Low Carbohydrate Diets: Why You Don't Want the "Experts" to Tell You What to Eat
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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. As a personal example, I'm my personal rebuttal to Hope 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 to normal, even in type 1 diabetes. In one study of 16 diabetic patients, for example, only half of the patients were able to maintain their blood glucose levels within normal limits when their diet was low in carbohydrates. The remaining patients had to take insulin to keep their glucose levels in the normal range. 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. 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 amino acids, fats, and other substances. In fact, most studies show that our bodies are capable of producing enough of their own glucose to meet their needs in the absence of dietary carbohydrate. Moreover, eliminating carbohydrate from the diet may actually decrease the amount of insulin required. At the 2004 Brooklyn conference on the Nutritional and Metabolic Effects of Low Carbohydrate Diets, William Yancy, Jr., a cardiologist, said 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. In most diseases, a reduction in medication is considered a sign of improvement. Why would Ms. Warshaw recommend a diet that requires more medication?

It strikes me as odd that what most experts know about metabolism - diabetes is, after all, a metabolic disease - they don't practice. One of the things we teach medical students at Downstate Medical Center is that there is no biological requirement for carbohydrate.

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

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 diabetes was from carbohydrates. (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 are flawed" ([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. Triglycerides and HDL (healthy cholesterol) were much better on the low carb diet than the low fat diet (Figure 2).
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 was not designed to lose weight. I don't know of any study on any other diet that shows such good effects on controlling glucose and insulin without. If we had been describing a drug, everybody would have rushed out to buy stock in our pharmaceutical company.
Figure 3. Glucose and insulin levels for patients before or after 3 weeks of a low carbohydrate diet. (To convert glucose to mg/dL, multiply by 18). Data from reference [4].

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...