

# Low Phosphorus Diet: Information for Patients

Phosphorus is a mineral that works with calcium to keep your bones and teeth strong. However, some cancer treatments can cause high phosphorus levels in the blood (a condition called **hyperphosphatemia**). High phosphorus levels may require your treatment dose to be adjusted or held.

## Why is High Phosphorus a Problem?

Too much phosphorus in your blood can lead to crystals forming with calcium in your skin, blood vessels, heart, lungs, brain, and eyes. This can lead to itchiness, joint pain, hardening of arteries, and muscle and organ damage. To help manage high phosphorus levels your care team may recommend a **low phosphorus diet**.

## How Much Phosphorus Can I Eat Each Day?

This depends on your treatment and your blood phosphorus levels. Your care team will help you know how much phosphorus you can eat. It is important to get enough food to maintain your strength and weight during treatment. If limiting phosphorus in your diet is making this difficult, let your doctor know right away and ask for a referral to a dietitian.

## How to Eat Less Phosphorus

1. **Try to limit foods naturally high in phosphorus**
2. **Read food labels and avoid** ingredients with “phos” such as phosphoric acid, disodium phosphate, hexametaphosphate, tri-calcium phosphate
3. **Choose fresh, unprocessed foods** when possible.
4. **Make your meals at home** most of the time

Phosphorus additives are found in many processed foods. Unlike phosphorus found naturally in foods, phosphorus additives are **almost completely absorbed** by the body.

## Limit or Avoid These High-Phosphorus Foods:

- **Processed foods and drinks with phosphorus additives**
- **Processed or seasoned meats**
- **Organ meats**
- **Soda and soft drinks**
- **Processed cheeses**
- **Evaporated or condensed milk, non-dairy creamers**
- **Chocolate**
- **Fish with edible bones**
- **Nuts and seeds, nut butters**
- **High-fiber cereals, bran muffins, dark rye or pumpernickel breads**
- **Refrigerated biscuits, bread and cookie dough**

HIGH Phosphorus Food Choice	LOWER Phosphorus Food Choice	HIGH Phosphorus Food Choice	LOWER Phosphorus Food Choice
Processed meat 	Fresh meat 	Processed cheese 	Cream or hard cheese 
Canned salmon or sardines (with bones) 	Canned tuna 	Ice cream 	Popsicle 
Nuts and seeds 	Pretzels, air-popped popcorn 	Dairy products, non-dairy creamer 	Almond milk, Rice Dream Original™ 
Peanut/nut butter 	Jam, jelly, honey 	Cola, root beer, ice tea 	Clear soda, sparkling water, salt-free club soda 
Bran cereal 	Corn, rice, wheat cereal 	Hot chocolate 	Herbal tea 
Muffin 	Bagel, croissant or donut 	Chocolate bar 	Hard candy, gummy candy 
Dark rye, pumpernickel bread 	Whole wheat, light rye or white bread 	Pizza, alfredo pasta 	Pasta with garlic, basil and olive oil 

## Foods to Keep Your Phosphorus Levels Low

Grain Foods	
<b>Choose</b>	
<ul style="list-style-type: none"> <li>• Barley</li> <li>• Bread: white, French, Italian, cracked wheat, light rye, sourdough, or 60% whole wheat</li> <li>• Cereals, cold: Corn Bran<sup>®</sup>, Cornflakes<sup>®</sup>, Puffed Rice<sup>®</sup>, Puffed Wheat<sup>®</sup>, Rice Krispies<sup>®</sup>, Special K<sup>®</sup></li> <li>• Crackers: soda crackers, Melba, Wheat Thins<sup>®</sup>, unsalted</li> <li>• Cream of Wheat<sup>®</sup> (instant), corn grits</li> <li>• Digestive &amp; arrowroot biscuits, graham wafers</li> </ul>	<ul style="list-style-type: none"> <li>• Flour: white, rice, light rye</li> <li>• Grains: bulger, cracked wheat, quinoa, buckwheat</li> <li>• Muffins: homemade plain, fruit, or oatmeal</li> <li>• Pasta: white or couscous</li> <li>• Pita bread, wraps, chapati and roti, white, 60% whole wheat</li> <li>• Unsalted popcorn, pretzels or tortilla chips</li> <li>• Tortillas, corn</li> <li>• Rice or rice noodles, white</li> </ul>
<b>Limit</b>	
<ul style="list-style-type: none"> <li>• Breads, whole grain (100% whole wheat, multigrain, dark rye)</li> <li>• Cereals, cold: whole grain cereals such as All Bran<sup>®</sup>, All Bran Budds<sup>®</sup>, Bran Flakes<sup>®</sup>, Fiber One<sup>®</sup>, Mini Wheats<sup>®</sup>, Total<sup>®</sup>, Oat Square<sup>®</sup>, Oatmeal Crisp<sup>®</sup>, Shreddies<sup>®</sup>, Shredded Wheat<sup>®</sup>, Total<sup>®</sup></li> <li>• Cereal, hot: oat bran</li> </ul>	<ul style="list-style-type: none"> <li>• Flour: whole wheat, dark rye, bran, wheat germ</li> <li>• Homemade pancakes, waffles, biscuits</li> <li>• Muffins, bran and oat bran</li> <li>• Oats, rolled</li> <li>• Pasta, whole wheat</li> <li>• Pita bread, wraps, chapati, whole grain</li> <li>• Rice, brown or wild</li> <li>• Roti, chickpea or whole grain</li> </ul>
<b>Avoid</b>	
<ul style="list-style-type: none"> <li>• Baking mixes (biscuits, pancakes, waffles, and muffins), and frozen baked products (pancakes and waffles)</li> <li>• Cereals, cold: Alpha Bits<sup>®</sup>, Cheerios<sup>®</sup>, Crispix<sup>®</sup>, Life<sup>®</sup>, Vector Meal Replacement<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Cereals, hot: Cream of Wheat<sup>®</sup>, Red River<sup>®</sup>, Sunny Boy<sup>®</sup></li> <li>• Granola and cereal made with nuts, seeds, or dried fruit</li> <li>• Macaroni and cheese mixes</li> </ul>
Protein Foods	
<b>Choose</b>	
<ul style="list-style-type: none"> <li>• Beef, veal, pork, chicken, turkey, duck, eggs</li> <li>• Fish, some shellfish (blue crab, lobster, shrimp)</li> </ul>	<ul style="list-style-type: none"> <li>• Lamb or mutton</li> <li>• Canned tuna and salmon (bones removed)</li> <li>• Wild meat (moose, caribou, deer, elk)</li> </ul>
<b>Limit</b>	
<ul style="list-style-type: none"> <li>• Beans or lentils</li> <li>• Nuts/seeds or nut/seed butter</li> </ul>	<ul style="list-style-type: none"> <li>• Tofu</li> </ul>
<b>Avoid</b>	
<ul style="list-style-type: none"> <li>• Fish, canned with bones</li> <li>• Fresh meat that had phosphate additives or sodium added or injected (enhanced meats)</li> <li>• Organ meats like liver, heart, and kidney</li> <li>• Oysters, clams, sardines</li> <li>• Seeds (pumpkin, sunflowers)</li> </ul>	<ul style="list-style-type: none"> <li>• Processed meats: bacon, sausage, ham, hot dogs, salami, pepperoni, bologna, corned beef, canned meat</li> <li>• Restructured meat: chicken fingers, nuggets, burgers, turkey roll, vegetarian meat substitutes</li> </ul>

<b>Milk, Dairy, and Soy Foods</b>	
<b>Choose (Limit to 2 servings a day)</b>	
<ul style="list-style-type: none"> <li>• Cottage cheese, no added salt, ½ cup (125mL)</li> <li>• Homemade custard or pudding, ½ cup (125mL)</li> <li>• Ice cream, ½ cup (125mL)</li> </ul>	<ul style="list-style-type: none"> <li>• Milk or cream: skim, 1%, 2%, whole, prepared powdered milk, cream, ½ cup (125mL)</li> <li>• Paneer, 1 oz (30g)</li> <li>• Soy beverage, ½ cup (125mL)</li> <li>• Yogurt, ½ cup (125mL)</li> </ul>
<b>Limit</b>	
<ul style="list-style-type: none"> <li>• Hard cheese, 1oz (30 grams)</li> </ul>	
<b>Avoid</b>	
<ul style="list-style-type: none"> <li>• Cheese slices, processed</li> <li>• Cheese spreads, processed</li> <li>• Non-dairy coffee whiteners, liquid, or powder</li> <li>• Chocolate flavored milk</li> </ul>	<ul style="list-style-type: none"> <li>• Condensed or evaporated milk</li> <li>• Malted drinks: Ovaltine®, Bournvita®, Horlicks®</li> <li>• Pudding, instant or store-bought</li> </ul>
<b>Other Foods</b>	
<b>Choose</b>	
<ul style="list-style-type: none"> <li>• Artificial sweeteners</li> <li>• Cream cheese</li> <li>• Jam, jelly</li> <li>• Rice beverage, not fortified</li> <li>• Sherbet</li> </ul>	<ul style="list-style-type: none"> <li>• Soft drinks, non-cola: 7Up®, ginger ale, Sprite®, lemonade</li> <li>• Sugar, white or brown, honey</li> <li>• Sweets: hard candies, marshmallows, jelly beans</li> </ul>
<b>Limit</b>	
<ul style="list-style-type: none"> <li>• Alcohol</li> <li>• Caramels and chocolates</li> </ul>	<ul style="list-style-type: none"> <li>• Fruit, dried: figs, raisins, dates, and coconut</li> <li>• Sour cream or whipping cream</li> </ul>
<b>Avoid</b>	
<ul style="list-style-type: none"> <li>• Beer</li> <li>• Cola and diet cola drinks</li> <li>• Gelatin dessert powders (Jell-O)</li> </ul>	<ul style="list-style-type: none"> <li>• Hot chocolate mix, cocoa</li> <li>• Pizza with processed meats</li> <li>• Flavored water or drinks with flavoring crystals</li> </ul>

Please note that the foods listed above are general guidelines only. You may need to modify them if you are experiencing other treatment side effects, such as gastrointestinal symptoms.

### More Resources

- If you would like to look up the phosphorus content of a certain food, you may search for the food here: [Canadian Nutrition Files \(CNF\) – Search by Nutrient: Minerals, Phosphorus, P.](#)
- The following resource is intended for individuals with kidney concerns, and therefore, the website content may not be relevant to your situation. However, the [Meal Plan feature](#) may be a useful tool for estimating your overall daily phosphorus intake.
- Dietitians are available through HealthLink BC. Call 8-1-1