

EATING WELL

for Kidney Health

According to the U.S. Centers for Disease Control and Prevention, one in 10 American adults – that’s more than 20 million people -- has some form of chronic kidney disease. Kidney disease can happen by itself, or it often happens with other long-term health conditions like diabetes or high blood pressure. Living with kidney disease can affect your quality of life, how much energy you have and how well you feel. And, it can be expensive to treat – chronic kidney patients usually have about \$23,500 in medical expenses per year, and for patients who need dialysis, the costs can jump up to \$100,000 a year.

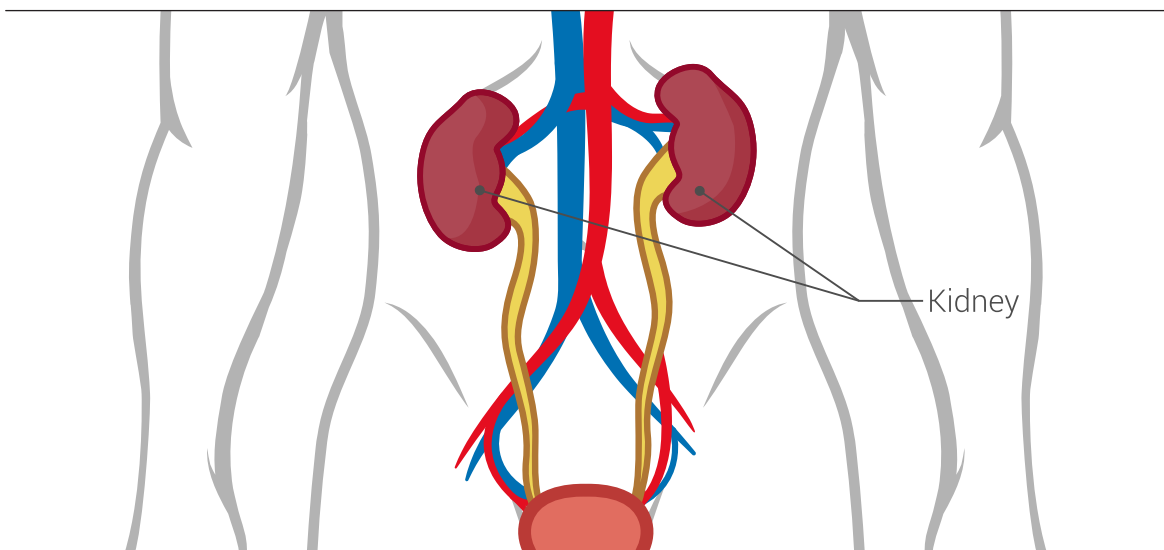
The good news is, sticking to a healthy diet can help you stay on top of your kidney disease, feel better and delay or prevent needing dialysis in the future.

This guide gives you some information about how nutrition affects your kidneys and how you can eat well to keep your kidneys as healthy as possible.

What are kidneys, and what do they do?

You have two kidneys, each about the size of your fist. Their main job is to filter wastes and excess water out of your bloodstream, making urine. Your kidneys also help control your body’s chemical balance and blood pressure levels, and make hormones.

Here is what your kidneys look like:



What happens when you have kidney disease?

When your kidneys do not work properly, your body has trouble eliminating waste from your blood. This can lead to health issues like upset stomach, having trouble urinating, swelling and puffiness, feeling tired or short of breath and losing your appetite. Over time, if your kidneys are not working properly, you can have serious health problems like blood poisoning, heart and blood diseases, liver disease or total kidney failure. In very bad cases, this can cause death.

How do you know how well your kidneys are working?

Doctors measure your kidney function with a Glomerular Filtration Rate (GFR) number. As kidney disease gets worse, your GFR number gets lower.

This shows you the different stages of chronic kidney disease and your GFR numbers for each stage:

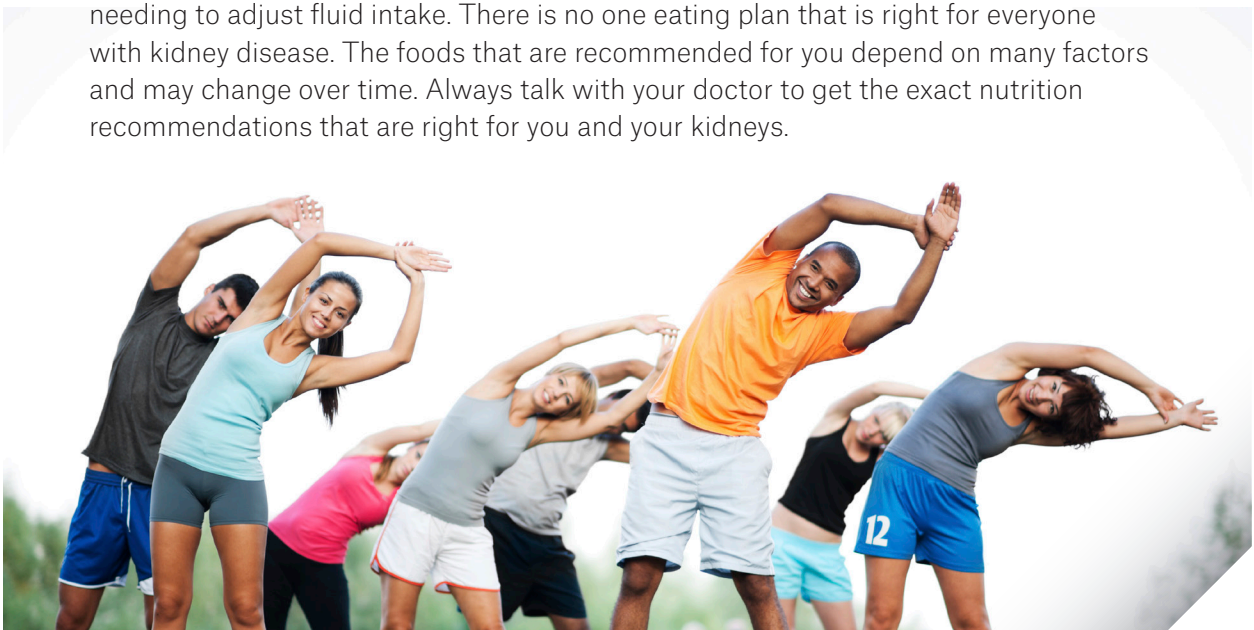
Stage	Description	Glomerular Filtration Rate (GFR)
1	Kidney damage with normal kidney function. Risk factors for kidney disease (e.g., diabetes, high blood pressure, family history, older age, ethnic group)	90 or above
2	Kidney damage with mild loss of kidney function	89 to 60
3a	Mild to moderate loss of kidney function	59 to 44
3b	Moderate to severe loss of kidney function	44 to 30
4	Severe loss of kidney function	29 to 15
5	Kidney failure	Less than 15

How can I keep my kidneys healthy?

There are some simple steps you can take that will keep your kidneys healthier longer:

- Choose foods that have healthy levels of salt (sodium), potassium and protein
- Keep your blood pressure at a healthy level – check with your doctor or healthcare provider to ask what is a healthy range for you
- If you have diabetes, keep your blood sugar (glucose) level in the target range – check with your doctor or healthcare provider to ask what is a healthy range for you
- Get to or stay at a healthy weight
- Take all medicines your doctor or healthcare provider prescribes for you, and take them as directed
- Don't smoke or use tobacco
- Exercise regularly
- Limit how much alcohol you drink
- Avoid some over-the-counter medicines like aspirin, ibuprofen, etc. because they can harm your kidneys – ask your doctor or healthcare provider for more information
- Try not to eat a lot of processed foods, since those are higher in sugar, unhealthy fats, salt and phosphorous. These foods also have lower overall nutritional value. Better choices are unprocessed foods like fruits, vegetables, beans, nuts, fish, poultry and whole grains.

This guide gives you more information about how much sodium, protein, potassium and phosphorus are in common foods. Fluid restriction is also mentioned for those needing to adjust fluid intake. There is no one eating plan that is right for everyone with kidney disease. The foods that are recommended for you depend on many factors and may change over time. Always talk with your doctor to get the exact nutrition recommendations that are right for you and your kidneys.



Sodium

What Is Sodium?

Sodium is a part of salt. It's in a lot of canned, packaged and fast foods. It is also found in many sauces, toppings, seasonings and meats.

Why do I need to watch sodium if I have kidney disease?

If you eat less salt/sodium, it can lower your blood pressure and can delay or prevent your kidney disease from getting worse. One of the kidneys' important jobs is to filter sodium out of your body and into your urine. Damaged kidneys cannot filter as well as healthy kidneys can, which can cause sodium to stay in your body and make your blood pressure go up.

How much sodium should I eat?

Most Americans eat an average of 3,400 mg (milligrams) of sodium per day, when the recommended amount of sodium is less than 2,300 mg per day. That's about one teaspoon of table salt. If you have high blood pressure, fluid retention (swelling) or wasted protein in your urine, you should try to eat less than 2,000 mg of sodium per day. But, keep in mind most of the sodium you eat doesn't come from a salt shaker – a lot of it is added to the prepared foods you buy at the supermarket or at restaurants.

How can I eat foods lower in sodium?

- Buy fresh or whole foods more often
- Cook your food from scratch instead of getting fast food, take-out, frozen dinners or canned food, as these are higher in sodium
- Instead of salt, add spices, herbs and sodium-free seasonings (check the label) to flavor your food
- Check with your doctor or healthcare provider about using salt substitutes
- If you eat canned vegetables, beans, meats or fish, rinse them off with water before cooking/preparing to get rid of extra sodium

What kinds of foods are lower in sodium?

- Fresh or frozen fruits and vegetables
- Rice, noodles
- Cooked cereal without added salt
- Fresh meat, poultry, seafood
- Low-fat, low-sodium cheese
- Unsalted nuts
- Low- and reduced-sodium frozen dinners, peanut butter, salad dressings
- Air-popped popcorn

These foods are healthier for your kidneys, and you can eat more of them.

What kinds of food have a lot of sodium?

- Bacon, corned beef, ham, hot dogs, luncheon meat, sausage
- Bouillon, canned, and instant soups
- Boxed mixes, like hamburger meals
- Canned beans, chicken, fish and meat
- Canned tomato products, including juice
- Canned and pickled vegetables, vegetable juice
- Cottage cheese
- Frozen meals
- Frozen vegetables with sauce
- Olives, pickles, relish
- Pretzels, chips, crackers, salted nuts
- Salt and salt seasonings, like garlic salt
- Seasoning mix and sauce packets
- Soy sauce
- Salad dressings, bottled sauces, marinades
- Some ready-to-eat cereals, baked goods, breads
- Ready-to-eat boxed meals and side dishes

Watch how much of these higher-sodium foods you eat at a time.

How can I add flavor without adding more salt?

Spice/Seasoning	Try it in...
Allspice	cabbage dishes, stews and meats, gravies, peach and apple desserts
Basil	tomatoes, summer squash, eggplant, polenta, soups, fish, lamb, pizza
Chili powder	soups, bean dishes, stews, meat sauces, tacos, tofu
Cinnamon	baked squash, sweet potatoes, lamb, pork, breads, apples, peaches, berries
Curry	soups, rice, lentils, chicken, veal, beef, lamb, yogurt dips
Dill	beets, cucumbers, green beans, rice, potatoes, soups, fish, chicken, stews
Garlic	tomatoes, salsa, soups, pasta dishes, shellfish, chicken, lean meats, tofu
Ginger	baked squash, fish, chicken, lamb, veal, tofu, carrots, stews, breads, fruit desserts
Lemon juice	cold soups, asparagus, artichokes, spinach, broccoli, salads, fish, chicken, melon
Mint	carrots, peas, lamb, pears, fruit desserts
Nutmeg	cabbage, carrots, baked squash, chicken, veal, puddings, custards, fruit desserts
Onion	salsa, salads, soups, stews, pasta sauces, bean dishes, casseroles, fish, chicken, lean meats
Oregano	eggplant, tomatoes, soups, pizza and pasta sauces, chicken, veal, lamb, pork
Parsley	carrots, beans, tomatoes, potatoes, soups, rice, fish, chicken, lean meats, poultry stuffing
Rosemary	peas, carrots, potatoes, chicken, lamb, pork, stews, breads
Sesame	asparagus, broccoli, bok choy, salads, fish, chicken, beef, tofu, breads
Tarragon	vegetables, salad dressings, fish, chicken, veal, wine sauces
Thyme	peas, tomatoes, salads, potatoes, soups, fish, chicken, lean meats, stews



Protein

What Is Protein?

Protein is a substance found in food that comes from plants (beans, tofu) and animals (meat, cheese). Your body needs protein to help build muscle, repair tissue and fight infection.

Why do I need to watch protein if I have kidney disease?

Having too much protein can cause waste to build up in your blood. Your kidneys may not be able to remove all the extra waste if you have kidney disease. And, too much protein can make your kidneys work harder, so you may need to eat less protein to keep your kidneys healthier.

What kinds of food have a lot of protein?

- 1 whole egg or 1/4 cup frozen egg substitute = 7 grams
- 3 ounces cooked meat (size of a deck of cards) = 21–24 grams (leaner meats are higher in protein per ounce)
- 8 ounces milk (whole, 2%, skim, soy) = 8 grams
- 8 ounces yogurt or 1 ounce cheese = 8 grams
- 1 cup cooked beans (navy, pinto, kidney, black-eyed peas, split peas) = 14–16 grams
- 1 ounce of dry roasted peanuts = 7 grams

Other foods such as breads and cereals, pasta and rice, fruits and other vegetables provide smaller amounts of protein. These foods are not mainly protein and provide lots of other nutrients as well.

How do I know how much protein I need daily?

Protein needs vary based on your age, sex and overall general health. The Recommended Dietary Allowance (RDA) for protein in healthy adults is 0.8 grams of protein per kilogram of desirable body weight a day. So, for a 150-pound person (divide by 2.2 to get 68 kilograms, then multiply by 0.8), that is 55 grams of protein a day.

Keep in mind that animal protein like meat and cheese includes all of the building blocks that your body needs, and plant protein (beans, tofu) needs to be combined to get all of the building blocks that your body needs.

Talk to your doctor or healthcare provider to find out what amount of protein is right for you to eat.

Potassium

What Is Potassium?

Potassium is a mineral found in many of the foods you eat. Potassium helps keep your heartbeat regular and your muscles working right.

Why do I need to watch potassium if I have kidney disease?

Healthy kidneys keep the right amount of potassium in your body. If your kidneys are not healthy, you often need to limit certain foods that can increase the potassium in your blood to a dangerous level. You may feel some weakness, numbness and tingling if your potassium is high. If your potassium gets too high, it can cause an irregular heartbeat or even a heart attack.

What is a safe level of potassium in my blood?

Ask your doctor or healthcare provider how you can measure your monthly blood potassium level.

If blood potassium level is 3.5-5.0..... You are in the SAFE zone
If blood potassium level is 5.1-6.0..... You are in the CAUTION zone
If blood potassium level is higher than 6.0..... You are in the DANGER zone

When your potassium concentration is high, your doctor/healthcare provider may recommend you limit how much potassium you eat. In general, this will happen if your GFR level is less than 30 mL/min, which is stage 4 or 5 of chronic kidney disease (see table on page 3).

How can I keep my blood potassium level from getting too high?

- Limit foods with lots of potassium
- If you want to include some high-potassium vegetables in your diet, leach them before using – that’s a process where some potassium can be pulled out of the vegetable (see page 11)
- Do not drink or use the liquid from canned fruits and vegetables, or the juices from cooked meat
- Remember that almost all foods have some potassium, so watch your serving sizes – a lot of a low-potassium food can turn into a high-potassium food
- If you are on dialysis, be sure to get all the treatment or exchanges your doctor or healthcare provider prescribes

What foods are high in potassium?

Higher-potassium foods have more than 200 milligrams of potassium per serving. The following table lists foods that are high in potassium. The portion size for each of these is half of a cup unless otherwise stated. While all the foods on this list are high in potassium, some are higher than others.

Make sure you check your serving size to help you avoid eating too much potassium with these foods.

HIGH-POTASSIUM FOODS		
Fruits	Vegetables	Other Foods
<ul style="list-style-type: none"> • Apricot, raw (2 medium) or dried (5 halves) • Avocado (¼ whole) • Banana (½ whole) • Cantaloupe • Dates (5 whole) • Dried fruits • Figs, dried • Grapefruit Juice • Honeydew • Kiwi (1 medium) • Mango (1 medium) • Nectarine (1 medium) • Orange (1 medium) • Orange Juice • Papaya (½ whole) • Pomegranate (1 whole) • Pomegranate Juice • Prunes • Prune Juice • Raisins 	<ul style="list-style-type: none"> • Acorn Squash • Artichoke • Bamboo Shoots • Baked Beans • Butternut Squash • Refried Beans • Beets, fresh then boiled • Black Beans • Broccoli, cooked • Brussels Sprouts • Chinese Cabbage • Carrots, raw • Dried Beans and Peas • Greens, except Kale • Hubbard Squash • Kohlrabi • Lentils • Legumes • White Mushrooms, cooked (½ cup) • Okra • Parsnips • Potatoes, white and sweet • Pumpkin • Rutabagas • Spinach, cooked • Tomatoes/Tomato products • Vegetable Juices 	<ul style="list-style-type: none"> • Bran/Bran products • Chocolate (1.5-2 ounces) • Granola • Milk, all types (1 cup) • Molasses (1 tbsp.) • Nutritional Supplements <i>(Use only under the direction of your doctor or dietitian)</i> • Nuts and Seeds (1 ounce) • Peanut Butter (2 tbsp.) • Salt Substitutes/Lite Salt • Salt-Free Broth • Yogurt • Snuff/Chewing Tobacco

What foods are low in potassium?

The following table lists foods that are low in potassium. The portion size for each of these is half of a cup unless otherwise stated. Make sure you check your serving size – eating more than one portion can turn these into higher-potassium foods.

LOW-POTASSIUM FOODS		
Fruits	Vegetables	Other Foods
• Apple (1 medium)	• Alfalfa sprouts	• Rice
• Apple Juice	• Asparagus (6 spears raw)	• Noodles
• Applesauce	• Beans, green or wax	• Pasta
• Apricots, canned in juice	• Broccoli (raw or cooked from frozen)	• Bread and bread products (not whole grains)
• Blackberries	• Cabbage, green and red	• Cake: angel, yellow
• Blueberries	• Carrots, cooked	• Coffee: limit to 8 ounces
• Cherries	• Cauliflower	• Pies without chocolate or high-potassium fruit
• Cranberries	• Celery (1 stalk)	• Cookies without nuts or chocolate
• Fruit Cocktail	• Corn, fresh (½ ear)	• Tea: limit to 16 ounces
• Grapes	• Frozen (½ cup)	
• Grape Juice	• Cucumber	
• Grapefruit (½ whole)	• Eggplant	
• Mandarin Oranges	• Kale	
• Peaches, fresh (1 small)	• Lettuce	
• Canned (½ cup)	• Mixed Vegetables	
• Pears, fresh (1 small)	• White Mushrooms,	
• Canned (½ cup)	• Raw (½ cup)	
• Pineapple	• Onions	
• Pineapple Juice	• Parsley	
• Plums (1 whole)	• Peas, green	
• Raspberries	• Peppers	
• Strawberries	• Radish	
• Tangerine (1 whole)	• Rhubarb	
• Watermelon (limit to 1 cup)	• Water Chestnuts, canned	
	• Watercress	
	• Yellow Squash	
	• Zucchini Squash	

How to Leach Vegetables for Lower Potassium

“Leaching” is a process where some potassium can be pulled out of the vegetable, turning higher-potassium foods into lower-potassium foods that are healthier for your kidneys.

Here are some steps you can follow to leach vegetables:

1. Peel and place the vegetables in cold water so they won't darken
2. Slice vegetables 1/8 inch thick
3. Rinse in warm water for a few seconds
4. Soak for a minimum of two hours in warm water. Use 10 times the amount of water to the amount of vegetables. If soaking longer, change the water every four hours
5. Rinse under warm water again for a few seconds
6. Cook vegetable with five times the amount of water to the amount of vegetable

Phosphorus

What Is Phosphorus?

Phosphorus is a mineral that's in your bones and helps keep them healthy. Along with calcium, phosphorus builds strong bones and keeps other parts of your body healthy.

Do I need to watch phosphorous if I have kidney disease?

Many times, eating foods with phosphorus is not an issue for kidney patients, and you don't need to eat less of it unless your doctor tells you to.

But, people who have kidney disease can't get rid of phosphorous very well. If you have too much phosphorous in your body, it causes changes that pull calcium from your bones, which makes them weak and they can break more easily. Having high levels of phosphorous and calcium in your body can cause calcium deposits in your blood vessels, lungs, eyes and heart, which can be dangerous. It's important to control how much phosphorous and calcium you eat for your overall health.

What kinds of foods should I eat if I want to watch phosphorous?

It's better for you to get phosphorous from whole foods/real foods like meat and eggs than from processed foods or precooked meals. These foods have phosphate that isn't organic, and they are also high in preservatives.

What kinds of foods are lower in phosphorous?

- Fresh fruits and vegetables
- Lighter-colored sodas (ales, lemon/lime soda)
- White rice
- White bread
- Sherbet

What kinds of foods have a lot of phosphorous?

- Dark colas
- Beer
- Fish
- Oysters
- Liver/organ meat
- Lentils
- Nuts
- Oatmeal
- Whole grain products
- Bran cereals
- Dairy products (cheese, milk, yogurt, ice cream)
- Beans (baked beans, black beans, garbanzo beans, kidney beans, soybeans)

How do I know if there is added phosphorous in my food?

A lot of packaged foods have added phosphorus. Look for phosphorus additives, or words listed with "PHOS," in the ingredient list on the nutrition food label.

Phosphorus additives found in foods include:

- Dicalcium phosphate
- Disodium phosphate
- Monosodium phosphate
- Phosphoric acid
- Sodium hexametaphosphate
- Trisodium phosphate
- Sodium tripolyphosphate
- Tetrasodium pyrophosphate

Fluid

If you have kidney disease, you may need to limit how much fluid you drink each day. Your doctor will help you plan the right amount of fluid you should drink.

You may be drinking too much fluid if you have:

- Sudden weight gain
- Swelling or puffiness around the eyes, hands or feet
- Shortness of breath
- A rise in blood pressure

Fluid can be found in any drink or food that turns to liquid at room temperature. Some kinds of foods/drinks that have fluid are:

- Ice
- Coffee, tea, soda, juice and water
- Frozen desserts like ice cream, sherbet or popsicles
- Gelatin
- Gravy and soup

If your doctor or healthcare provider suggests you limit fluids, try these tips:

- Suck on a lemon wedge to wet your mouth
- Use less salt so you don't get as thirsty
- Drink only when you are thirsty, not just out of habit or because drinks are there
- Control your blood sugar if you have diabetes – this will make you less thirsty

Healthy Kidney Diet Tips

Kidney-Healthy Snack Ideas:

- Fresh fruit from the low potassium list
- Unsalted/natural nuts
- Cucumber slices with 2 tbsp. hummus
(or any other vegetable from the low potassium list)
- Apple with 2 tbsp. almond butter
- Tuna or chicken salad sandwich
- Grapes and string cheese

Healthy Kidney Recipe Ideas

From the National Kidney Foundation at www.kidney.org.

Chili Rice with Beef

Yield: 4 servings

Serving size: 1 cup

Ingredients:

- 2 tablespoons vegetable oil
- 1 pound lean ground beef
- 1 cup onion, chopped
- 2 cups rice, cooked
- 1 ½ teaspoons chili con carne seasoning powder
- ⅛ teaspoon black pepper
- ½ teaspoon sage



Directions:

1. Heat oil; add beef and onion. Cook, stirring occasionally, until browned.
2. Add rice and seasonings. Mix together.
3. Remove from heat. Cover and let stand 10-14 minutes.

Nutritional content per serving:

360 calories	1 gram trans fat	78 milligrams sodium
23 grams protein	65 milligrams cholesterol	427 milligrams potassium
14 grams total fat	26 grams carbohydrate	233 milligrams phosphorus
4 grams saturated fat	2 grams fiber	34 milligrams calcium

Suggestions:

- May substitute ground beef with ground turkey or chicken.
- May add ¼ cup chopped green pepper and/or celery.
- May add any of the following seasonings: thyme, garlic powder, onion powder, white pepper, red pepper, oregano or lemon pepper.
- May substitute 2 cups cooked pasta for rice. Toss pasta in browned beef and seasonings. Remove from heat and serve.

Baked Fish

Yield: 4 servings

Serving size: 3 ounces

Ingredients:

- 4 3-ounce trout fillets or any other baking fish
- 1 ½ teaspoons black pepper
- 1 tablespoon garlic powder
- 1 ½ teaspoons paprika
- ¼ medium green pepper
- 1 small onion
- 1 small lemon
- 2 tablespoons parmesan cheese



Directions:

1. Preheat oven to 375°F.
2. Place fish in a greased baking pan or on aluminum foil.
3. Sprinkle black pepper, garlic powder and paprika on both sides of fish.
4. Cut green peppers into strips and place on fish. Slice onions into rings and place on fish.
5. Squeeze juice of lemon onto fish.
6. Bake for 30 minutes.
7. After fish has cooked, sprinkle with parmesan cheese. Serve hot.

Nutritional content per serving:

164 calories	0 grams trans fat	86 milligrams sodium
20 grams protein	62 milligrams cholesterol	452 milligrams potassium
6 grams fat	8 grams carbohydrate	252 milligrams phosphorus
1 gram saturated fat	3 grams fiber	80 milligrams calcium

For more healthy eating ideas, visit the National Kidney Foundation website, www.kidney.org.

Read the Labels

When you plan meals based on eating well for your kidneys, it's important to pay attention to the food labels. This guide gives you information to see how much sodium, protein and/or potassium is in different types of foods.

Be careful when reading the label. There can be more than one serving size in the package, so if you eat more than one serving, you will need to figure out how much of these items you are eating for your portion.

Sample food label:

The amount listed is for one 1-cup serving. If you eat two servings, the amount doubles.

One serving has 660 milligrams of sodium.

This package has two 1-cup servings.

One serving has 28% Daily Value of sodium.

- 5% or less is low.
- 20% or more is high.

For this food label, 28% Daily Value is **high** for sodium.

Nutrition Facts	
Serving Size: 1 cup (228g)	
Servings Per Container: 2	
Amount Per Serving	
Calories: 260 Calories from Fat: 120	
% Daily Value*	
Total Fat 13g	20 %
Saturated Fat 5g	25 %
<i>Trans Fat</i> 2g	
Cholesterol 30mg	10 %
Sodium 660mg	28 %
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0 %
Sugars 5g	
Protein 5g	
Vitamin A 4%	• Vitamin C 2%
Calcium 15%	• Iron 4%
* Percent Daily Values are based on a 2,000 calorie diet.	

How do I reach the Blue Cross and Blue Shield of Louisiana dietitians?

Blue Cross has registered dietitians on staff who can help you plan a kidney-healthy diet. To reach them, call **1-800-317-2299**, Monday through Friday between 8 a.m. and 5 p.m. (closed on office holidays).

To learn more about our dietitians and other clinical staff, visit www.bcbsla.com/protecteveryday.