

POTASSIUM AND HEART FAILURE

What is potassium and why is it important to you?

Potassium is a mineral that helps muscles contract, helps maintain normal blood pressure by limiting the effects of sodium, and regulates the fluid and mineral balance in and out of cells in your body. It is found in many of the foods that you eat. Medications for heart failure may affect the level of potassium in your body. Some medications, such as diuretics, cause a loss of potassium. Other medications, such as angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), and angiotensin receptor-neprilysin inhibitors (ARNi), increase potassium levels.

How does potassium affect the body?

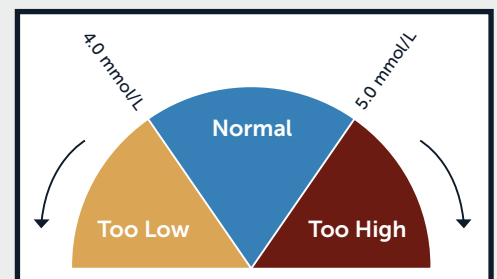
Excess potassium in your blood, or hyperkalemia, can be dangerous and should be treated immediately. Side effects can include weakness, general discomfort, nausea, diarrhea, and pain. If side effects progress, this can lead to paralysis, a decreased ability to urinate, and an irregular heartbeat. If you have excess potassium, you may be encouraged to lower your dietary potassium intake.

Low potassium in your blood, or hypokalemia, can also cause serious side effects. These side effects can include muscle weakness, palpitations, and muscle aches. If you have low potassium, you may be encouraged to increase your dietary potassium intake.

What is a safe level of potassium in my blood?

Ask your doctor or dietician about your blood potassium level.

For most individuals with heart failure and who are at risk of potassium levels that are either too low or too high, a target zone of 4.0 mmol/L to 5.0 mmol/L is recommended.¹



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How can I keep my potassium level from getting too high?

Here is some basic information to help you start lowering your potassium level if it is too high. Please talk with your doctor or nurse to make sure that these recommendations apply to you.

- ▶ Limit foods that are high in potassium.
- ▶ Work with a dietician to help identify the foods and quantity of those foods that are right for you.
- ▶ Eat a variety of foods in moderation.
- ▶ Do not use salt substitutes such as potassium chloride.
- ▶ Remember that serving size matters. Almost all foods have some potassium, and a large amount of low-potassium foods can make your potassium level high.
- ▶ Do not drink or use liquids from canned, cooked, or frozen fruits and vegetables or the juices from cooked meat.
- ▶ Pay attention to cooking methods since this can affect the amount of potassium in some foods. For example, cooked spinach contains a much higher concentration of potassium than the same amount of raw spinach.
- ▶ Reduce the amount of potassium in root vegetables through a process called leaching where some potassium is pulled out of vegetables by soaking and cooking them in large amounts of water.
- ▶ Read ingredient lists on packaged foods and avoid potassium chloride. Products that are reduced in sodium may contain large amounts of potassium chloride, making them a high-potassium food.
- ▶ Pay attention to food labels. In general, % daily value of potassium means:
 - **Low** = Under 100 mg or less than 3%
 - **Medium** = 101-200 mg or 3%-6%
 - **High** = 201-300 mg or 6%-9%
 - **Very high** = Over 300 mg or more than 9%
- ▶ Potassium is **not** one of the 13 core nutrients required in the nutrition facts table so amounts may not be listed. Even if potassium is not listed it can still be in the food.



What is a normal amount of potassium intake per day for the average healthy individual?

A normal amount of potassium in a typical Western diet is about 3500 to 4500 mg per day. A low-potassium diet is typically restricted to about 2000 mg per day. Your physician or dietician can advise you as to the amount of dietary potassium that is right for you based on your individual health.

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What foods are high in potassium (greater than 200 milligrams per portion)?

The following foods are high in potassium. While all foods on the list are high in potassium, some foods are higher than others. **Please be sure to check portion sizes.**

High-Potassium Foods

1 serving = $\frac{1}{2}$ cup or 64 grams unless otherwise noted

FRUITS



VEGETABLES



OTHER



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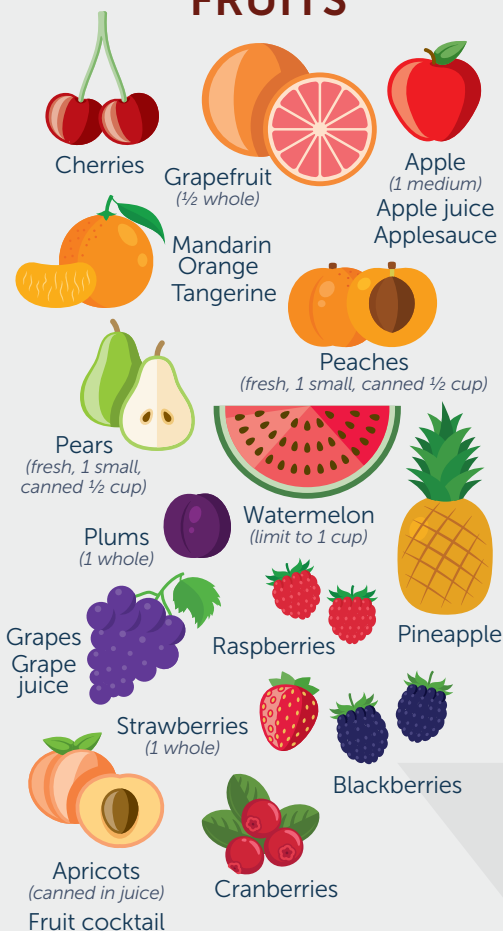
What foods are low in potassium?

The following foods listed on the next page are low in potassium. Eating more than 1 portion can turn a lower potassium food into a higher potassium food.

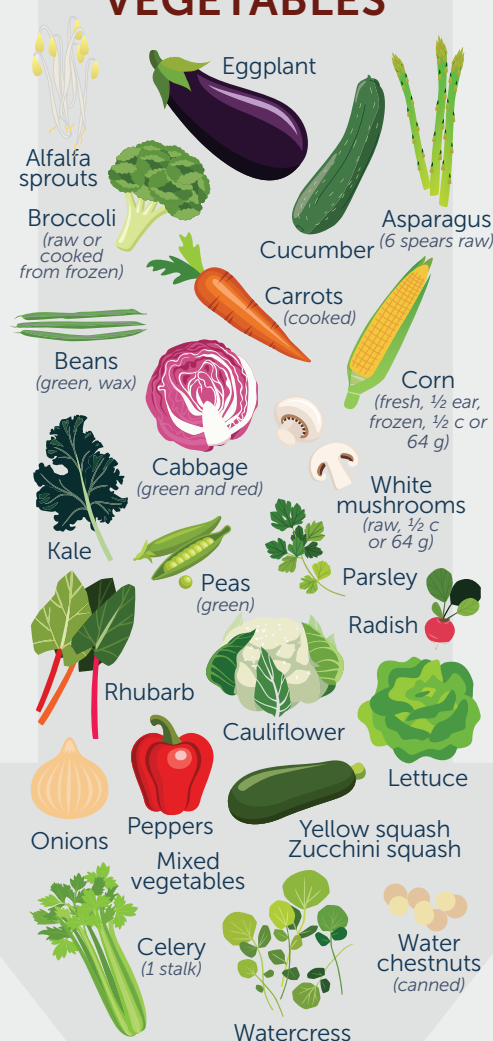
Low-Potassium Foods

1 serving = $\frac{1}{2}$ cup or 64 grams unless otherwise noted

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How do I get some of the potassium out of my favorite high-potassium vegetables?

Leaching is a process that can help remove some potassium from high-potassium vegetables. Remember, leaching will not pull all of the potassium out of the vegetable so you must still limit the amount of leached high-potassium vegetables you eat. A dietitian can help identify the amount of leached vegetables you can safely eat.

How to leach root vegetables (e.g., beets, carrots, potatoes, rutabagas, sweet potatoes, winter squash):

1. Peel and place the root vegetable in cold water so it will not darken
2. Slice the vegetable 1/8 inch or 3 mm thick
3. Rinse in warm water for a few seconds
4. Soak for a minimum of two hours in warm water. Use ten times the amount of water to the amount of vegetable. If soaking longer, change the water every four hours.
5. Rinse under warm water again for a few seconds.
6. Cook vegetable with five times the amount of water to the amount of vegetable.

Reference

1. Ferreira JP, Butler J, Rossignol P, et al. Abnormalities of Potassium in Heart Failure: JACC State-of-the-Art Review. *J Am Coll Cardiol*. 2020;75(22):2836-2850.

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