



# How to prevent high phosphorus with kidney disease

## What is phosphorus and how is it related to kidney disease?

Phosphorus is a mineral that is found in many foods and drinks. Phosphorus in your body comes from foods you eat and liquids you drink.

Healthy kidneys keep the right amount of phosphorus in your body. When you have kidney disease, your kidneys cannot do this job as well, which means that phosphorus can build up to high levels in your blood.

## Why is it important to keep phosphorus levels in a normal range?

### High phosphorus can cause serious bone problems

Phosphorus, calcium and vitamin D work together to help keep your bones strong and healthy, which means they all need to be in balance.

When you have too much phosphorus in your blood, your body will pull calcium out of your bones to help balance out the phosphorus. This can cause your bones to be soft, weak and brittle. Your bones will be more likely to break and have other problems.

### High phosphorus can cause calcium to build up in your blood vessels and organs

High levels of phosphorus or calcium in your blood will cause calcium deposits in your blood vessels

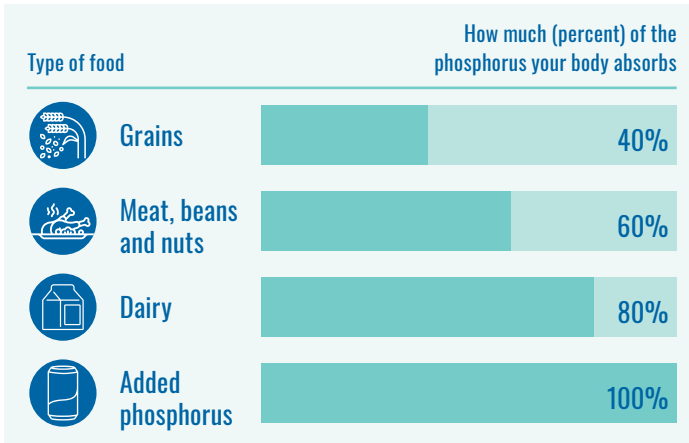
and other organs, such as your heart, lungs and joints. **Calcium deposits** are buildups of calcium that can cause symptoms such as itchy skin, joint pain and red eyes. Over time, calcium deposits in blood vessels can make them hard and lead to serious health problems, such as heart attacks, strokes and painful open skin sores.

## How can I manage my phosphorus levels?

- **Follow a low-phosphorus eating plan** as prescribed by your dietitian. The less phosphorus you take in, the lower your blood phosphorus level will be. See tips for a low-phosphorus eating plan on page 2.
- **Take phosphate binders, as prescribed**, with each meal and snack
  - A phosphate binder absorbs the phosphorus in your stomach or intestines before your body has a chance to absorb it
  - Because you do not want your body to absorb phosphorus, it is important to **take your binders within 10 minutes of starting to eat meals and snacks**
- Go to and **complete all of your dialysis treatments**

## What are the types of phosphorus?

There are two main types of phosphorus: **natural** and **added** phosphorus. **Natural phosphorus** is found naturally in foods. **Added phosphorus** is added to preserve packaged or processed foods. Your body absorbs phosphorus differently depending on the type of food:








## Tips for a low-phosphorus eating plan

Almost all foods have phosphorus. Here are tips to choose natural and low-phosphorus foods:

- Choose foods that **do not have added phosphorus**. Check food labels and **avoid foods that have “phos” in the ingredient list**, such as phosphoric acid and aluminum phosphate. Even plant-based products, such as “plant-based burgers” may have extra phosphorus.
- **Focus on buying whole foods** instead of prepackaged foods and meals. Whole foods are mostly on the outside aisles of the grocery store and include fruits and vegetables.
- **Replace high-phosphorus foods with low-phosphorus alternatives**—see the table below.

## Replace high-phosphorus foods with low-phosphorus alternatives

Food Types	Low and natural phosphorus foods to eat	High and added phosphorus foods to avoid	How much phosphorus your body absorbs
<b>Grains</b> 	<ul style="list-style-type: none"> <li>• Whole grains</li> <li>• Bran</li> <li>• White breads</li> <li>• Rice</li> <li>• Pasta</li> <li>• Cooked oats</li> <li>• Dry corn and rice cereals (with or without almond milk or unflavored rice milk)</li> </ul>	<ul style="list-style-type: none"> <li>• Bisquick®</li> <li>• Flour Tortillas</li> </ul>	<b>Lowest Absorbed</b>
<b>Meats</b> 	<ul style="list-style-type: none"> <li>• Fresh meats such as beef, chicken, fish, pork and turkey</li> <li>• Deli meat without added phosphorus such as “Hormel® Natural choices”</li> </ul>	<ul style="list-style-type: none"> <li>• Organ meat and game meats</li> <li>• Processed meats, such as:                             <ul style="list-style-type: none"> <li>• Bacon</li> <li>• Sausage</li> <li>• Deli meats</li> </ul> </li> </ul>	
<b>Beans and nuts</b> 	<ul style="list-style-type: none"> <li>• Beans—rinse canned beans with water before eating to wash off extra phosphorus</li> <li>• Nuts—stick to ¼ cup per day</li> </ul>	<ul style="list-style-type: none"> <li>• Chocolate-covered nuts</li> </ul>	

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<b>Dairy</b> 	<ul style="list-style-type: none"> <li>Almond milk</li> <li>Unflavored rice milk</li> <li>Greek yogurt</li> <li>Sherbet</li> <li>Low-sodium, broth-based soups</li> <li>Ricotta, brie and low-salt cottage cheese</li> </ul>	<ul style="list-style-type: none"> <li>Cow's milk</li> <li>Non-Greek yogurt</li> <li>Ice cream</li> <li>Cream-based soups</li> <li>Coffee creamer</li> <li>American cheese</li> </ul>		
<b>Drinks</b> 	<ul style="list-style-type: none"> <li>Mug® Root Beer</li> <li>Cream soda</li> <li>Light colored soda such as Sprite®</li> <li>Orange soda</li> <li>Hint® flavored waters</li> <li>Brewed iced tea or Pure Leaf Iced Tea®</li> </ul>	<ul style="list-style-type: none"> <li>Dark colas, such as Coke®, Pepsi® and Dr. Pepper®</li> <li>Flavored water such as Fruit20®, Hi-C® and Propel®</li> <li>Powdered drink mixes</li> <li>Most premade (bottled) iced tea</li> </ul>		
<b>Candy items</b> 	<ul style="list-style-type: none"> <li>Jellybeans</li> <li>Fruit snacks</li> <li>Sugar-free hard candies</li> <li>York peppermint Patties</li> <li>Three Musketeers Mini's</li> </ul>	<ul style="list-style-type: none"> <li>Chocolate</li> <li>Chocolate with nuts, caramel or coconut</li> <li>Chocolate with peanut butter</li> </ul>		
 If you are diabetic, try sugar-free hard candies and make a plan to include any candy items in your meal plan.				
<b>Packaged foods and meals</b> 	<ul style="list-style-type: none"> <li>Peanut butter on low sodium crackers</li> <li>Kellogg's® meal bars</li> <li>Homemade pancakes</li> <li>Flavored rice cakes</li> <li>Microwavable meals: Lean Cuisine® and Amy Cuisine® (ask your dietitian for more options)</li> <li>ReddiWhip®</li> <li>Pre-made and ready-to-eat Jello®</li> </ul>	<ul style="list-style-type: none"> <li>Lance Crackers®</li> <li>Poptarts®</li> <li>Bisquick®</li> <li>Little Debbie snacks®</li> <li>Tasty Cake®</li> <li>Microwavable meals: Banquet® and Marie Callendar's®</li> <li>Fast food</li> <li>Prepackaged meals</li> <li>Coolwhip®</li> <li>Jello® powder</li> </ul>	<b>Highest Absorbed</b>	

Talk with your doctor and dietitian to learn your specific needs and to create an eating plan that's right for you.

Learn more about phosphorus at  
[Kitchen.KidneyFund.org](https://www.Kitchen.KidneyFund.org)




**Medically Reviewed by**  
**Beth Guthrie, MS, RDN, LD**  
**and Maura Chesney, RD, LDN.**