

## Protein: an Important Part of Your Dialysis Diet

You know that you may need to eat less salt, phosphorus, and potassium on dialysis. What you might not know is that you need *more* of something, too: protein.

Research has shown that to live long and well, people on dialysis need more protein to prevent malnutrition and muscle wasting.

Your body uses protein:

- To build and repair muscles
- To provide energy
- To make antibodies, and some enzymes and hormones
- For healthy bones, hair, and skin

*Serum albumin* is a blood test for protein that you'll see on your monthly lab reports. You want to have a level of at least 4 grams per deciliter (4.0 g/dL). If yours is lower, talk with your doctor and your dietitian.

### Types of Protein

There are two types of protein in the foods you eat, and most people eat both.

High biological value (HBV) protein includes:

- Meats (beef, pork, lamb)
- Poultry

(chicken, turkey, duck)

- Seafood (fish, shrimp, clams, crab, etc.)
- Dairy (milk, cheese)
- Eggs (or just egg whites)
- Soy (tofu, soybeans)

Low biological value (LBV) protein is found in foods like:

- Nuts
- Dry beans and peas
- Some grains (brown rice, buckwheat, quinoa)

Most non-meat protein is also high in potassium and/or phosphorus. If you are a vegetarian, talk with your dietitian to see how to make a meal plan work for you.

### Dialysis Removes Some Protein

When dialysis filters out wastes from your blood, it also removes protein. If you don't eat enough to make up for what's lost, your body will start to use the protein from your muscles to get the energy it needs. This can cause:

- Fatigue
- Higher risk of infections
- Weight loss

*(continued on page P4)*

In *Control* is supported  
by Amgen Inc.

**AMGEN**

and published in  
cooperation with

## Christine: Meeting the Protein Challenge

Christine has faced many challenges in her life. Rising above poverty throughout her childhood, Christine was diagnosed with kidney disease as a college student. Now, 32-year-old Christine is on dialysis and dealing with what she says is the hardest part of kidney failure: “In my opinion, protein is the toughest thing dialysis patients have to deal with.” But as she has in the past, Christine faces this challenge head-on and with great success.

### A Rough Start

Christine was an “angry, frustrated, and mean kid” living in poverty with her mother and 5 siblings. “All that people in my area thought about was providing food for their families and paying the bills,” she explains. “Many kids dropped out of high school to work so they could provide income for the family, and that’s what I planned to do, too.”

But someone would help change the course of Christine’s life. “My high school Spanish teacher saw past my anger and gave me the guidance and support I needed,” recalls Christine. “Over time, as I grew to trust her, she offered her home to me to live in, providing me with the stable support I needed.” With her new support system, Christine did well in high school and went on to college. “I was *very* motivated to achieve these goals, and I did!”

In her second year of college, Christine had back pain, and during a basketball team physical found that she had kidney disease. “I was told I had a disease called focal segmental glomerulosclerosis that

made my kidneys have a lot of holes in them,” says Christine. “The doctor was very abrupt and unsympathetic, and told me that in about 10 years I would have to go on dialysis.”

### Ignoring the Inevitable

Christine put her new diagnosis behind her and graduated college in 1998 with a social work degree. For the next four years, she bounced between serving as an AmeriCorps member and working as a social worker. “That is when my fatigue really started to hit me,” recalls Christine. “I moved to Oregon to get away from the southern heat and to visit my best friend who was having a baby.”

The cooler climate and slower pace helped Christine feel better. Two years later, she moved back to South Carolina to be closer to family. “After 6 months, I crashed again with fatigue, loss of appetite, swelling—the works!” says Christine. “I refused to see a doctor because I was in denial; I also didn’t trust doctors too much. I moved back to Oregon and was sick for a full year before I finally went to see a kidney specialist!”

### Diagnosis and Treatment

Christine went to a doctor who was willing to see her for free. “At this point, I had no job, no money, no insurance, and was living with my best friend and her family,” explains Christine. “The doctor treated me like a person and told me I could die if I didn’t take care of myself—no one ever said that to me before.” Christine’s kidney function was at 15%, and she started in-center hemodialysis in January of 2006.

“I was depressed,” recalls Christine. “As a social worker I was used to helping others and now I needed help. The doctor convinced me to apply for financial assistance and that was really hard because I had worked so long not to be ‘on the system.’” But Christine’s “eyes started to clear” and she realized she had to get control over her disease. “I said to myself, ‘Will I sit and let it take over or not,’” says Christine. “After that I buckled down and moved on with life.”

Her first major decision was to switch to peritoneal dialysis (PD). “I couldn’t be on the move with in-center dialysis,” she explains. “Plus, the people around me were worse off than I was and it depressed me.” She first switched to manual PD and now does PD with a cycler, stating, “I am much happier because it doesn’t interfere with my day.”



## The Protein Challenge

Christine has found that keeping her protein level up is the biggest challenge of life on dialysis. “On PD you lose more protein and I have to eat three times the amount a ‘normal’ person eats—with less of an appetite!” relays Christine. “They want me to eat good-quality protein such as meat, egg whites, or fish, so I’ve really had to discipline myself.”

While she has always followed her meal plan, Christine’s protein level has improved since switching to PD. “My appetite is better on PD than it was on in-center dialysis plus I’m not hesitant to eat and try new things,” explains Christine.

For added protein, Christine tried protein shakes. Her verdict: “Gross and expensive.” Christine knew someone at Quixtar who recommended their protein bars and shakes. “I checked with my dietitian and was told they’d be okay for me to have. They tasted great!”

## Protein Tips and Tricks

Christine has found creative ways to add protein into her diet. “If I eat 1/3 of a piece of chicken and feel full I add an extra bite ‘for the road,’” she explains. “When I’m full I always add one extra bite of protein at the end of the meal. I also eat six or seven small meals rather than three large ones.”

Having someone to answer to also helps Christine. “If I don’t get enough protein I have less energy, take more naps, and get cranky,” she explains. “My roommate knows right away if I’m not following my diet!” Christine also has a bulletin board in the kitchen to track her protein, salt, phosphorus, and potassium. “I do treat myself once a week to a special item, but then I carefully plan how I eat the rest of the day.”

## An Active Future

Christine is looking forward to a bright and active future. She went back to school and will finish a computer degree in 1 year. “I know that if I eat good sources of protein I won’t be dragging around and can have a pretty normal life,” says Christine. “Protein sounds like a simple thing but it takes time and discipline to work into your diet. When you do, your energy really improves.” 🌟

(continued from page P1)

## Protein: an Important Part of Your Dialysis Diet

Research has linked higher levels of protein in the blood to longer life for people on dialysis. Low protein levels are linked with poorer survival.

### Good Dialysis Helps Your Appetite

One sign of *uremia* (a buildup of wastes in the blood) is a loss of appetite, especially for protein. Ask your dietitian about tasteless or flavored protein powders you can add to soups, applesauce, or juice. He or she may have other tips to add more HBV protein to your meal plan, too.

If you don't want to eat or can't face meat, you may not be getting enough dialysis to feel your best. Ask your doctor how you can get more treatment. You may want to think about home dialysis. People who do longer or more frequent dialysis at home clean more wastes out of their blood, so they have a better appetite and can eat more protein.

### For More Information...

To learn more about protein and dialysis visit Kidney School Module 9: *Nutrition and Fluids for People on Dialysis* available at: [www.kidneyschool.org](http://www.kidneyschool.org).

### Protein Quiz

Now that you've read about how important protein is in your dialysis diet, try to answer the true/false statements below to see how much you've learned (answers are on page S8).

1. People on dialysis need more protein to prevent malnutrition and muscle wasting.  
 True  False
2. Some of the ways your body uses protein are to build and repair muscles, to provide energy, and to make antibodies.  
 True  False
3. Your protein level should be *at least* 4.0 g/dL.  
 True  False
4. Dialysis does *not* filter out protein from your blood.  True  False
5. Research has linked higher levels of protein in the blood to longer life for people on dialysis.  
 True  False

#### **In Control**

Contact:  
Life Options Rehabilitation Program  
c/o Medical Education Institute, Inc.  
414 D'Onofrio Drive, Ste. 200  
Madison, WI 53719  
Tel: (800) 468-7777  
Fax: (608) 833-8366  
E-mail: [lifoptions@meiresearch.org](mailto:lifoptions@meiresearch.org)

[www.lifeoptions.org](http://www.lifeoptions.org)  
[www.kidneyschool.org](http://www.kidneyschool.org)