

# 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. Don't wait until you're thirsty to drink fluids. Talk to your doctor or dietitian if you've been told to restrict fluids.

**Water is the best fluid.** 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 regular 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 4 cup (1 litre) water bottle with you during the day. You may find that using a straw or a bottle with a wider mouth gives you more fluid in every sip.
- If you wake up at night to pass urine, drink water to replace the fluid you lose.

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



## Manage your weight

If you have extra weight, losing even 5–10% of it may help lower your risk of kidney stones. For example, a person who weighs 220 pounds (100 kg) would try to lose 11–22 pounds (5–10 kg).

## 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 diet 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 when cooking or at the table.
- Season foods with lemon juice, herbs, spices, vinegar, garlic, 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?

Nutrition Facts	
Amount	% Daily Value
Per ¼ cup (175 mL/ 175 g)	
<b>Calories</b> 160	
<b>Fat</b> 2.5 g	<b>4 %</b>
Saturated 1.5 g + Trans 0 g	<b>10 %</b>
<b>Cholesterol</b> 10 mg	
<b>Sodium</b> 75 mg	<b>3 %</b>
<b>Carbohydrate</b> 25 g	<b>8 %</b>

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

**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.

## 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.

## Get enough calcium from food

Milk products are a good source of calcium. The calcium will bind with the oxalate from your foods so that less oxalate gets into your urine. It's better to get your calcium from food than from a supplement.

Eat or drink 2–3 servings of Milk and Alternatives each day (see Canada's Food Guide, [healthcanada.gc.ca/foodguide](http://healthcanada.gc.ca/foodguide)), or as suggested by your dietitian or doctor. Try to have your Milk and Alternatives with meals. Examples of one serving:

- 1 cup (250 mL) of milk
- ¾ cup (175 mL) of yogurt
- 1½ oz (50 grams) of lower fat cheese



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

Eat at least 7 servings of Vegetables and Fruit every day. See Canada's Food Guide for serving sizes ([healthcanada.gc.ca/foodguide](http://healthcanada.gc.ca/foodguide)).

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.

If you are on a low potassium diet, ask your dietitian how many servings are right for you.

## Limit vitamin C supplements

Instead of taking vitamin C supplements, eat foods higher in vitamin C, like citrus fruits, peppers, or 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
- beets and beet greens
- cranberry concentrate pills
- rhubarb
- sesame seeds
- soy products and tofu
- spinach
- sweet potatoes
- Swiss chard

### High oxalate foods to limit

- beer
- berries
- bran cereals
- chocolate
- cocoa
- dark leafy greens, raw
- dried cooked beans, like navy beans
- leeks
- nuts
- nut butters
- parsley, raw
- seeds
- tea, black
- wheat bran
- wheat germ
- 100% whole wheat bread