
Phosphorus & Your CKD Diet

What you need to know about managing phosphorus with chronic kidney disease

What Is Phosphorus?

Phosphorus is a mineral found naturally in many foods. It works with calcium to build and maintain strong bones and teeth, and it helps muscles, nerves, and blood vessels function properly. Healthy kidneys remove extra phosphorus from the blood. When kidneys are not working well, phosphorus builds up in the blood — a condition called **hyperphosphatemia**.

Too much phosphorus in the blood pulls calcium out of your bones, making them weak and brittle. It can also cause calcium-phosphorus deposits to form in blood vessels, lungs, eyes, and heart — which increases the risk of heart attack, stroke, and death.

Natural Phosphorus Found in protein-rich foods (meat, dairy, beans, nuts). Your body absorbs about 40–60% of this type.	Phosphate Additives Added to processed and fast foods for preservation and flavor. Your body absorbs up to 90–100% of this type — much more dangerous.
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Always follow your doctor's specific phosphorus limit. Your nephrologist will review your lab results and tell you your target range.

Signs of High Phosphorus

High phosphorus often has **no symptoms at first**. As levels rise, you may notice:

- Itchy skin (especially at night)
- Bone and joint pain
- Muscle weakness
- Red or burning eyes
- Weak, brittle bones (increased fracture risk)
- Calcium deposits under the skin (calcinosis)

Your phosphorus level is checked at each lab visit. Ask your doctor what your number is and what your goal range should be.

High-Phosphorus vs. Lower-Phosphorus Foods

Almost all foods contain some phosphorus. The goal is to limit the highest-phosphorus foods and choose lower-phosphorus alternatives. Serving sizes matter — always check with your renal dietitian about the right amounts for you.

Dairy & Dairy Alternatives (1 serving = ½ cup unless noted)

Higher Phosphorus — Limit	Lower Phosphorus — Better Choice
<ul style="list-style-type: none"> • Milk (all types, 1 cup) • Yogurt • Cheese (all types) • Cream soups • Pudding • Ice cream • Custard 	<ul style="list-style-type: none"> • Non-dairy creamer (small amount) • Rice milk (unenriched) • Hard candy • Sherbet / sorbet • Popsicles (fruit) • Whipped topping (small amount)

Protein Foods (1 serving = 3 oz unless noted)

Higher Phosphorus — Limit	Lower Phosphorus — Better Choice
<ul style="list-style-type: none"> • Beef, pork, chicken, fish (3 oz) • Organ meats (liver, kidney) • Sardines and canned fish • Oysters • Crab / lobster • Nuts and nut butters • Seeds (pumpkin, sunflower) • Dried beans and lentils • Peas (dried) 	<ul style="list-style-type: none"> • Egg whites • Some fish (limit portion) • Tofu (check label) • Chicken or turkey (limit portion) • Lean beef (limit portion)

Grains & Breads (1 serving = 1 slice / ½ cup unless noted)

Higher Phosphorus — Limit	Lower Phosphorus — Better Choice
<ul style="list-style-type: none"> • Bran cereals and oatmeal • Whole wheat bread • Wheat germ • Granola • Brown rice • Whole grain pasta • Bran muffins • Dark (pumpnickel / rye) breads • Corn tortillas 	<ul style="list-style-type: none"> • White bread and rolls • White rice • Pasta / noodles • Saltine crackers • Unsalted popcorn • Pretzels • Corn or rice cereals (unenriched) • English muffin • Bagel (plain)

Beverages & Other Foods

Higher Phosphorus — Limit	Lower Phosphorus — Better Choice
<ul style="list-style-type: none">• Cola and pepper sodas (dark)• Canned iced teas with phosphate• Beer and ale• Caramel• Chocolate and cocoa• Coconut• Foods with 'PHOS' in ingredient list	<ul style="list-style-type: none">• Lemon-lime soda / ginger ale / root beer• Fruit punch / lemonade• Coffee (limit to 8 oz)• Tea (brewed, limit to 16 oz)• Homemade lemonade• Most fruit juices (check label)

Watch Out for Phosphate Additives

Phosphate additives are added to many packaged, processed, and fast foods. They are almost completely absorbed by the body — making them more harmful than natural phosphorus. **Always read ingredient labels** and look for the word "PHOS" in the ingredients list.

Additive Name	Commonly Found In
Dicalcium phosphate	Common in baked goods and cereals
Disodium phosphate	Found in processed cheeses and meats
Monosodium phosphate	Used in cured meats and fast food
Phosphoric acid	Added to cola and pepper-type sodas
Sodium hexametaphosphate	Used in seafood and poultry products
Trisodium phosphate	Found in some breakfast cereals
Calcium phosphate	Common in baked goods and supplements
Pyrophosphate	Used in processed meats and canned fish

Tip: Ingredients are listed by weight. If a phosphate additive appears in the first five ingredients, the food is likely very high in phosphorus.

Phosphate Binders

Your doctor may prescribe **phosphate binders** — medications taken with meals and snacks to help prevent your body from absorbing phosphorus from food. They must be taken **with every meal and snack** to be effective.

Type of Binder	Examples	Key Notes
Calcium-based	Calcium carbonate, Calcium acetate (PhosLo)	May raise calcium levels; not suitable for everyone
Non-calcium / Non-aluminum	Sevelamer (Renvela, Renagel), Lanthanum (Fosrenol)	Commonly prescribed; does not add calcium
Iron-based	Ferric citrate (Auryxia), Sucroferric oxyhydroxide (Velporo)	Also helps treat iron-deficiency anemia
Aluminum-based	Aluminum hydroxide	Only used short-term; long-term use can cause toxicity

Never start, stop, or change your phosphate binder without talking to your doctor first. Skipping doses with meals reduces the medication's effectiveness.

Quick Tips to Manage Your Phosphorus

Read ingredient labels.	Look for "PHOS" in the ingredient list — if it appears, the food is high in phosphate additives.
Choose fresh over processed.	Fresh meats, fruits, and vegetables have less phosphorus than packaged or processed versions.
Watch your portions.	Even lower-phosphorus foods can add up — keep portions in check.
Take binders as prescribed.	Take phosphate binders with every meal and snack, not just when you remember.
Limit dark colas.	Cola and pepper sodas contain phosphoric acid — a phosphate additive. Choose lemon-lime or ginger ale instead.
Cook smartly.	Boiling meats and discarding the cooking water can reduce phosphorus content.
Ask about your labs.	Your phosphorus level is checked at every visit. Ask your doctor what your number is.
See a renal dietitian.	A renal dietitian can create a personalized meal plan to help you stay within your phosphorus limit.

Questions about your diet? Talk to your provider at your next visit or call: 219-931-5227	Our Locations: Munster · Gary · Merrillville Michigan City · Portage Valparaiso · Whiting, IN	Online: ns-nwi.com Patient Portal: ns-nwi.com/patient-portal
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