Sources of Calcium www.pennutrition.com/viewhandout.aspx?Portal=RbCR&id=JMfrUAQ=&PreviewHandout=bA==

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