

Renal Disease



The University of Rochester Medical Center's commitment to help Rochester become America's healthiest community 2020

Purpose:

Healthy kidneys clear more than 200 waste products that are created by the body from digested foods. When kidneys do not function properly, the waste builds up and damages the body. Sometimes a machine is used to clear the waste from the blood when the kidneys cannot. This is known as dialysis.

People with kidney disease are usually asked to follow a special diet to reduce waste build up in the blood and to maintain adequate nutrition. If the diet is followed, you will feel better and the need for dialysis may even be put off.

Helpful Hints:

- **Balance and Variety** - Your meal plan will be based on your individual needs, and these needs will likely change during the course of treatment. You will probably be advised to modify your intake of foods high in protein, sodium, potassium, phosphorous, and fluids. A modified meal plan doesn't mean you have to give up favorite foods. Instead, you will learn how to balance these foods into your daily allowances. Eating a variety of foods within your allowances will be your key to success.
- **Sodium and Potassium** - Limiting sodium and potassium in your diet is very important. Too much sodium can result in fluid retention and high blood pressure. Excess potassium can lead to an irregular heart beat and even cardiac arrest (heart attack).

The usual range for sodium intake is 2000 to 3000 mg a day. It may help if you divide your sodium limit among meals. If your limit is 2000 mg daily, you might have 500 mg at breakfast, 700 mg at lunch, 700 mg at dinner, and 100 mg for snacks. Be sure to check labels for sodium content and plan to work each food item into your menu. Also, when preparing foods, use salt-free spices and herbs instead of salt. However, avoid salt substitutes because of their high potassium content.

- **Limiting Fluids** - It is important to remember that food has water in it. Too much water can cause you discomfort and raise your blood pressure. To help keep your fluid intake down, try lessening your thirst by chewing gum or sucking on a hard candy, a frozen grape, or a strawberry.

Food Category Recommendations:

Protein

Protein foods are needed for the body to make tissue and important blood products. Protein sources include eggs, egg alternatives, beef, poultry, fish, and dairy products. Before beginning dialysis, you may have to limit your protein foods to small servings, to keep the level of protein waste products (urea) low in the blood. However, once dialysis has begun, you will be encouraged to eat more protein-rich foods to replace a portion of the protein removed during the procedure. When you eat meat, it is strongly advised that fresh and frozen varieties be selected most often. Processed meats, such as luncheon meat, bacon, and sausage, are salty. They should be eaten infrequently and in small amounts—if at all. Some other protein-rich foods, such as peanut butter, dried beans, lima beans, peas, beef liver, salmon, and oysters, are high in phosphorus and should be eaten less often as well.

Dairy

Although milk products are high in protein, they are also high in phosphorous and need to be limited. Too much phosphorus in the blood can lead to bone disease. To limit phosphorus, milk product allowances may be only 1/4 to 1/2 cup, once or twice a day. Other foods to limit because of their phosphorus content are: cheese, chocolate, cocoa mix, ice cream, sherbet, pudding (homemade), cream, dried beans/peas, bran, whole-grain cereal and bread, tofu, dried fruits, nuts and cola-based soft drinks. Nondairy creamers can substitute for milk if your calories are not restricted.

Anything's possible.

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Vegetables

Vegetables have about 2 to 3 grams of protein per serving. Choose fresh vegetables that have very little sodium, and frozen or canned vegetables with no added salt. A simple process called dialyzing removes excess sodium and potassium from vegetables, reducing levels by approximately half.

Starch

Starchy foods have less protein than meat or dairy products. Recommended starchy foods include: bread, cereal, crackers, pasta, noodles, cookies, cake, rice, popcorn, and dialyzed potatoes. Dialyzed potatoes should be eaten in moderation (three times a week on nonconsecutive days) because they still contain a fair amount of potassium.

Complex Carbohydrates

Vegetables, fruit, cereal, and whole grains provide fiber that can help relieve the constipation common with kidney disease. These foods also provide carbohydrates for energy and many important vitamins and minerals. Limit the amount of bran and whole-grain cereals and breads you eat since they are high in phosphorus.

Fat

Regular margarine, mayonnaise, and salad dressing all have some sodium. So, you may be advised to limit your serving sizes or to use low-sodium products. Be aware that low-sodium products may be high in potassium.

Sugar

Marshmallows, hard candies, and even jelly and honey may be used to help increase calories. These foods have little sodium, protein, potassium, or phosphorus.

Fruit

Fruit has little protein, sodium, or phosphorus, but may be high in potassium. One can choose fresh, frozen, or canned fruit. The following table shows some fruits lower in potassium:

Fruit	Serving Size	Potassium (mg)
Cranberry juice	1 cup	61
Apple sauce	1/2 cup	78
Plum	1	113
Fruit cocktail	1/2 cup	118
Blueberries	1 cup	129
Peach	1	171
Grapes	1 cup	176
Watermelon	1 cup	186

Dialyzing Instructions:

For white and sweet potatoes, carrots, beets, and rutabagas:

- Use fresh, rinsed, unpeeled vegetables
- Peel, place in cold unsalted water to avoid darkening
- Slice vegetables 1/8 inch thick
- Rinse in warm water for a few seconds
- Soak for a minimum of 2 hours in warm, unsalted water. Use 10 times the amount of water to the amount of vegetables
- Rinse under warm water again for a few seconds
- Cook for 5 minutes, but with 5 times the amount of unsalted water to the amount of vegetables and drain
- Freeze single serving portions in small plastic bags
- Cook later as desired