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KIDNEY PATIENT EDUCATORS

PROVIDE EDUCATION FOR YOU

THE MAJOR PARTS OF THE RENAL DIET

The most important foods to control are those containing protein, potassium, sodium, phosphorus and fluid. Your dietitian will help you set up a meal plan which will contain the right amount of these nutrients for you, depending on body size, type of dialysis and medical condition.

❖ Protein

Protein is needed by the body to keep your body tissue healthy and replace old damaged tissue. Each day protein must be included in the diet for you to stay healthy. As your body breaks down protein foods, waste products are formed. Too much protein can lead to an excess of these substances in the blood. This may cause tiredness, nausea, headaches, and a bad taste in your mouth; however, if you have too little protein you may lose muscle and weight, lack energy, and have difficulty fighting infections. There are two kinds of protein found in foods.

❖ High Quality Protein or animal protein

These come from milk, meat, fish, poultry and eggs and contain all the needed ingredients for tissue growth.

❖ Low Quality Protein or plant protein

These come from vegetables, breads, and cereals and are lacking in some of the ingredients tissues need to grow. You need both kinds of proteins. Your dietitian will figure out your dietary prescription to include a mix of the proteins.

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❖ Phosphorus

Phosphorus is a mineral which combines with calcium in the body to keep your bones strong and healthy. When the kidneys start to fail, the body is unable to use calcium very well, or remove phosphorus from the blood. The body tries to correct for this by taking calcium from the bones. This can make your bones weak and brittle. It is important to avoid certain foods high in phosphorus. Your doctor may also prescribe a medicine called a phosphate binder. These medicines will bind with the phosphorus in your intestine, and will pass in your stool.

References:

National Kidney Foundation, Phosphorus and Renal Diet, Publication No. 04-11NN, Nutrition Series, 1993
National Kidney Foundation, Sodium and Renal Diet, Publication No. 04-14NN, Nutrition Series, 1994
National Kidney Foundation, Potassium and Renal Diet, Publication No. 04-10NN, Nutrition Series, 1993
National Kidney Foundation, Making Lives Better, Los Angeles, CA

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POTASSIUM TIPS

	VEGETABLES	FRUITS	OTHER
Low (5-150 mg)	Alfalfa sprouts, ½ cup Bean sprouts, ½ cup Cabbage, ½ cup Cauliflower, ½ cup Celery, 1 stalk, 7-1/2" Cucumber, ½ cup Eggplant, ½ cup Green beans, ½ cup Wax beans, ½ cup Lettuce, 1 cup Onions, ½ cup Peas, ½ cup Radishes, ½ cup Sweet peppers	Apple, 1 small Applesauce, ½ cup Blackberries, ½ cup Blueberries, 1 cup Cranberries, ½ cup Cherries, ½ cup Fruit cocktail, ½ cup Grapes, ½ cup Lemon, 1 Lime, 1 Passion fruit, 1 Peaches, can or frozen, ½ cup Pineapple, fresh or can, ½ cup Plums, 1 fresh Raspberries, ½ cup Tangerine, 1 small	Juices ½ cup: Cranberry Cran-mixes Lemonade Peach nectar Pear nectar Bagel, 1 plain Bread, 2 white Oatmeal, ¾ cup Pasta, 1 cup plain Rice, 1 cup white Cream cheese, 1 ounce Cheese, 1 ounce Pudding pops, 1 Non-dairy creamer, ½ cup Non-dairy whipped topping, 1-2 tablespoons
Medium (150-250 mg)	Asparagus, 6 spears Beets, ½ cup Broccoli, ½ cup Brussel sprouts, ½ cup Carrots, ½ cup Corn, can/frozen, ½ cup Mustard greens, ½ cup cooked Turnip greens, ½ cup cooked Mushrooms, ½ cup Okra, ½ cup Turnips, ½ cup Zucchini, ½ cup Summer squash, ½ cup Corn, 1/2 cup fresh	Apricots, 2 canned Grapefruit, ½ small Mandarin oranges Peach, fresh 1 medium Pear, fresh/can 1 medium Strawberries, ½ cup Watermelon, 1 cup	Juices ½ cup: Apple Apricot nectar Grape Pineapple Pumpnickel bread, 1 Chickpeas, ½ cup cooked Tortillas, 4 small corn Brown sugar Molasses Catsup Chili sauce Barbecue sauce Steak sauce Cottage cheese, ½ cup Custard, ½ cup Ice cream, ½ cup Pudding, ½ cup

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❖ Foods and Beverages High in Potassium

Fruits and juices:

Apricots	Avocados	Bananas
Casaba melons	Dried fruit	Honeydew melons
Mangos	Tangerines	Tomato juice
Oranges	Orange juice	Persimmons
Prune juice	Pumpkin	Rhubarb
Watermelon	Grapefruit	

Vegetables:

Artichokes	Mustard greens	Bamboo shoots
Spinach	Beet greens	Broccoli
Lentils	Split peas	Raw carrots
Raw celery	Squash	Swiss chard
Tomatoes	Water chestnuts	Zucchini
Collard greens	Potatoes	Tomato (sauce & paste)
Brussel sprouts	Black-eyed peas	Sweet potatoes/yams
Beans (white, kidney, black, lima, soy, garbanzo, etc.)		

Other:

Bran	Bran cereals	Coconut
Molasses	Nuts	
Salt substitutes (potassium chloride)		
Unsweetened baking chocolate		

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❖ **Foods High in Phosphorus**

Vegetables and Fruits:

Artichokes	Lentils	Asparagus
Avocados	Broccoli	Mushrooms
Brussel sprouts	Split peas	Peas
Lima beans	Vegetables in cream or cheese sauce	Dried beans (kidney, Pinto, navy, etc.)

Dairy:

Milk	Yogurt	Pudding
Cream	Ice cream	Cheese

Breads, cereals, and starches:

Whole wheat bread	Bran cereals	Pumpnickel bread
Corn bread	Oatmeal	Ready to eat wheat and oat cereals

Miscellaneous:

Cream soups	Nuts	Cola beverages
Bean, pea, split pea soups		Chocolate

References:

National Kidney Foundation, Sodium and Renal Diet, Publication No. 04-14NN, Nutrition Series, 1994
National Kidney Foundation, Potassium and Renal Diet, Publication No. 04-10NN, Nutrition Series, 1998
National Kidney Foundation, Phosphorus and Renal Diet, Publication No. 04-11NN, Nutrition Series, 1993
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KIDNEYS

❖ Kidneys

- Most people are born with two kidneys
- They are about the size of your fist
- Located on either side of the backbone, just above the small of the backbone, just above the small of the back

❖ Kidneys Functions

- Remove extra fluid
- Remove waste products
- Control blood pressure
- Control red blood cells

❖ Causes of Kidney Damage

- Diabetes
- High blood pressure
- Glomerulonephritis
- Inherited diseases
- Chronic infection
- Drug abuse

❖ Symptoms of Kidney Damage

Some people experience:

- Feeling tired or weak
- Swelling
- Shortness of breath
- Loss of appetite
- Bad taste in mouth
- Anemia
- Itching
- Nausea
- Feeling cold

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FLUID/FLUID CONTROL

- ❖ **Kidneys help control the amount of fluid that leaves your body. If you have problems with your kidneys, this balance becomes harder for your kidneys to maintain. You may need to limit the amount of fluids that you take in each day in order to prevent too much fluid building up in your body.**

- ❖ **Your doctor may tell you that you need to limit your fluid intake. Remember, fluids are considered to be anything that is liquid or anything that melts into a liquid. Examples are:**
 - Ice cream, sherbert, sorbet
 - Soup
 - Ice cubes
 - Popsicles
 - Gelatin
 - All juices, soda, coffee, tea, milk
 - Water used to take medicines

- ❖ **Measuring your fluids before you drink them will help you keep an accurate record of your fluid intake. You are allowed _____ amount of fluid each day.**

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SODIUM TIPS



FOOD GROUPS	AVOID	CHOOSE
Dairy	Buttermilk, cottage cheese, regular cheese	2% or skim milk, lowfat yogurt, low sodium cheeses
Meats 	Processed meats (bacon, sausage, spam, hotdogs, lunch meats, pepperoni) Breaded or fried meats (chicken, fish, pork, or beef) Canned meats in oil (tuna, sardines, salmon)	Fresh, lean beef, chicken, turkey, pork or fish Frozen lean beef, chicken, turkey, pork or fish (not breaded) Low sodium water packed tuna
Starches 	Salted crackers or bread Pretzels and chips Instant mashed potatoes Mixes (muffins, pancake, potatoes, noodles, bread) Some dry cereals	Fresh breads, most commercial breads Unsalted chips, crackers, pretzels Read labels for dry cereals
Vegetables 	Canned vegetables Pickled (pickles, olives, sauerkraut) Frozen vegetables with cheese or cream sauces	All plain fresh and frozen vegetables Low sodium canned vegetables Low sodium tomato sauces
Fruits	None	All
Condiments	Salt substitute, catsup, mustard, salad dressings, soy sauce, teriyaki sauce, worcestershire sauce, hot sauce, tobasco and relish	Only use small amounts of condiments Ask for condiments on the side when eating out
Other	Fast foods (2-3 times more salt than the same foods made at home) Most canned soups and frozen dinners Most Chinese, Mexican and Pizza restaurants	Request for no salt on food when eating out Low sodium frozen dinners and soup Low sodium cheeses on casseroles and pizza

References:

National Kidney Foundation, Sodium and Renal Diet, Publication No. 04-14NN, Nutrition Series, 1994



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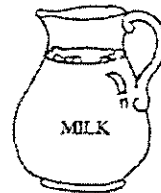
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PHOSPHORUS FOODS

Foods with high phosphorus content that you may need to limit:




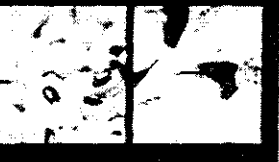



Dairy	Starches	Beans and Lentils
Cheese Milk Ice Cream Yogurt Cream soups Custard and pudding	Whole wheat bread Oatmeal Biscuits  Corn bread Pancakes, mix or frozen	Garbanzo Pinto Refried Kidney Lima
Fruits and Vegetables	Miscellaneous	Beverages
Corn Peas Mushrooms  Dried fruit	Chocolate Caramel	Beer Milk



PROTEIN

phospho
Gel Caps
Calcium Acetate

	LOW PROTEIN	HIGHER PROTEIN	HIGHEST PROTEIN
Meat, Poultry and Eggs portions are 3 ounces fresh and cooked unless otherwise stated 	To 21.0 grams Beef, ground, lean, 21.0 Beef, ground, regular, 20.5 Duck, domestic roasted, 20.5 Egg Substituts, 11.0 Egg white, 1 large, 3.5 Egg whole, 1 large, 5.3 Egg Yolk, 1 large, 2.8 Veal, rib, 20.4	From 21.1 to 25.1 grams Beef, ground, extra lean, 21.6 Beef, no. lean, 23.2 Beef, round, eye, lean, 24.6 Chicken, dark meat, 24.4 Lamb, leg, domestic, lean, cooked, 24.1 Lamb, no. domestic, lean, cooked, 22.2 Pork leg, fresh, lean, 25.0 Pork roast, fresh, lean, roasted, 24.4 Pork, spare ribs, fresh, braised, 24.7 Turkey, dark, 24.0	25.1 or more grams (Data obscured)
Seafood portions are 3 ounces fresh and cooked unless otherwise stated 	To 17.0 grams Clams, mixed species, raw, 10.9 Crab, Alaska King, cooked, 16.5 Oyster, cooked, 7.5 Oyster, raw, 5 medium, 5.9 Scallop, cooked, 6 large, 16.8 Shrimp, 5 large, 9.6	From 17.1 to 21 grams Cod, cooked, 19.5 Crab, blue, cooked, 17.2 Flounder, cooked, 20.5 Haddock, cooked, 20.6 Lobster, cooked, 17.4 Ocean Perch, cooked, 20.3 Pollock, cooked, 20.0 Sole, cooked, 20.5	21.1 or more grams Halibut, cooked, 22.7 Salmon, 25.2 Striped bass, cooked, 21.6 Tuna, skipjack, 1 cup, 32.9 Tuna, light, cooked brook, 24.5 Tuna, yellowfin, cooked, 25.5
Dairy portions as stated 	To 7.9 grams Buttermilk, 1/2 cup, 4.1 Cheese, blue, 1 oz, 6.9 Cheese, cheddar, 1 oz, 7.0 Cheese, cream, 1 Tbsp, 1.1 Cheese, cream, fat free, 1 Tbsp, 2.3 Cheese, feta, 1 oz, 4.9 Cheese, mozzarella, 1 oz, 7.3 Cheese, parmesan, grated, 1 Tbsp, 2.1 Cheese, provolone, 1 oz, 7.3 Ice cream, vanilla, 1/2 cup, 2.3 Ice cream, vanilla, light (50%), 1/2 cup, 2.5 Sherbert, orange, 1 cup, 1.6 Yogurt, frozen vanilla, 1/2 cup, 2.9 Yogurt, plain, whole, 1 cup, 7.9	From 8 to 12 grams Cheese, swiss, 1 oz, 8.1 Milk, 1%, 1 cup, 8.0 Milk, 2%, 1 cup, 8.1 Milk, evaporated, nonfat, 1/2 cup, 9.7 Milk, nonfat, 1 cup, 8.4 Milk, whole, 1 cup, 8.0 Yogurt, plain, low fat, 1 cup, 11.0	12.1 or more grams Cheese, cottage, creamed, 1 cup, 26.0 Cheese, cottage, low fat (2% milkfat), 1 cup, 31.0 Cheese, cottage, non-fat, 1 cup, 25.0 Cheese, ricotta, part skim milk, 1 cup, 28.0 Cheese, ricotta, whole milk, 1 cup, 27.7 Milk, condensed, sweetened, 1/2 cup, 12.1 Milk, dry, nonfat instant, 1/2 cup, 12.2 Yogurt, plain, skim, 1 cup, 13.0
Legumes and Nuts 	To 7.9 grams Beans, black, boiled, 7.6 Beans, kidney, boiled, 7.7 Beans, lima, 7.3 Beans, navy, boiled, 7.9 Beans, pinto, 7.0 Beans, refried, 8.9 Chickpeas, boiled, 7.3 Cowpeas, cooked from raw, drained, 2.8 Peas, 2 oz, 5.2 Soy milk, 3.3	From 8 to 12 grams Beans, white, 9.5 Cashews, dry roasted, 2 oz, 8.7 Cashews, oil roasted, 2 oz, 9.2 Chestnuts, European, 2 oz, 9.1 Hazelnuts, 2 oz, 8.5 Peanut Butter, 2 Tbsp, 8.0 Peanut, split, 8.2 Soy hamburger patty, 2.3 oz, 12.0 Tofu, silken, raw, 4 oz, 9.5 Tofu, soft, raw, 4 oz, 9.0 Walnuts, English, 2 oz, 8.5	12.1 or more grams Almonds, 2 oz, 12.1 Beans, soy, cooked, 14.3 Lentils, cooked, 17.9 Peanuts, dry roasted, 2 oz, 13.4 Peanuts, oil roasted, 2 oz, 14.0 Pine nuts, dried, 2 oz, 13.6 Pistachios, dry roasted, 2 oz, 12.1 Soy chicken patty, 2.5 oz, 13.0 Tofu, firm, raw, 4 oz, 13.0
Grains and Cereals portions are 1 cup or 1 slice unless otherwise stated 	To 2.9 grams Bread, french, 1/2 slice, 2.2 Bread, italian, 1.8 Bread, oatmeal, 2.3 Bread, wheat, 2.7 Cereal, crispy rice, 2.1 Cereal, corn flakes, 1.8 Cereal, corn squares, 2.2 Cereal, rice squares, 1.9 Doughnut, plain, 2.4 Rolls, dinner (broken and served), 1 roll, 2.4	From 3 to 6 grams Biscuits, plain, 2 1/2", 4.2 Bread, pita, white, 6 1/2", 5.6 Cereal, cream of wheat, regular, 3.8 Croissants, butter, 1 croissant, 4.7 Cronutons, seasoned, 4.3 English Muffin, 1 whole, 4.4 Muffin, blueberry, premade, 1 muffin, 3.1 Oatmeal, plain instant, 1 packet, 4.4 Rice, brown, cooked, 5.9 Rice, white, cooked, 4.3 Rolls, hot dog or hamburger, 1 roll, 3.7 Rolls, Kaiser, 1 roll, 5.6	6.1 or more grams Bagel, egg, 3 1/2", 7.5 Bread crumbs, seasoned, 17.0 Bread stuffing, from mix, 6.4 Couscous, dry, 22.1 Macaroni, cooked, 6.7 Noodles, egg, cooked, 7.6 Rice, wild, cooked, 6.5 Spaghetti, cooked, 6.7 Wheat flour, white, 12.9 Wheat flour, whole grain, 16.44

Foods high in phosphorus. Foods high in potassium

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