

Healthy Eating

Eat well and eat smart

Class Goals

1. Describe 3 nutrients that you may need to limit.
2. Understand how your limits on nutrients may change.

Overview

As your kidney function gets worse, waste products and excess fluid can build up in your body. This can cause you to lose your appetite, eat less food, lose weight, and feel weaker.

Many nutrients affect your kidney health. These include sodium (salt), potassium, phosphorus, calcium, protein, and calories. By controlling your intake of these nutrients, you can reduce the waste buildup in your blood, feel better, and protect your kidneys.

What your doctor advises you to eat and drink (your diet) will change as your kidney function changes. Your dietitian, doctor, and others on your healthcare team can work with you to help balance your diet so you can stay as healthy as possible.

Why should I limit sodium (salt)?

Healthy kidneys help the body get rid of extra sodium. When your kidneys do not work well, sodium builds up in your blood. It acts like a sponge, holding extra water in your body and making your blood pressure high. To stay healthy and feel your best, limit your sodium to 2,000 mg or less a day.

What does my diet have to do with my kidneys?

When you eat or drink, your body uses what it needs and makes waste products out of the rest. Your kidneys filter your blood and turn the waste products into urine.



Making the right food choices when you go shopping is an important part of staying healthy when you have kidney disease.

If your kidneys are not working well, this buildup of waste products in the blood can cause you to have a poor appetite.

It is common for people with kidney disease to eat less, lose weight, and have low energy, but it is not healthy. By controlling the kinds and amounts of foods you eat and drink, you can reduce the waste buildup in your blood, feel better, and protect your kidneys.

If you already follow a special diet for diabetes, heart disease, or another condition, your dietitian will work with you to balance your kidney diet with your other special diet needs.

What should I watch in my diet?

You can control how much of many different nutrients you get by changing your diet. These nutrients include protein, sodium, and phosphorus. Some people with kidney disease also need to control their potassium and fluids. Getting enough calories is important, too. Calories provide the energy you need to use the other nutrients.

Protein

Your body uses protein to build new tissues and replace old or damaged tissues. You need to eat protein every day so you have the “building blocks” you need. Otherwise, you will use your own protein (your muscles!) for building blocks.

There are 2 kinds of protein foods: animal proteins and plant proteins. Animal proteins are proteins that come from animals, such as meat, fish, poultry, eggs, and milk. Plant proteins come from plants, such as legumes (beans), nuts, vegetables, breads, and cereals. How much and what types of protein you need depends on your kidney function and overall health. Your dietitian will work with your doctor to figure out your unique protein needs.

There is a lot of debate about whether or not limiting protein slows the rate of kidney damage. Different studies have shown different results. Talk with your doctor about whether a low-protein diet would be right for you.

Sodium

Sodium (salt) is a mineral that acts like a sponge in your body. It holds in water and causes high blood pressure. Most people with kidney disease have high blood pressure, which damages their heart, blood vessels, and kidneys. Eating less sodium can help protect your body.

Some of the sodium in your diet comes from the salt you add to food. But, most of it comes from packaged, processed foods that have added sodium. Some high-sodium processed foods are canned and boxed soups and meals, lunch meats, cured meats, pickled foods, snack crackers and chips, processed cheeses, frozen dinners, and restaurant and deli foods. Most processed foods have more sodium than the same food that is homemade.

Sodium Guidelines

This chart lists healthy food choices and foods that you should avoid because they have too much sodium. Take a look at the chart and circle the choices you enjoy that are lower in sodium.

Food	Healthy Choices	Avoid These Foods
Protein	<ul style="list-style-type: none"> • Fresh or frozen meats: beef, chicken and other poultry, lamb, pork, veal • Fresh or frozen fish and shellfish • Canned meats and fish are OK if they are canned without salt 	<ul style="list-style-type: none"> • Salted or smoked meats: bacon, ham, bologna, corned beef, hot dogs, lunch meats, salt pork, sausage, imitation bacon, smoked fish, etc. • Meats or fish canned with salt
Milk and Dairy	<ul style="list-style-type: none"> • Unsalted or low-sodium cheeses • Milk, yogurt • Ice cream, sherbet, or ice milk 	<ul style="list-style-type: none"> • Salted cheeses, cottage cheese • Milkshakes you buy in a restaurant or a store, malted milk, buttermilk
Vegetables	<ul style="list-style-type: none"> • All fresh vegetables • Frozen and canned vegetables labeled “no salt added” 	<ul style="list-style-type: none"> • Canned vegetables and vegetable juices, olives, sauerkraut, pickles, relishes, other vegetables in brine
Fruits	<ul style="list-style-type: none"> • Fresh, frozen, or canned fruits without salt 	<ul style="list-style-type: none"> • Any fruits with salt added (check the label)
Breads	<ul style="list-style-type: none"> • Unsalted or “no salt added” breads, crackers, pretzels, popcorn, rice cakes, chips (check the label) 	<ul style="list-style-type: none"> • Visibly salted products such as saltines, pretzels, chips, snack crackers
Cereals, Rice, Pasta	<ul style="list-style-type: none"> • Cooked or ready-to-eat cereals: Cream of Wheat, Cream of Rice, oatmeal; dry cereals (check the label) • Rice and pastas with no salt added 	<ul style="list-style-type: none"> • Quick-cooking cereals (check the label) • Ready-to-eat dry cereals with salt added (check the label) • Packaged rice, pasta, stuffing mix (such as macaroni and cheese, Rice-a-Roni)
Fats	<ul style="list-style-type: none"> • Unsalted butter and margarine, oil, shortening, low-salt salad dressing, low-salt mayonnaise 	<ul style="list-style-type: none"> • Salad dressing you buy in a restaurant or a store, dip or dressing mixes, regular mayonnaise
Beverages	<ul style="list-style-type: none"> • Coffee, tea, fruit juices, fruit drinks, lemonade, Kool-Aid, soda pop, unsalted vegetable juices 	<ul style="list-style-type: none"> • Instant flavored coffee mixes, instant cocoa mixes, Gatorade and other energy drinks, tomato or vegetable juices
Seasonings	<ul style="list-style-type: none"> • Herbs, spices, lemon juice, flavoring extracts, low-sodium meat tenderizers; garlic, onion, and celery powder; low-sodium catsup, mustard, horseradish; vinegar, Tabasco, pepper, Mrs. Dash, Vegit, Lawry’s Seasoned Pepper, spice blends with no salt added (check the label) 	<ul style="list-style-type: none"> • Salt, monosodium glutamate (MSG), salsa, catsup • Sauces: chili, steak, soy, barbecue, Worcestershire • Garlic, onion, and celery salt <p>Note: Many salt substitutes are not safe to eat. They have high levels of potassium. Ask your dietitian before using them.</p>
Fast Foods <i>Note: Most restaurants can prepare your order fresh if you explain you cannot have salt</i>	<ul style="list-style-type: none"> • Plain hamburgers and sandwiches – order without salt or cheese, light or no mayonnaise, catsup, or pickles (lettuce and tomatoes are OK) • Order french fries without salt • Order sauces and gravies “on the side” so that you control how much you eat 	<ul style="list-style-type: none"> • Asian foods, hamburgers, pizza, tacos, TV dinners, frozen entrees, deli meals

Here are more tips for keeping your sodium under control. Check the ones that you will try:

- When you buy processed foods, choose brands that are lowest in sodium. Your daily goal should be about 2,000 mg or less. Sodium is listed on the label of all processed foods. Compare labels of similar products.
- Keep a food journal. Write down what you eat and how much sodium is in the food (check the label). This will give you a good idea of how much sodium you are eating each day. Pay attention to the portion size on the label. Make sure you write down the amount of sodium in the portion size you eat.
- Some canned foods are safe to eat if you rinse off the salt. These include canned beans, other canned vegetables, and canned tuna. Drain the food and empty it into a colander. Rinse with running tap water for 1 to 2 minutes, then prepare as usual.
- Use herbs and spices instead of salt at the table and in cooking. Your dietitian has cookbooks and handouts about adding flavor without adding salt. Ask for help with ideas.
- If you do not think you can give up processed pasta and rice dishes, throw away the spice packets that may come with them (they are loaded with salt!). Add your own fresh or dried herbs and spices instead.
- The next time you are at a fast food restaurant, ask for the “Nutrition Facts Brochure.” Find the foods with the least amount of sodium, or share the brochure with your dietitian for help making the best choices.
- Do not be fooled by claims of “low sodium.” Even if the label says “low sodium,” it may not be a good food choice for you. Read food labels carefully for the total amount of sodium per serving. Some foods contain “potassium chloride” instead of salt, which is dangerous for people on dialysis. Always check with your dietitian or nurse when you are not sure!
- Processed foods may be quicker, but they may make you feel sicker! They are higher in sodium and can lead to higher blood pressure and edema. Fresh foods are the better choice because you have control over extra sodium.
- If a low-sodium diet is new for you, remember this: Within 45 days of following a low-sodium eating plan, your taste buds will change and high-sodium foods will no longer taste good to you. Try low sodium for 6 weeks and you will be pleasantly surprised!

Phosphorus

Your body uses the mineral phosphorus, along with calcium, to make strong bones and teeth. If someone with healthy kidneys eats foods with too much phosphorus, their kidneys will remove the extra phosphorus from their body. But if your kidneys are not working well, extra phosphorus builds up in your blood.

A high level of phosphorus in your blood causes your calcium level to drop. Your body tries to fix this by taking calcium from your bones, and that weakens your bones. The extra phosphorus and calcium in your blood can also damage your heart, lungs, and blood vessels. To keep this from happening, you should limit your phosphorus intake.

Phosphorus is found in almost all foods, but it is especially high in meat, milk, cheese, cottage cheese, yogurt, dried beans, and nuts. Many foods have phosphorus added during processing, so if you need to control your phosphorus level, avoid eating processed foods.

Foods with High Phosphorus

These foods have high levels of phosphorus. Limit your intake to only 1 of these choices a day:

- Milk (8 ounces, or 1 cup)
- Cheese (2 ounces)
- Cottage cheese (½ cup)
- Ice cream (1 cup)
- Pudding (1 cup)
- Instant pudding (½ cup)
- Custard (1 cup)
- Yogurt (8 ounces, or 1 cup)
- Nuts (2 ounces or ½ cup)
- Pizza (¼ of 12-inch pizza)
- Biscuits, muffins (1 small)
- Pancakes, waffles (2 to 4 inches across)
- Macaroni and cheese (8 ounces, or 1 cup)
- Bran cereals such as All Bran, 100% Bran, Bran Buds (⅓ cup)
- Cooked dried beans or peas (1 cup)
- Processed foods and drinks such as processed meats, frozen meals, snack crackers, pastries, bottled fruit drinks, and sodas

Besides limiting foods that are high in phosphorus, you may need to take “phosphate binders” like Tums, Renvela, or PhosLo. These should be taken when you eat so that they bind with the phosphorus from food in your stomach. This “bound-up” phosphorus passes out of your body through your stool. Your doctor will tell you if you need phosphate binders.

If you are eating a low-phosphorus diet, you may not be eating many dairy products. This means you may not be getting enough calcium. Some people on a low-phosphorus diet take calcium supplements. Talk with your doctor before you start taking a calcium supplement.

Potassium Guidelines

The mineral potassium is found in many foods, but mostly in fruits and vegetables. Normally when you eat potassium, your kidneys get rid of what your body does not need. If your kidneys are not working well, they may not get rid of this excess potassium, so it builds up in your blood. If you have too much potassium in your blood, you may develop heart problems or abnormal heart rhythms.

If the potassium level in your blood is high, your kidney doctor may refer you to a dietitian who can help you plan a low-potassium diet. The charts below and on the next page show high-, medium- and low-potassium foods and how many to choose each day if you are on a low-potassium diet.

High-Potassium Foods (250 to 500 mg) – <i>Choose 1 each day</i> (All servings are ½ cup unless noted otherwise)		
Fruits		
• Apricots (3)	• Guava	• Peach, fresh (1)
• Avocado	• Nectarine (1 medium)	• Prunes (5)
• Banana (1)	• Orange (1 medium)	• Raisins (¼ cup)
• Dates		
Vegetables		
• Artichokes	• Chard	• Sweet potatoes
• Bamboo shoots	• Kohlrabi	• Tomato sauce
• Beans (kidney, lima, navy, pinto)	• Parsnips	• Water chestnuts
• Beet greens	• Peas (split, black-eyed, lentils)	• Winter squash
• Bok choy (cooked)	• Potatoes	• Yams
• Brussels sprouts	• Spinach	
Drinks and Other Foods		
• Coconut milk	• Low-sodium foods with potassium chloride salt substitute	• Orange juice
• Coffee drinks such as latte or mocha (1 cup)	• Nuts (¼ cup)	• Prune juice
		• Tomato juice
		• V-8 juice

Medium-Potassium Foods (150 to 250 mg) – Choose 2 each day
(All servings are ½ cup unless noted otherwise)

Fruits		
• Apple (1 medium)	• Grapefruit (½)	• Plums (2)
• Apricots, canned	• Honeydew	• Rhubarb
• Bitter melon	• Kiwi (1)	• Tangelo (1)
• Cantaloupe	• Papaya	• Watermelon (1 cup)
• Cherries	• Pear, fresh (1)	
• Figs (2)	• Persimmon (1)	
	•	
Vegetables		
• Asparagus	• Corn	• Rutabagas
• Beets	• Green peas	• Summer squash
• Broccoli	• Kale	• Tomatoes
• Celery	• Mixed vegetables	• Wax beans
• Collard greens	• Potatoes (double-cooked)	• Zucchini
Drinks and Other Foods		
• Chocolate bar (1 to 2 oz.)	• Grapefruit juice	• Soy milk
	• Pineapple juice	

Low-Potassium Foods (20 to 150 mg) – Choose 3 each day
(All servings are ½ cup unless noted otherwise)

Fruits		
• Applesauce	• Fruit cocktail	• Pear, canned
• Blackberries	• Grapes	• Pineapple
• Blueberries	• Lemon or lime (1)	• Raspberries
• Coconut	• Mango	• Strawberries
• Cranberries	• Peach, canned	• Tangerine (1)
Vegetables		
• Bean sprouts	• Eggplant	• Onions
• Bok choy (raw)	• Green beans	• Peppers
• Carrots	• Lettuce (1 cup)	• Radishes (5)
• Cauliflower	• Mushrooms	• Turnips
• Cucumber	• Okra	
Drinks and Other Foods		
• Apple juice	• Espresso	• Lemonade, limeade
• Coffee (1 cup)	• Fruit drinks	• Rice milk (1 cup)
• Cranberry juices	• Grape juice	• Tea (1 cup)

Calories

People with kidney disease often have a poor appetite. If your appetite has decreased, you may not be eating enough calories to stay healthy. If you are eating a low-protein diet, you may have cut out some calories, too. Without enough calories, your body will use the protein you eat for energy instead of building body tissues.

It is very important to maintain a healthy body weight when you have kidney disease. If you are losing weight, tell your dietitian. Even if you are overweight, you must eat enough calories to save your muscles.

Fat

Eating too much fat or the wrong kinds of fat has been linked to heart disease. Saturated fats like butter, coconut oil, palm oil, and lard could harm your heart. Healthy fats include canola oil and olive oil.

Ask your doctor if you need to eat a low-fat diet. Your dietitian will help you plan how to do this and still get enough calories and protein.

Vitamins

If you are eating a diet that restricts potassium, phosphate, or protein, you may not be getting enough vitamins from your food. Because of this, you may need to take vitamin B and C supplements.

WARNING: Some supplements also have things in them that are harmful for people with kidney disease. Always check with your doctor before taking any supplements.

Here is a list of vitamins and doses that are usually recommended and safe for people who have chronic kidney disease:

Vitamin	Daily Dose
Vitamin C	60 to 100 mg
Thiamin (vitamin B1)	1.5 mg
Riboflavin (vitamin B2)	1.8 mg
Niacin	14 to 20 mg
Folate.....	more than 1.0 mg
Pyridoxine (vitamin B6)	more than 5 mg
Cobalamin (vitamin B12).....	more than 2 to 3 mcg
Biotin.....	30 to 100 mcg
Pantothenic acid.....	5 mg

Vitamins to Avoid or to Ask Your Doctor About

- Avoid vitamin A.
- Check with your kidney doctor before taking vitamin D, vitamin E, or vitamin K.

How is the diet different for each treatment?

Your diet will change as your kidney function and treatment change. This table shows basic dietary guidelines for different stages of your kidney disease treatment.

Nutrient	Before Dialysis	While on Dialysis	After Transplant
Protein	Varies	Not restricted	Not restricted
Sodium	Restricted	Restricted	Restricted
Phosphorus	Varies	Restricted	Not restricted
Potassium	Varies	Restricted	Not restricted
Calories	Not restricted	Not restricted	Varies
Vitamins	Needed	Needed	Varies

Patient Education Materials

The brochures listed below and on the next page are written by Northwest Kidney Centers. All brochures are available in English.

Brochures About Sodium, Potassium, phosphorus, and Fluids

These brochures provide dietary guidelines for people with kidney disease. Foods are listed according to high, medium, and low levels of sodium, potassium, and phosphorus. They include recommended serving sizes and instructions for reducing sodium, potassium, phosphorus, and fluids in the diet. Brochure titles are:

- “Sodium Content of Foods”
- “Potassium Content of Foods” (also available in Spanish)
- “Potassium for Exotic Fruits/Vegetables”
- “Potassium for Frequent Dialysis”
- “Phosphorus Content of Foods”
- “Fluid for Dialysis Patients” (for patients who must restrict their fluid intake – includes guidelines and tips for controlling thirst)

Brochures About Protein

These brochures provide protein guidelines, information on portion sizes, and tips for increasing protein intake.

- “Protein Content of Foods for People on Hemodialysis”
- “Protein Content of Foods for People on Peritoneal Dialysis”
- “Eating Well For People Not on Dialysis”
- “Eating Away from Home” – Gives tips to help a dialysis patient make the healthiest choices when eating at a restaurant. Includes a sample menu and guidelines for ordering food.
- “Emergency Diet Plan” – For patients who cannot dialyze, perhaps because of a natural disaster. It includes a list of foods that do not need cooking or refrigeration. Includes information for people with diabetes.

Nutrition Booklets and Workbooks

- *Nutrition: The Art of Good Eating* – A workbook for people on chronic dialysis. It includes all the basic information that dialysis patients need, with sections on sodium, fluids, potassium, phosphorus, and protein. Information about blood values, peritoneal dialysis, CAPD, diabetes, eating at restaurants, exercise, preparing food, and nutrient content of foods is also included.
- *A Guide to Good Nutrition: After Your Kidney Transplant* – A unique booklet for kidney transplant patients. It is structured as a workbook to help patients learn to recognize high-, medium-, and low-sodium foods and how to work them into their diets. It also includes sections on protein needs, counting calories, and calcium intake.

Posters

These 3 posters about specific nutrients list foods by high, medium, and low levels. They also give recommended portions:

- *Sodium* (11" x 17")
- *Potassium* (11" x 17")
- *Phosphorus* (11" x 17")

These posters also provide dietary information that can be helpful for people with kidney disease:

- *Spell of Spices* (11" x 17") – Gives ideas for spicing up food by seasoning and provides recipes for spice mixtures.
- *Basic Food Guide* (14" x 20") – Provides simple diet information for kidney patients. Includes advice about portion sizes and food examples.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.
