

Kidney Stones and Your Diet

Kidney stones are made from crystals that form in your kidney. You're at higher risk for stones if you have certain medical conditions, a family history of kidney stones, or have had a kidney stone in the past. Some people have kidney stones when their urine is too concentrated (dark) over a long time.

Most kidney stones are made of calcium and oxalate crystals.

Nutrition tips to lower your risk of kidney stones

Drink lots of fluid

This is the best way to lower your risk of kidney stones. Crystals are less likely to form in urine that is not concentrated (pale, instead of dark yellow).

Drink at least 10–12 cups (2.5–3 litres) of fluid each day. You need more fluid during heavy exercise, in hot weather, or when you're travelling a long distance. Talk to your doctor or dietitian if you've been told to restrict fluids.

Water is the best fluid. This includes hot water, cold water and sparkling water. It should make up at least half of the fluid you drink every day. Other drinks such as milk, juice, and soup also count towards your fluid intake. Limit drinks with added sugar like pop, sweetened iced tea, fruit drinks, and sports drinks, because these may increase your risk of kidney stones.

Tips to get enough fluid every day:

- Drink 2 cups (500 mL) of fluid at each meal and snack.
- Carry a water bottle with you during the day.
- Add lemon, lime, or cucumber slices to water for flavour.
- If you wake up at night to pass urine, drink water to replace the fluid you lose.

Ask your dietitian or doctor whether you need to limit caffeine or alcohol.



Limit salt and high sodium foods

If you eat a lot of salt or sodium in foods, the amount of calcium in your urine increases, which increases your risk of kidney stones.

Limit the sodium in your meals and snacks to less than 2300 mg a day. Each teaspoon of table salt has about 2300 mg of sodium.

Tips to lower your sodium intake:

- Limit processed, instant, pre-made, and canned foods. Most of the sodium we eat comes from these foods and restaurant foods.
- Limit fast food and restaurant food.
- Don't add salt during cooking or at the table.
- Season foods with lemon juice, herbs, spices, vinegar, garlic, ginger, or onions instead of salt. Switch to no added salt seasoning mixes.
- Read labels to help you choose foods lower in sodium. Foods that have a Daily Value (DV) for sodium of 5% or less are low in sodium.

Serving size: →
Is this how much you would eat?

Sodium: Look for foods with a Daily Value (% DV) of 5% or less. →

Nutrition Facts	
Per $\frac{3}{4}$ cup (175 mL/ 175 g)	
Calories 160	% Daily Value*
Fat 2.5 g	3 %
Saturated 1.5 g	8 %
+Trans 0 g	
Carbohydrate 25 g	
Protein 8 g	
Cholesterol 10 mg	
Sodium 75 mg	3 %
*5% or less is a little, 15% or more is a lot	

Salt substitutes: Talk to a dietitian or your doctor about whether you should use salt substitutes. Most brands contain potassium instead of sodium. This is a problem for people with some medical conditions.

Manage your weight

If you have extra weight, you may be at higher risk of kidney stones. Talk to your healthcare team if you would like support in managing your weight.

Limit intake of animal protein

Eating large amounts of protein from animal foods can increase your risk of certain kidney stones.

Limit meat, fish, poultry, and eggs to 2–3 servings of 2½ oz (75 grams) a day.

Choose more vegetable sources of protein: soy products; dried cooked beans, peas, lentils; and nuts and seeds. If your doctor has asked you to limit oxalates in food, see the oxalate section.

Talk to a dietitian if you have questions about the protein in your diet.

Eat foods with calcium

Calcium in food binds with the oxalate from your meals and snacks so that less oxalate gets into your urine. It's better to get your calcium from food than from a supplement.

Good food sources of calcium include:

- milk or plant-based beverages with calcium added
- yogurt
- cheese
- canned salmon with bones



If you drink plant-based beverages, ask your dietitian or doctor if you need to choose one that is lower in oxalates.

Try to have your calcium foods with meals.

Talk with your dietitian or doctor if you think you need a calcium supplement. If you need a supplement, avoid those that have calcium combined with vitamin D.

Eat plenty of vegetables and fruit

Include plenty of vegetables and fruits in your meals and snacks. Try making half your plate vegetables and fruits.

Vegetables and fruit are good sources of potassium and fibre, which can help reduce kidney stone formation. Limit your intake of fruit juices if you have a history of kidney stones.

Limit vitamin C supplements

Instead of taking vitamin C supplements, eat foods higher in vitamin C like citrus fruits, peppers, and tomatoes.



Getting a lot of vitamin C from supplements can increase your risk of kidney stones.

Talk to your dietitian or doctor before using vitamin, mineral, or herbal supplements.

Limit foods high in oxalate

If tests show high oxalate in your urine, you may need to limit the amount of oxalate you eat. Your doctor will tell you if you need to do this.

Oxalate is found naturally in some vegetables, fruits, and grain products. If your doctor tells you to limit the oxalate you eat, avoid foods that are **very high** in oxalate. Once in a while, you can eat small amounts of foods **high** in oxalate. Ask your dietitian about the amounts that are right for you.

Very high oxalate foods to avoid

- almonds
- baked potato with skin
- beets
- bran cereals
- brown rice
- cocoa powder
- cranberry concentrate pills
- dried cooked beans and lentils
- French fries
- nuts
- nut butters
- rhubarb
- raspberries
- soy products and tofu
- spinach
- sweet potatoes
- tea, black
- wheat bran

High oxalate foods to limit

- chocolate
- 100% whole wheat bread



Health Link has dietitians to answer nutrition questions. Call 811 and ask to talk to a dietitian or complete a [self-referral form](#) on ahs.ca/811.