

DIABETES

SELF-MANAGEMENT

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COUNTING CARBOHYDRATES LIKE A PRO

Practical Tips for Accurate Counts

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Let's get this straight: There is no such thing as a "pro" when it comes to carbohydrate counting. There is no master's degree or Ph.D. in Carbohydrate Science at any major university, nor is there a course focusing on carbohydrate counting in any dietetics or nutrition science program. And I've yet to meet anyone at a circus or carnival who, for a mere dollar, will "guess the carbohydrates" in your favorite food item, test you win a valuable prize. So why would anyone with diabetes want to count carbohydrates "like a pro"?

Simple. When it comes to keeping blood glucose levels in control, carbohydrate counting works better than any other system. Better than counting calories. Better than avoiding sugar. And certainly better (and simpler) than the exchange system.

Carbohydrate is what raises blood glucose level abruptly after meals. Not fat or protein or vitamins or minerals. Just carbohydrate. Counting and managing the amount of carbohydrate in your diet has important benefits. If you take multiple daily injections of insulin or use an insulin pump, carbohydrate counting allows you to match doses of mealtime rapid-acting insulin to the foods you eat. This allows for almost unlimited dietary flexibility and helps to prevent post-meal highs and lows.

If you control your diabetes with diet and exercise, pills, or just one

or two insulin injections a day, you can also use carbohydrate counting to improve your control. Researchers at the University of Texas School of Allied Health Sciences in Galveston found that consistent carbohydrate intake (eating the same amount of carbohydrate at the same meals every day) in people with Type 2 diabetes leads to improvements in blood glucose control, whether or not a person also loses weight. In their study, people who



ate consistent amounts of carbohydrate at regular intervals lowered their average blood glucose by 55 mg/dl, and lowered their average HbA_{1c} (glycosylated hemoglobin, or A1C) from 8.8% to 6.9%. (The American Diabetes Association recommends shooting for an HbA_{1c} level below 7% to prevent long-term diabetes complications.)

A few definitions

Carbohydrate counting simply means adding up the total amount

of carbohydrate in a serving. Carbohydrate can affect blood glucose by 30–40 mg/dl in someone who weighs 50–100 pounds and by 20 mg/dl in someone who weighs 150–200 pounds. But accurate carbohydrate counting had better not require too much work, or nobody's going to do it.

Research presented at the American Diabetes Association annual Scientific Sessions in 2004 showed that even educated people with Type 1 diabetes who manage their diabetes well have difficulty counting carbohydrates accurately, with a tendency to underestimate the carbohydrates consumed at breakfast, dinner, and snacks and to overestimate the carbohydrates consumed at lunch. The estimation of complex meals, including restaurant food, is least precise.

At my own practice, many clients who professed to being expert carbohydrate counters struggled to score 50% on "The Ultimate Carbohydrate Counting Test" located at my Web site, www.integrateddiabetes.com/carbtest.shtml. But by using some of the techniques described here, those same people have become highly proficient at counting carbohydrates accurately—and they don't spend half their day obsessing over food.

Here are three simple recommendations for counting carbohydrates accurately and easily: Read labels, use resources listings, and learn to estimate portion sizes.

Read labels

When it comes to carbohydrate counting, labels rule. The U.S. Food and Drug Administration (FDA) requires the manufacturers of all packaged and processed foods to list key nutrient information and ingredients on food labels. Most industrialized nations worldwide have similar requirements. In the United States, the label must list (among other things) the grams of total carbohydrate as well as grams of sugar

and dietary fiber in a single serving of the food item. Although not required, some food manufacturers also list the amount of soluble fiber, along with sugar alcohols and "other" carbohydrates (typically starches) below total carbohydrate. Of all these items, total carbohydrate is by far the most important. The total carbohydrate includes

RESOURCES

The following books, Web sites, and software programs have food listings that show the amount of carbohydrate in various foods.

Books
CALORIEKING CALORIE, FAT & CARBOHYDRATE COUNTER
Allan Borushek
Family Health Publications
Costa Mesa, California, 2008

THE ULTIMATE GUIDE TO ACCURATE CARBOHYDRATE COUNTING
Gary Scheiner, M.S., C.D.E.
Marlowe & Company
New York, 2006

NUTRITION IN THE FAST LANE
The Fast-Food Dining Guide
Franklin Publishing
Indianapolis, 2008
(800) 684-1993

BOWES AND CHURCH'S FOOD VALUES OF PORTIONS COMMONLY USED
Joan A. T. Prentington and Judith S. Douglass
Lippincott Williams & Wilkins
New York, 2004

GUIDE TO HEALTHY RESTAURANT EATING
Hope Winshaw, M.M.Sc., R.D., C.D.E., B.C.A.D.M.
American Diabetes Association
Alexandria, Virginia, 2005

Web Sites
www.nal.usda.gov/foodcomp/search

Portal to the U.S. Federal Government's comprehensive nutrient database.

For restaurants with multiple locations (including fast-food chains), simply type the name of the restaurant into a search engine. Most have their own Web sites with nutrient listings for their current menus.

Books

CALORIEKING CALORIE, FAT & CARBOHYDRATE COUNTER
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Family Health Publications
Costa Mesa, California, 2008

THE ULTIMATE GUIDE TO ACCURATE CARBOHYDRATE COUNTING
Gary Scheiner, M.S., C.D.E.
Marlowe & Company
New York, 2006

www.calorieking.com

Of all the items listed on a food label, "carbohydrate" is by far the most important.

everything in the food that is carbohydrate: starch, fiber, sugars, and sugar alcohols. Remember to look for the number next to the little "g" (which stands for grams). The percentage (%) that follows it is the government's estimate of how much of your daily recommended food intake is included in a serving of this food item. The percentage