



Eating, Diet, & Nutrition for Kidney Stones

Can I help prevent kidney stones by changing what I eat or drink?

Drinking enough liquid, mainly water, is the most important thing you can do to prevent kidney stones. Unless you have **kidney failure**, many health care professionals recommend that you drink six to eight, 8-ounce glasses a day. Talk with a health care professional about [how much liquid you should drink](#).

Studies have shown that the Dietary Approaches to Stop Hypertension (DASH) diet can reduce the risk of kidney stones. [Learn more about the DASH diet](#) [NIH](#) ².


Studies have shown that being [overweight](#) increases your risk of kidney stones. A [dietitian](#) can help you plan meals to help you lose weight.

Does the type of kidney stone I had affect food choices I should make?

Yes. If you have already had kidney stones, ask your health care professional which type of kidney stone you had. Based on the type of kidney stone you had, you may be able to prevent kidney stones by making changes in how much [sodium](#), animal [protein](#), [calcium](#), or [oxalate](#) is in the food you eat.

You may need to change what you eat and drink for these types of kidney stones:

- [Calcium Oxalate Stones](#)
- [Calcium Phosphate Stones](#)
- [Uric Acid Stones](#)
- [Cystine Stones](#)

A dietitian who specializes in kidney stone prevention can help you plan meals to prevent kidney stones. [Find a dietitian](#)  who can help you.

Calcium Oxalate Stones

Reduce oxalate

If you've had calcium oxalate stones, you may want to avoid these foods to help reduce the amount of oxalate in your urine:

- nuts and nut products
- peanuts—which are legumes, not nuts, and are high in oxalate
- rhubarb
- spinach
- wheat bran

Talk with a health care professional about other food sources of oxalate and how much oxalate should be in what you eat.

Reduce sodium

Your chance of developing kidney stones increases when you eat more sodium. Sodium is a part of salt. Sodium is in many canned, packaged, and fast foods. It is also in many condiments, seasonings, and meats.

Talk with a health care professional about how much sodium should be in what you eat. See [tips to reduce your sodium intake](#).

Limit animal protein

Eating animal protein may increase your chances of developing kidney stones.

A health care professional may tell you to limit eating animal protein, including

- beef, chicken, and pork, especially organ meats
- eggs
- fish and shellfish
- milk, cheese, and other dairy products

Although you may need to limit how much animal protein you eat each day, you still need to

make sure you get enough protein. Consider replacing some of the meat and animal protein you would typically eat with beans, dried peas, and lentils, which are plant-based foods that are high in protein and low in oxalate.

Talk with a health care professional about how much total protein you should eat and how much should come from animal or plant-based foods.

Get enough calcium from foods

Even though calcium sounds like it would be the cause of calcium stones, it's not. In the right amounts, calcium can block other substances in the digestive tract that may cause stones. Talk with a health care professional about how much calcium you should eat to help prevent getting more calcium oxalate stones and to support strong bones. It may be best to get calcium from low-oxalate, plant-based foods such as calcium-fortified juices, cereals, breads, some kinds of vegetables, and some types of beans. Ask a dietitian or other health care professional which foods are the best sources of calcium for you.

Calcium Phosphate Stones

Reduce sodium

Your chance of developing kidney stones increases when you eat more sodium. Sodium is a part of salt. Sodium is in many canned, packaged, and fast foods. It is also in many condiments, seasonings, and meats.

Talk with a health care professional about how much sodium should be in what you eat. See [tips to reduce your sodium intake](#).

Limit animal protein

Eating animal protein may increase your chances of developing kidney stones.

A health care professional may tell you to limit eating animal protein, including

- beef, chicken, and pork, especially organ meats
- eggs
- fish and shellfish
- milk, cheese, and other dairy products

Although you may need to limit how much animal protein you have each day, you still need to make sure you get enough protein. Consider replacing some of the meat and animal protein you would typically eat with some of these plant-based foods that are high in protein:

- legumes such as beans, dried peas, lentils, and peanuts
- soy foods, such as soy milk, soy nut butter, and tofu
- nuts and nut products, such as almonds and almond butter, cashews and cashew butter, walnuts, and pistachios
- sunflower seeds

Talk with a health care professional about how much total protein you should eat and how much should come from animal or plant-based foods.

Get enough calcium from foods

Even though calcium sounds like it would be the cause of calcium stones, it's not. In the right amounts, calcium can block other substances in the digestive tract that may lead to stones. Talk with a health care professional about how much calcium you should eat to help prevent getting more calcium phosphate stones and to support strong bones. It may be best to get calcium from plant-based foods such as calcium-fortified juices, cereals, breads, some kinds of vegetables, and some types of beans. Ask a dietitian or other health care professional which foods are the best sources of calcium for you.

Uric Acid Stones

Limit animal protein

Eating animal protein may increase your chances of developing kidney stones.

A health care professional may tell you to limit eating animal protein, including

- beef, chicken, and pork, especially organ meats
- eggs
- fish and shellfish
- milk, cheese, and other dairy products

Although you may need to limit how much animal protein you have each day, you still need to make sure you get enough protein. Consider replacing some of the meat and animal protein you would typically eat with some of these plant-based foods that are high in protein:

- legumes such as beans, dried peas, lentils, and peanuts
- soy foods, such as soy milk, soy nut butter, and tofu
- nuts and nut products, such as almonds and almond butter, cashews and cashew butter, walnuts, and pistachios
- sunflower seeds

Talk with a health care professional about how much total protein you should eat and how much should come from animal or plant-based foods.

Losing weight if you are overweight is especially important for people who have had uric acid stones.

Cystine Stones

[Drinking enough liquid](#), mainly water, is the most important lifestyle change you can make to prevent [cystine stones](#). Talk with a health care professional about how much liquid you should drink.

Tips to Reduce Your Sodium Intake

Most Americans consume too much sodium. [Adults should aim to consume less than 2,300 mg a day](#) [↗](#).³ One teaspoon of table salt has 2,325 milligrams (mg) of sodium. If you have had calcium oxalate or calcium phosphate stones, you should follow this guideline, even if you take [medicine to prevent kidney stones](#).

Here are some tips to help you reduce your sodium intake:

- Check the Percent Daily Value (%DV) for sodium on the Nutrition Facts label found on many foods. Low in sodium is 5% or less, and high in sodium is 20% or more.

| Nutrition Facts | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 8 servings per container | |
| Serving size | 2/3 cup (55g) |
| Amount per serving | |
| Calories | 230 |
| % Daily Value* | |
| Total Fat 8g | 10% |
| Saturated Fat 1g | 5% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 160mg | 7% |
| Total Carbohydrate 37g | 13% |
| Dietary Fiber 4g | 14% |
| Total Sugars 12g | |
| Includes 10g Added Sugars | 20% |
| Protein 3g | |
| Vitamin D 2mcg | 10% |
| Calcium 260mg | 20% |
| Iron 8mg | 45% |
| Potassium 235mg | 6% |
| * The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice. | |

- Consider writing down how much sodium you consume each day.
- When eating out, ask about the sodium content in the food.
- Cook from scratch. Avoid processed and fast foods, canned soups and vegetables, and lunch meats.
- Look for foods labeled: sodium free, salt free, very low sodium, low sodium, reduced or less sodium, light in sodium, no salt added, unsalted, and lightly salted.


Check labels for ingredients and hidden sodium, such as

- sodium bicarbonate, the chemical name for baking soda
- baking powder, which contains sodium bicarbonate and other chemicals

- disodium phosphate
- monosodium glutamate, or MSG
- sodium alginate
- sodium nitrate or nitrite

References

[2] Taylor EN, Fung TT, Curhan GC. DASH-style diet associates with reduced risk for kidney stones. *Journal of the American Society of Nephrology*. 2009;20(10):2253–2259.

[3] U.S. Department of Health and Human Services and U.S. Department of Agriculture. Dietary guidelines for Americans. Eighth Edition. 2015–2020. health.gov/dietaryguidelines/2015/guidelines . Published December 2015. Accessed April 18, 2017.

May 2017

Share



Previous:

Treatment

Next:

Clinical Trials



This content is provided as a service of the [National Institute of Diabetes and Digestive and Kidney Diseases](#) (NIDDK), part of the National Institutes of Health. The NIDDK translates and disseminates research findings through its clearinghouses and education programs to increase knowledge and understanding about health and disease among patients, health professionals, and the public. Content produced by the NIDDK is carefully reviewed by NIDDK scientists and other experts.

Contact Us

The National Institute of Diabetes and Digestive and Kidney Diseases
Health Information Center



Phone: 1-800-860-8747



TTY: 1-866-569-1162



Email: healthinfo@niddk.nih.gov



Hours: 8:30 a.m. to 5 p.m. eastern time, M-F