

Phosphorus Fact Sheet for Consumers



Dairy products are good sources of phosphorus.

What is phosphorus and what does it do?

Phosphorus is a mineral contained in each cell in our body. Most phosphorus is in the bones and teeth, and some is in your genes. Your body needs phosphorus to make energy and to carry out many important chemical processes.

How much phosphorus do I need?

How much phosphorus you need depends on your age. Average daily recommended amounts are listed below in milligrams (mg).

Life Stage	Recommended Amount
Birth to 6 months	100 mg
Infants 7–12 months	275 mg
Children 1–3 years	460 mg
Children 4–8 years	500 mg
Children 9–13 years	1,250 mg
Teens 14–18 years	1,250 mg
Pregnant and breastfeeding teens	1,250 mg
Adult 19 years and older	700 mg
Pregnant and breastfeeding women	700 mg

What foods provide phosphorus?

Phosphorus is naturally present in many foods. You can get recommended amounts of phosphorus by eating a variety of foods, including the following:

- Dairy products, such as yogurt, milk, and cheese
- Grain products, such as bread, tortillas, brown rice, and oatmeal
- Meats, poultry, fish, and eggs
- Nuts and seeds, such as cashews and sesame seeds
- Legumes, such as lentils, kidney beans, and peas
- Vegetables, such as potatoes and asparagus

Also, many processed foods have additives that contain phosphorus. These additives include phosphoric acid, sodium phosphate, and sodium polyphosphate.

What kinds of phosphorus dietary supplements are available?

Phosphorus is available in a few multivitamin/mineral supplements and some other dietary supplements.

Phosphorus in dietary supplements is often in the form of dipotassium phosphate, disodium phosphate, phosphatidylcholine, or phosphatidylserine. Research hasn't shown that any form of supplemental phosphorus is better than the others.

Am I getting enough phosphorus?

Most people in the United States get more phosphorus than they need from the foods they eat. But some people are more likely than others to have trouble getting enough phosphorus:

- Premature babies
- People with certain rare genetic disorders
- People with severe malnutrition

What happens if I don't get enough phosphorus?

Phosphorus deficiency is rare in the United States. A phosphorus deficiency can cause loss of appetite, anemia (low red blood cell counts), muscle weakness, coordination problems, bone pain, soft and deformed bones, a higher risk of infection, a feeling of burning or prickling in the skin, and confusion.

What are some effects of phosphorus on health?

Scientists are studying phosphorus to better understand how it affects health. Here are two examples of what this research has shown.

Chronic kidney disease

In severe chronic kidney disease, the kidneys stop working properly and can't get rid of excess phosphorus. Phosphorus then builds up in the blood and can affect bone health and worsen kidney disease, and it might increase the risk of death. Consuming less phosphorus and eating more foods containing calcium might help prevent the side effects of high phosphorus levels in people with severe chronic kidney disease.

Cardiovascular disease

Some studies show that high blood levels of phosphorus might increase the risk of an irregular heartbeat and of death from heart disease. But other studies haven't found a link between phosphorus levels and heart disease risk. More research is needed to understand whether limiting the amount of phosphorus in a person's diet has any effect on their risk of heart and blood vessel disease.

Can phosphorus be harmful?

High phosphorus intakes seldom cause problems in healthy people. But you shouldn't get more phosphorus than the upper limits from food, beverages, and dietary supplements unless your healthcare provider recommends doing this.

The daily upper limits for phosphorus are listed below in milligrams (mg).

Ages	Upper Limit
Birth to 6 months	Not established
Infants 7–12 months	Not established
Children 1–3 years	3,000 mg
Children 4–8 years	3,000 mg
Children 9–13 years	4,000 mg
Teens 14–18 years	4,000 mg
Adults 19–70 years	4,000 mg
Adults 71+ years	3,000 mg
Pregnant teens and adults	3,500 mg
Breastfeeding teens and adults	4,000 mg

Are there any interactions with phosphorus that I should know about?

Yes, phosphorus can interact with medicines that you take, and some medicines can affect phosphorus levels in your body. Here are two examples:

- Antacids containing aluminum hydroxide or calcium carbonate can reduce the amount of phosphorus your body absorbs. Examples of these antacids are Maalox, Rulox, Rolaids, and Tums. Using these antacids for 3 months or longer can lead to low levels of phosphorus.
- Some laxatives, such as Fleet Prep Kit #1, contain sodium phosphate and can increase phosphorus levels. Taking more than the recommended dose of these laxatives can be dangerous, especially if you are dehydrated or have kidney disease or heart disease.

Phosphorus and healthful eating

People should get most of their nutrients from food and beverages, according to the federal government's *Dietary Guidelines for Americans*. Foods contain vitamins, minerals, dietary fiber, and other substances that benefit health. In some cases, fortified foods and dietary supplements may provide nutrients that people otherwise might consume in less-than-recommended amounts. For more information about building a healthy diet, see the *Dietary Guidelines for Americans* and the U.S. Department of Agriculture's MyPlate.

Where can I find out more about phosphorus?

For general information on phosphorus:

- Office of Dietary Supplements Health Professional Fact Sheet on Phosphorus

For more information on food sources of phosphorus:

- Office of Dietary Supplements Health Professional Fact Sheet on Phosphorus
- U.S. Department of Agriculture's (USDA) FoodData Central

For more advice on buying dietary supplements:

- Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

For information about building a healthy diet:

- *Dietary Guidelines for Americans*
- MyPlate

Disclaimer

This fact sheet by the Office of Dietary Supplements provides information that should not take the place of medical advice. We encourage you to talk to your healthcare providers (doctor, registered dietitian, pharmacist, etc.) about your interest in, questions about, or use of dietary supplements and what may be best for your overall health. Any mention in this publication of a specific product or service, or recommendation from an organization or professional society, does not represent an endorsement by ODS of that product, service, or expert advice.



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