



## The Importance of Following a Renal-Friendly Diet

**By Regina Bonnette, MS, RD, LD, CDE, BC-ADM**

Cardboard, Styrofoam and water (but not too much), may describe how you felt about what foods you could eat after seeing the dietitian for your kidney problems. Adding food restrictions for your kidney diet to your diabetes and high cholesterol diet may leave you with the thought of "Why should I follow this diet for my kidneys?"

To understand the importance of following a renal diet, one needs to understand the role of the kidneys. The kidneys help filter out things we do not need and maintain a balance of the good things our bodies require. The kidneys also play a role in the body's maintenance of bones and red blood cells. One needs to think since the kidneys are not filtering as well, than the filtering needs to start before food enters the body. When your diet is not followed, you are more likely to experience complications such as high potassium levels, fluid overload, itching, nausea, problems with your bones, decreased appetite and weight loss. The payoff of following your renal diet is feeling better and having more energy.

When your kidneys are not working well, how it affects you can be different from other people. Therefore, your diet needs to be individualized. Your diet should reflect what stages of kidney disease you are at, your treatment choice, whether or not you have diabetes or high cholesterol, and your blood work. For most people, following a renal diet means having to prepare more food at home, being more aware of food labels, and trying new ideas and recipes.

So what is a renal diet? It can mean limiting potassium, protein, fluid, salt (sodium) and phosphorus. If your cholesterol is high, you may need to limit saturated fats. If you have diabetes, you may need to monitor your carbohydrate intake. As part of a renal diet, it is recommended to eat foods high in fiber since constipation can sometimes be a problem in people with compromised kidney function. In addition, people with chronic kidney disease (CKD) and those on hemodialysis need more calories to maintain weight. For people on peritoneal dialysis, a certain amount of the glucose (sugar) in the dialysate is absorbed, so to prevent gaining excessive weight, one needs to take into consideration these calories in their overall meal plan.

So let's take a look at how much protein one should consume for different kidney conditions. For someone considered CKD, one needs to reduce the amount of protein they eat per day. An example for a 140 pound woman, she would need to only consume 4 oz of protein per

day. This amount would equal approximately one egg, 1 oz of turkey and 2 oz fish. For a male weighing around 190 pounds, he would need to only eat 6 oz of cooked protein per day. What does 1 oz of meat look like? It would be equal to the size of a match box, 2 oz would be comparative to a cassette tape and 3 oz is the size of a deck of cards. If one eats too much protein they can experience problems with uremia, a toxic buildup of too much waste from the breakdown of protein in one's blood. Symptoms of uremia can include nausea, vomiting, headaches and dizziness. As one's kidney function declines, further reduction in protein intake may be necessary to reduce uremic symptoms and help to slow the loss of kidney function.

Once hemodialysis or peritoneal dialysis begins your protein requirements drastically change. In fact, your protein requirements almost double in quantity while on dialysis. When one is on hemodialysis approximately 1-2 oz of protein is lost in the process, so it becomes critical to replace this loss with high quality of protein. Meats, such as chicken, beef, pork, turkey, fish, as well as eggs and cheese, contain high quality protein. For example, our 140 pound woman would need 70-84 grams of protein per day, meaning she would want to eat a total of 6 oz meat, eggs or cheese throughout the day.

While receiving peritoneal dialysis, one's requirement for protein is slightly higher than for hemodialysis. Some individuals on long-term peritoneal dialysis can experience malnutrition. Protein losses can occur when using peritoneal dialysis and increased needs for protein can occur with infections associated with peritoneal dialysis. For our 140 pound woman, she would need 76-95 grams of protein, or 7 oz of protein per day. For a 190 pound man, he would need 104-129 grams of protein, or 9 oz of protein per day. To know the exact amount of protein one should have, you should meet with a dietitian to help calculate your needs based on your kidney function and current treatment.

For most people, before they start having a decline in their kidney function, they have been instructed to reduce sodium in their diet. Sodium is a form of salt in the body that holds onto water. The extra fluid can make it uncomfortable to breath and can cause swelling in the ankles and other extremities. When one takes in too much sodium, they sometimes notice weight gain due to extra fluid retention. Before receiving dialysis, one should limit sodium to 1000-2400 mg per day. One teaspoon of salt equals 2300 mg of sodium, so eliminating salt and using less processed foods can help to reduce the sodium in one's diet. Once on hemodialysis, the amount of sodium can increase slightly, ranging from 2000-3000 mg per day, but varies according to how much urine output one has. For a person using peritoneal dialysis, the amount of sodium intake should be 2000-4000 mg per day. Monitoring one's weight, blood pressure and signs for edema can help one gauge the amount of sodium to consume per day.

One can use their weight to monitor the amount of sodium and/or fluid intake. Before dialysis, one needs to drink to maintain hydration status,

which will be different from person to person. On hemodialysis, the amount one consumes from fluid is usually equal to the amount of urine output plus 2-3 cups extra each day. This fluid limitation is designed to prevent large increases in one's weight in between days of dialysis and having to use dialysis to pull more of the fluid off, which can lengthen the amount of time on the dialysis machine. For individuals choosing peritoneal dialysis, the amount of fluid they consume on a daily basis is designed to maintain fluid balance and a healthy blood pressure.

### Water Content of Different Foods

Food	Amount	Water Content
Applesauce	4 oz	3.3 oz
Apples	1	3.8 oz
Blueberries	1 cup	4 oz
Chicken breast (cooked)	3 oz	1.9 oz
Grapes	½ cup	2.2 oz
Pudding	½ cup	3.6 oz
Shrimp (cooked)	3 oz	2.2 oz
Watermelon	1 cup	4.8 oz
Yogurt	8 oz	6.4 oz

The two P's, potassium and phosphorus, have to be monitored to eliminate health problems. Heart irregularities can occur from the build up of potassium and bone loss due to high levels of phosphorus in the blood. To control potassium levels, most people need to watch certain fruits, such as citrus fruits, bananas and tomatoes, as well as potatoes and milk. Often to control phosphorus levels, one may need to take phosphate binders with meals in addition to limiting foods high in phosphorus. Ignoring high phosphorus levels can contribute to itchiness in the short term and increased risk for bone disease and fractures long term.

Sometimes other minerals such as magnesium and calcium levels have to be monitored to help control health problems. Blood work performed by your doctor can help to guide one on these minerals. A renal diet may be one of the more challenging aspects of having renal disease but the pay off is improved health and well being.

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for appropriate care.

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