



Penn State Hershey Children's Hospital  
**Caring for your Child's Nutrition**

## Phosphorus Controlled Diet

Phosphorus is a mineral that is found in many foods. It comes mostly from animal foods, especially dairy products, but some plant foods have phosphorus as well. Phosphorus is the second most common mineral found in bones and teeth.

The kidney is one organ that helps control the amount of phosphorus in the body. When the kidneys are not working well, phosphorus builds up in the blood. This causes calcium to be pulled out of the bones, making them weak and brittle. It will also affect growth and deposit calcium in the blood vessels, lung and heart, which is not good.

Controlling the amount of phosphorus in your diet is important. To help in keeping your levels normal, an oral phosphate binder medication may also be needed. The amount of phosphorus in your diet will depend on the type of medications you take and the amount of phosphorus in your blood. A dietitian can help you plan your diet and help you find lower phosphorus choices.

**Limit your phosphorus to: \_\_\_\_\_ milligrams (mg) per day.**

### FOODS HIGHER IN PHOSPHORUS

<b>Milk and Milk Products</b>	<b>Average per serving: 110 mg phosphorus</b>
Milk (fat-free, low-fat, whole, chocolate)	½ cup
Buttermilk	½ cup
Light cream or Half and Half	½ cup
Ice cream or ice milk	½ cup
Sherbet	1 cup
Yogurt, plain or fruit-flavored	½ cup
Cream cheese	3 Tbsp
Cottage cheese	½ cup
Cheese	1 oz
Sour cream	4 Tbsp
Pudding	½ cup

**Limit to \_\_\_\_\_ dairy servings or \_\_\_\_\_ mg phosphorus from milk products daily.**

<b>Meat and Meat Substitutes</b>	<b>Average per serving: 65 mg phosphorus</b>
Beef, lamb, fish, pork, poultry, veal	1 oz
Egg – whole	1 large
Egg white or yolk	2 large
Low cholesterol egg product (Egg Beaters)	¼ cup
Peanut butter	1 Tbsp

\*Check with your dietitian first if you should limit these foods, as some patients will need them for extra protein.

### **FOODS LOWER IN PHOSPHORUS**

*These foods tend to be lower in phosphorus than dairy and meat.*

<b>Starches</b>	<b>Average per serving: 35 mg phosphorus</b>
Breads: French, Italian, Rye, White, etc.	1 slice
Bagel, Buns, English muffin	½ roll
Dinner rolls or hard rolls	1 small
Danish pastry, sweet roll or doughnut	1 small
Muffin	1 small
Pancake or Waffle	1 small
Cereals: Ready to Eat	¾ cup
Cooked	½ cup
Puffed Rice	2 cups
Puffed Wheat	1 cup
Pasta (noodles, macaroni, spaghetti, etc.)	½ cup
White rice	½ cup
Crackers: Saltines, Round butter	4
Graham crackers	3 squares
Popcorn: popped	1.5 cups
Pretzels	1 oz
Cake: Angel food	1 oz
Cookies: Sandwich	4
Shortbread	4
Sugar	4
Vanilla wafer	10
<b>Exceptions:</b> All Bran Cereal	½ cup = 400 mg
100% Bran	½ cup = 350 mg
Bran Flakes	½ cup = 120 mg
Pumpernickle bread	1 slice = 70 mg
Whole Wheat bread	1 slice = 70 mg

## **Fruits and Vegetables**

*These are usually lower in phosphorus.*

Fruits have an average of 15 mg phosphorus per ½ cup serving.

Vegetables have an average of 20 mg phosphorus per ½ cup serving.

## **Beverages**

Cola type beverages such as Coca Cola and Pepsi have an average of 60 mg phosphorus per 12 oz serving and should be limited.

<b>Foods</b>	<b>Foods to Use</b>	<b>Foods to Limit</b>
<b><i>Milk and milk products</i></b>	Milk, yogurt, ice cream, pudding, custard, milk shakes, chocolate milk, sour cream. Talk with your dietitian to know specific amounts.	Cream soups with milk, eggnog
<b><i>Meat, fish, poultry, eggs</i></b>	Beef, veal, pork, lamb, eggs, fish, chicken, turkey	Liver, organ meats, bass, mackerel, sardines, oysters, processed meats
<b><i>Legumes and peanut butter</i></b>	Less than 1 Tbsp peanut butter, less than ½ cup dried cooked beans and peas such as kidney, navy, pinto, lima, blackeyed, red, black, lentils; nuts of any kind; seeds of any kind	
<b><i>Cheese</i></b>	Limit 1 oz/day: Cream cheese, American, Cheddar, Swiss, Mozzarella, Colby, Monterey Jack, Cottage, Provolone, Ricotta	

<b>Foods</b>	<b>Foods to Use</b>	<b>Foods to Limit</b>
<b><i>Soups</i></b>	Soups containing allowed foods	Creamed soups or soups made with milk, beans or cheese
<b><i>Breads</i></b>  <i>Check with your dietitian to determine if you will be able to include whole grains in your diet.</i>	White bread, rye bread, white rolls, graham crackers	Wheat germ, whole wheat bread, whole grain breads, bran and whole grain containing products, cornbread, brown rice, buckwheat pancakes
<b><i>Cereals</i></b>  <i>Check with your dietitian to determine if you will be able to include whole grains in your diet.</i>	Rice or corn cereals	Bran, wheat or whole grain containing cereals, cereal with dried fruit, oatmeal, shredded wheat
<b><i>Starches</i></b>  <i>Check with your dietitian to determine if you will be able to include whole grains in your diet.</i>	White rice, pastas made with refined flour, baked potatoes, mashed potatoes made without milk, sweet potatoes	Brown rice, whole wheat pastas, mashed potatoes made with milk
<b><i>Fruits and fruit juices</i></b>	All fruits, fresh or canned	Dried fruits, raisins, dates
<b><i>Vegetables and vegetable juices</i></b>	All except those listed in foods to avoid	Mushrooms

<b>Foods</b>	<b>Foods to Use</b>	<b>Foods to Limit</b>
<b><i>Desserts and Sweets</i></b>	Desserts made with refined flour; graham crackers, sandwich cookies, shortbread cookies, vanilla wafers, sugar cookies/wafers, butter cookies; angel food, vanilla and pound cake; most fruit pies; gelatin, sherbet, fruit ice, popsicles, sorbet; candy corn, gumdrops, hard candy, jelly beans, marshmallows, fruit roll-ups, fruit snacks, non-dairy frozen topping	Desserts made with: chocolate, cocoa, nuts, dried fruits, and excessive milk such as puddings, flan, tres leches cake, caramel; ice cream, andy candy made with chocolate, caramel or nuts
<b><i>Fats</i></b>	Butter, margarine, oils, bacon, salad dressings	Nuts, avocado, coconut, almonds, walnuts, pecans, seeds
<b><i>Beverages</i></b>	Non-cola type carbonated beverages, grape soda, ginger ale, root beer, sports or energy drinks, fruit flavored drinks, hot tea	Cola type beverages (diet and regular), powdered fruit beverage mixes, drinks made with milk

**Read labels to find words that mean the food has phosphorus.**

Look for the letters “PHOS” in the ingredients including: calcium phosphate, dicalcium phosphate, disodium phosphate, ferric orthophosphate, monocalcium phosphate, phosphoric acid, potassium phosphate, sodium acid pyrophosphate, sodium aluminum phosphate, sodium hexametaphosphate, sodium phosphate, sodium tripolyphosphate, tricalcium phosphate, and tripotassium phosphate.

## **SAMPLE MENUS**

### **TODDLER MENU**

#### **Breakfast**

½ cup Rice Krispies  
½ slice white toast  
1 tsp jelly  
1 tsp margarine or butter  
4 oz milk

#### **Snack**

2 graham crackers with cream cheese  
5 baby carrots  
4 oz lemonade

#### **Lunch**

½ ham sandwich (1 oz)  
2 tsp mayonnaise  
½ cup peaches  
3 vanilla wafers  
4 oz fruit punch

#### **Snack**

10 animal crackers  
¼ cup sliced pears

#### **Dinner**

1 oz baked chicken  
1/3 cup white rice  
¼ cup broccoli  
1 tsp margarine  
½ cup applesauce  
4 oz grape juice

### **SCHOOL AGE MENU**

#### **Breakfast**

1 scrambled egg  
1 slice white toast  
1 tsp jelly  
1 tsp margarine or butter  
4 oz milk

#### **Snack**

½ cup canned peaches  
3 graham crackers

#### **Lunch**

3 oz hamburger patty  
1 hamburger bun  
1 Tbsp mayonnaise  
1 tsp ketchup  
8 baby carrots/ranch dressing  
3 sugar cookies  
8 oz lemonade

#### **Snack**

½ cup canned pear halves  
4 oz grape juice

#### **Dinner**

3 oz baked chicken  
½ cup white rice  
½ cup broccoli  
1 white dinner roll  
2 tsp margarine or butter  
½ cup grapes

## **ADOLESCENT MENU**

### **Breakfast**

2 scrambled eggs  
2 slices white toast  
1 sausage patty  
1 Tbsp jelly  
1 Tbsp margarine or butter  
8 oz apple juice

### **Lunch**

3 oz hamburger patty  
1 hamburger bun  
1 Tbsp ketchup  
1 slice lettuce/tomato  
8 baby carrots/ranch dressing  
3 sugar cookies

### **Snack**

1 small bag pretzels  
8 oz Sierra Mist

### **Dinner**

3 oz baked chicken  
1 ½ cup white rice  
½ cup broccoli  
1 white dinner roll  
1 Tbsp margarine or butter  
¾ cup grapes

### **Snack**

4 graham crackers  
4 oz milk

### **Additional Information:**

**If you have questions, call:** \_\_\_\_\_, *Registered Dietitian*

**Phone:** (717) 531- \_\_\_\_\_ or (717) 531-8406