Richard D. Feinman, PhD, is Professor of Biochemistry at State University of New York Downstate Medical Center, co-editor-in-chief of the journal Nutrition & Metabolism, and Director of the Nutrition and Metabolism Society (www.nmsociety.org).

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 this type of treatment. Ms. Warshaw's argument is that "avoiding carbohydrate, as some low carb diets suggest, does not entirely return blood glucose to normal, even in people with type 2 diabetes. 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. Even a lean, active person would need a reasonable amount of carbohydrate in their diet, and it might be better to eat it in the form of fruit or vegetables than to consume it as a sugar supplement. Isn't it a bit concerning that an eating plan requires medication?"

At the 2004 Brooklyn conference on the Nutritional and Metabolic Effects of Low Carbohydrate Diets, William Yancy, Jr., stated that doctors should not put diabetic patients on a 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 do not 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 made from other nutrients in the body.

It is currently estimated that thirty to 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 surveys.

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

The second thing we teach medical students is that almost all the increased caloric intake during the ongoing epidemic of the diabetes epidemic is from carbohydrates. People are eating more beans, fruits, and vegetables, but these are not raising their caloric intake. Carbohydrates are, by far, the major one. (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 suffer from methodological flaws" ([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 a low carb diet.
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 becomes a way of life, I don't know of any study on any other diet that shows such good effects on controlling glucose and insulin...
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."