Diabetes may be described as a disease of glucose intolerance: high blood glucose is both the characteristic indicator and the cause of complications. The loss of control of glucose metabolism is what makes a low carbohydrate diet a good therapeutic approach, and it's why I'm astonished that experts encourage people with diabetes to eat carbohydrates and then "cover" them with insulin [1].

I am also surprised to hear negative reactions to carbohydrate restriction from people who have actually seen the benefits of it. In my years as a research cardiologist and a nutritionist, I have personally helped seemingly hopeless diabetics become normal persons. I'm surprised that Ms. Warshaw's recent article, "Why You Don't Want to Go Low Carb or Vegan," April/May 2007.

Ms. Warshaw's argument is that "avoiding carbohydrate, as some low carb diets suggest, does not entirely return blood glucose levels to normal. On the contrary, it may not be able to return them to normal. In any case, ingesting carbohydrate raises blood glucose.

Ms. Warshaw goes on to say, "Second, an adequate amount of carbohydrate is an important component of a healthy eating plan. But it is not the case that even small amounts of carbohydrate are healthy. An eating plan that requires medication is not a healthy plan."

At the 2004 Brooklyn conference on the Nutritional and Metabolic Effects of Low Carbohydrate Diets, William Yancy, Jr., MD, medical director of diabetes and endocrinology at St. Luke's-Roosevelt Hospital, New York City, warned doctors against giving patients any low carbohydrate diet without first reducing their medication. Of course, if you are taking medication, you should reduce carbohydrates only with medical supervision. It strikes me as odd that what most experts know about metabolism - diabetes is, after all, a metabolic disease - they don't want to tell diabetics to follow a low carbohydrate diet. The one thing we teach medical students at Downstate Medical Center is that there is no biological requirement for carbohydrate. It is true that your brain needs glucose, but glucose can be supplied by the process of gluconeogenesis; that is, glucose can be synthesized from other precursors. Gluconeogenesis accounts for about thirty and seventy percent of your blood glucose comes from gluconeogenesis. There is no requirement for dietary glucose.
Low Carbohydrate Diets

Figure 1A. Macronutrient consumption during the diabetes epidemic. Data from National Health and Nutrition Examination Survey.

The second thing we teach medical students is that almost all the increased caloric intake during the ongoing epidemic of diabetes is from carbohydrates, not fats. We see that cereals and grains are among the major ones. (Of course, almost everything increased except red meat and eggs.)

So what is Ms Warshaw's complaint? Well, she points out that "studies that compare low carb diets to conventional diets..." [3]. But studies of low carb diets that last longer than six months do not show significantly more weight loss.

Something's wrong here. Because low carb diets do the same as traditional diets after one year, then you don't want to be on traditional diets. Triglycerides and HDL (healthy cholesterol) were much better on the low carb diet than the low fat diet (Figure 2).

Figure 1B. Incidence of diabetes by year. Data from National Center for Health Statistics.
Low Carbohydrate Diets

Figure 2. Results at 6 months and 1 year for a multicenter study in which obese men and women were assigned at random to a low-carbohydrate diet or a conventional low-fat diet. Data from reference [3].

Reference [3] is important for showing the general health benefits of low carb diets even when a diet like this is described as a fad or fad-like. I don't know of any study on any other diet that shows such good effects on controlling glucose and insulin sensitivity.
Figure 3. Glucose and insulin levels for patients before or after 3 weeks of a low carbohydrate diet.

Ms. Warshaw's complaint is that these studies "show that many study subjects drop out of the study and are unable to ... compliance rather than to dissuade people from a strategy that actually works for the many people who follow it?"

You might want to think twice before you let Ms Warshaw tell you what you don't want to do. "You'll have type 2 diabetes ... for example, D-solutions (http://www.dsolve.com/) and Dr. Richard Bernstein's forum (http://www.diabetes-book.com/).

I am most concerned that if Ms. Warshaw really had something positive to offer, she wouldn't need to dissuade people from making their personal choice. Candy followed by insulin is not good enough.

5. JS Volek, RD Feinman: Carbohydrate restriction improves the features of Metabolic Syndrome...