



Post-Polio Protein Power: Eat Well, Be Well

Dr. Richard L. Bruno HD, PhD

Director, International Centre for Polio Education

www.postpolioinfo.com

"Why am I totally exhausted and can't stop gaining weight?"

Americans are not very good at taking care of themselves. American's with disabilities are no better, and maybe a little worse, at self-care because it takes so much time to do things non-disabled folk do in a flash, like showering and dressing. There's hardly any time or energy left for planning meals, shopping, cooking ... or even eating. However, people with disabilities pay a higher price for lack of self-care than do people without disabilities. For those who use wheelchairs good eating habits and proper nutrition are essential, not only for general good health, but also to prevent bowel and urinary problems, to prevent weight gain, and to maintain a decent level of energy.

Polio Survivors vs. Breakfast. One group of people with disabilities shows the consequences of poor eating habits: North America's 1.8 million polio survivors. Nearly 76 percent of polio survivors experience Post-Polio

Sequelae (PPS), the often disabling symptoms -- fatigue, muscle weakness, joint and muscle pain, cold intolerance, and difficulty sleeping swallowing, breathing -- that occur about 40 years after their original bout with polio. PPS requires polio survivors to use new assistive devices or aids they discarded years ago, like braces, canes, crutches, wheelchairs and scooters, to slow down and to rest during the day. The problem is, polio survivors are Type A, hardworking, pressured, perfectionist super-achievers who have pushed themselves beyond their physical limits and allow no time for self-indulgent luxuries -- like food.

Polio survivors don't want to slow down or rest, not only because they're afraid if they are less Type A people won't like them, but also because they are afraid of gaining weight if they become more sedentary. But they shouldn't be afraid. Food is good! Eating properly doesn't lead to becoming fat, it actually reduces PPS symptoms. Dr. Susan Creange at the Post-Polio Institute discovered that polio survivors with blood sugar levels in the low normal range have as much difficulty paying attention and concentrating, as would diabetics with blood sugars as low as if they had taken too much insulin.

"Polio survivors' 'Type A diet' -- three cups of coffee for breakfast, skipping lunch and eating pizza for dinner -- is actually starving their nervous systems' and causing PPS symptoms," says Creange. The relationship between diet and PPS was seen in the 1998 National Post-Polio Survey: the less protein polio survivors had at breakfast the more severe were their daily weakness and fatigue.

Why do polio survivors function as if they have low blood sugar and report more symptoms when they don't eat protein at breakfast? It's because polio survivors are running their nervous systems on "half a tank of gas." About 50 percent of all brain stem and motor neurons were killed decades ago by the polio virus. What's worse, the metabolic apparatus, the internal power plant, of the neurons that survived the original polio virus infection was severely damaged.

So polio survivors have been running their full-tilt, Type A lives on half the normal number of neurons, neurons that are less able to use their only source of fuel, blood sugar. Dr. Creange found that even normal levels of blood sugar were not enough to fuel the remaining polio virus-damaged, metabolically impaired neurons; and that's where protein at breakfast comes in.

Protein: The fuel that keeps on giving. Protein provides a long lasting, "slowrelease" supply of blood sugar throughout the day. Polio survivors who had protein for breakfast reported less PPS symptoms because their fuel tank stayed full longer. They didn't need to "fill up" throughout the day with short-lasting sugar fixes, like soda or candy bars.

When we ask our post-polio patients to eat protein every day at breakfast, and have small, non-carbohydrate snacks throughout the day, they report an almost immediate reduction in nearly all the symptoms of PPS, especially fatigue. But, the "protein power" diet is neither a fad nor a miracle: it's just common sense. No engine can be expected to run without gas.

Having protein at breakfast isn't good only for polio survivors. Mom was right: breakfast is the most important meal of the day for everyone, but especially for people with damaged or compromised nervous systems. Folks with MS (for whom low energy and fatigue can be disabling) those with ALS and Guillian-Barre Syndrome need to feed their damaged neurons first thing in the morning. Those with spinal cord injuries, CP and spina bifida, who use more energy just getting showered and dressed than does a nondisabled person who runs a mile, also need protein early and often. It's a good idea to eat breakfast before showering to "break your fast" and fill your tank before your neurons need the fuel.

Our patients worry that using a wheelchair, resting more and having breakfast will cause them to get fat and have more PPS symptoms. A four year follow-up study found that U.S. and Swedish polio survivors, living their typical "use it or lose it" lifestyles without using new assistive devices or resting, lost equal amounts of leg muscle strength, about 2 percent per year. However, when subjects from the two countries were looked at separately, the Swedes gained only 6 ounces per year, while the Americans gained over 2 pounds; that's 220 percent more weight!

Although weight gain alone is not responsible for the progression of muscle weakness in polio survivors, it is Americans' high fat, Big Mac diet that causes them to get fat. You can fuel your neurons, feel stronger and less fatigued without gaining weight, if you choose low fat, low cholesterol sources of protein. In fact many of our patients, even as they slow down, sit down more, and use a scooter, lose weight (about a pound per week) if they eat more protein, reduce portion size and limit carbohydrates. We aren't recommending one of those "all protein, no carbohydrate" diets. We aren't recommending a "diet" at all, but a method for eating healthy every day.

We suggest 16 grams of protein at breakfast; that's about 1/4 of the daily protein requirement (70 grams) for a 150-pound person. (Always check with your doctor, especially if you have kidney problems, before changing your diet and ask to have your cholesterol measured at your yearly check up.)

Look at a list protein-rich foods and select different breakfasts so you can have a variety throughout the week. Remember, you want foods that have more grams of protein than they do fat. Eat well and be well