

TO WEIGH LESS... TO LIVE HEALTHIER AND LONGER, EAT MORE 'GOOD' CARBS

Kudos to Robert Atkins, the good doctor who raised awareness about the perils of carbohydrates in an increasingly overweight nation. Never mind that his high-protein alternative is fraught with health risks. Never mind that many of his low-carb disciples (as many as 70 million in one form or another) don't draw distinctions between "bad" carbs and "good" carbs. For them, a carb is a carb is a carb – all mortal enemies of a thin and happy life. Despite his diet's shortcomings, Atkins did have the courage to raise the issue in a carb-guzzling world. He engaged the debate, which we believe will ultimately lead to a healthier America. For that we are grateful.

Still, it should be noted that the American Heart Association, American Dietetic Association and the American Kidney Fund have all warned about various dangers associated with low-carb, high protein diets.

Consider this from Dr. David

Katz of the Yale School of Public Health: "Diets rich in fiber and complex carbohydrates – found in fruits, vegetables, beans and **WHOLE GRAINS** (this is where Great Harvest Bread enters the discussion) – have been shown in a wide array of studies to be associated with reduced risks of cancer, reduced risks of cardiovascular disease, reduced risk of diabetes, reduced risks of gastrointestinal disorders and overall health promotion. In other words, the notion of cutting carbs is a step in the opposite direction from everything we know about healthy eating."

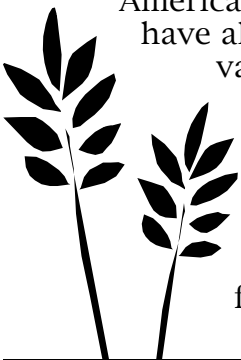
And this from Judith Wurtman, a brain researcher at M.I.T.: "The diet-industrial complex is now pushing low carbs full steam ahead. It may take a long time, but 10 years from now, people are going to look back on this and say, 'Boy, were we really stupid.'"

And this from reporter David Bjerklie in an April 2004 *Time* magazine story titled "Low-Carb Nation": "So if the low-carb mantra has made you cut simple sugars and refined carbohydrates from your diet, great. But if you are skimping on produce and **WHOLE GRAINS** and instead shoveling animal and dairy fats into your body, you

are short-changing your health."

Jane Brody, the food and nutrition guru at *The New York Times*, cites various studies before weighing in with these conclusions in a March 4, 2003 article: "People who eat more whole grains tend to weigh less than those who consume fewer." And: "People who eat whole grains are healthier and live longer."

Then, in a column published on March 23, 2004, she writes: "None of my slender friends and acquaintances eats a low-carb diet. ... You don't have to eat low-carb to remain slim or to lose weight and keep it off. Fiber-rich carbohydrates (i.e., Great Harvest breads) offer three major benefits to the weight-conscious eater: they hold water in the gut, take longer to digest and some of their calories are eliminated unabsorbed. In other words, they can fill you up before they fill you out. ... A diet high in fat and low in carbs has yet to be tested for long-term safety and effectiveness. But fiber-rich balanced diets, replete with **WHOLE GRAINS**, fruits and vegetables along with reasonable quantities of fish, poultry, meat and dairy products, have been repeatedly shown to be conducive to enjoyable eating and to achieving and maintaining a normal body weight and long-lasting health."



*"So if the low-carb mantra has made you cut simple sugars and refined carbohydrates from your diet, great. But if you are skimping on produce and **WHOLE GRAINS** and instead shoveling animal and dairy fats into your body, you are short-changing your health."*

3 Servings of WHOLE GRAINS Daily



The Surgeon General's goal is for all Americans to consume at least three servings of WHOLE GRAINS daily. We have a long way to go. Today, the daily average is about half a serving.

The Food and Drug Administration states: "Diets rich in WHOLE-GRAIN foods and other plant foods low in total fat, saturated fat and cholesterol may help reduce the risk of heart disease and certain cancers." The FDA allows food manufacturers to claim health benefits for products with at least 51 percent WHOLE GRAINS by weight and less than 3 grams of fat per serving.

The health benefits of eating WHOLE GRAIN foods are outlined in study after study around the world. In fact, dozens of studies have shown that eating WHOLE GRAINS reduces cancer risks. Dr. Joanne L. Slavin writes in *The Journal of the American Dietetic Association*, "WHOLE GRAINS are rich sources of a wide range of phytochemicals with anticarcinogenic properties. Some of these phytochemicals block DNA damage and suppress cancer cell growth. ... The fiber in WHOLE GRAINS increases fecal bulk and speeds the transit of stool, decreasing the opportunity for mutagens to damage cells and cause cancer of the digestive tract. In addition, hormonally active lignans in WHOLE GRAINS may protect against hormonally mediated diseases, such as cancers of the breast and prostate."

A Finnish study of 21,930 male smokers and an American study of 43,757 male health professionals found a reduced risk of heart attacks among those who ate the most WHOLE-GRAIN bread and cereal. The Nurses' Health Study of nearly 90,000 women and the Health Professionals Study of nearly 44,000 men found that those who consumed the most fiber from WHOLE GRAINS had about a 30 percent lower risk of developing Type 2 diabetes.



'BAD' CARBS VS. 'GOOD' CARBS

Let's take a moment to explore the difference between "bad" carbs and "good" carbs, according to the experts.

As *Time* magazine explained in "The Low-Carb Frenzy," all foods can be divided into combinations of three different nutritional categories based on their chemical components: carbohydrates, proteins and fats. The body breaks down carbs into sugars that flow through the bloodstream and serve as the body's key source of energy. White bread, pasta and potatoes are examples of "bad" carbs that quickly turn to sugar in the body. Sugar not needed immediately by muscles is stored as fat to be used later. On the other hand, some fruits, vegetables, beans and, yes, WHOLE GRAINS, are also carbs. But they are "good" carbs that break down slowly and provide substantial infusions of vitamins,

minerals and, especially, fiber. Numerous studies have demonstrated that diets rich in fiber can lower cholesterol and reduce the risk of heart disease.

Walter Willett, a medical doctor at the Harvard School of Public Health, has written a book, *Eat, Drink and Be Healthy - The Harvard Medical School Guide to Healthy Living* (Simon & Shuster, 2002). In it he explains that the basic difference between bad carbs and good carbs isn't as simple as the traditional understanding of "simple carbohydrates" (sugars) and "complex carbohydrates" (starches).

While the terms "simple" and "complex" have a specific chemical meaning, they don't mean much inside your body. In fact, your digestive system

turns white bread, a baked potato, or white rice (all starches and therefore "complex" carbs) into glucose and pumps this sugar into the bloodstream almost as fast as it delivers the sugar in a cocktail of pure glucose. Swift, high spikes in blood sugar are followed by similar surges in insulin. As this insulin forces glucose into muscle and fat cells, blood sugar levels plummet, triggering the unmistakable signals of hunger. To make matters worse, these high levels of blood sugar and insulin surges are now implicated as part of the perilous pathway to heart disease and diabetes. The harmful effects of these rapidly digested carbohydrates are especially serious for people who are overweight.

WHOLE GRAINS *Keystones of a Healthy Diet*

“The carbohydrates that should form the keystones of a healthy diet come from **WHOLE GRAINS**, like brown rice or oats, from foods made with **WHOLE GRAINS**, like whole-wheat pasta or bread, or from beans. Our body takes longer to digest these carb packages, especially when they are coarsely ground or intact. That means they have a slow, low and steady effect on blood sugar and insulin levels, which protects against heart disease and diabetes. They make you feel full longer and keep you from getting hungry right away. They also give you important fiber plus plenty of vitamins and minerals.”

Harvard medical doctor Dr. Walter Willett goes on to describe the two carb building blocks in his Healthy Eating Pyramid. **WHOLE-GRAIN** good carbs sit prominently as part of the pyramid’s foundation, and highly refined, rapidly digested bad carbs (including most desserts) are relegated to the very top.

“For almost 20 years our research team has been one of several groups studying the health effects of foods made from refined and intact grains. The result of this work is compelling. Eating lots of carbs that are quickly digested and absorbed increases levels of blood sugar and insulin, raises levels of triglycerides and lowers levels of HDL cholesterol. Over the long run, these changes lead to cardiovascular disease and diabetes. In contrast, eating **WHOLE-GRAIN** foods is clearly better for long-term good health and offers protection against diabetes, heart disease, cancer and gastrointestinal problems such as diverticulosis and constipation. Other research around the world points to the same conclusions.”

IMPORTANCE OF GLYCEMIC INDEX, GLYCEMIC LOAD

At the heart of the distinction between good carbs and bad carbs is the Glycemic Index, which emerged in the 1990s when researchers at the University of Toronto showed that some foods raised blood sugar faster and higher than others, placing greater demands on the insulin system. The Glycemic Index ranks foods according to how rapidly sugars are released into the bloodstream.

Dr. Willett describes how the index works: The body converts digestible carbs into glucose – sugar that cells use as fuel. When glucose molecules pass from the stomach into the bloodstream, the pancreas releases insulin, a hormone that activates cells to absorb glucose. As muscles, fat and other cells sponge excess glucose from the blood, insulin levels return to normal.

Discovery of the Glycemic Index led to another measurement developed by a team from the Harvard School of Public Health called Glycemic Load. It includes the food’s Glycemic Index plus how much carbohydrate the food delivers in one serving. Most fruits, vegetables, beans and **WHOLE GRAINS** have low Glycemic Loads. However, when fruits are squeezed into juices and **WHOLE GRAINS** are pulverized into refined flour, they turn into the equivalent of sugar water with very high Glycemic Loads.

WHY DOES A HIGH GLYCEMIC LOAD CAUSE WEIGHT GAIN?

“After a snack or meal with a high Glycemic Load, blood-sugar levels rise higher and faster than after a meal with a low load,” Dr. Willett writes. “The insulin needed to stuff all that sugar into muscle and fat cells also blunts the activity of glucagons, a hormone that signals the body to burn stored fuel when blood-sugar levels fall below a certain point. Glucose levels plummet as a result, leaving the brain and other tissues starved for energy. Concentration flags, muscles get shaky and the body perceives an emergency. In search of a quick fix, the gut and brain send out hunger signals long before it’s time for another meal. And for those who respond to these signals by downing another high-glycemic snack, the cycle repeats itself. The fluctuating sugar levels and elevated insulin levels lead to excessive snacking – and calories.”

WHY DOES THIS EATING PATTERN CAUSE DIABETES?

Again, Dr. Willett: “Foods with high Glycemic Load pose another problem for a growing number of Americans. The tissues of people who are overweight or physically inactive resist insulin’s signal to pull in glucose from the blood – a condition known as insulin resistance. This keeps blood sugar at high levels for prolonged periods. It also forces the pancreas to produce extra insulin in order to jam glucose into cells. Overworked insulin-making cells can wear out and cease production, leading ultimately to diabetes.”

We don’t need to swear off carbs to avoid weight gain and diabetes. The trick, according to Dr. Willett, is to choose foods with low Glycemic Loads. “For example, switch to **WHOLE GRAINS**. Until the 19th century, humans ate grains either whole or roughly ground. In this form, grains offered a carbohydrate package rich in fiber, healthy fats, vitamins, minerals, plant enzymes and hundreds of nutrients. ... Fortunately, **WHOLE GRAINS** are making a comeback.”

WHOLE GRAINS – STARS IN DISEASE PREVENTION

It is the indigestible fiber and phytochemicals in WHOLE GRAINS that render them stars in disease prevention, Jane Brody writes in *The New York Times*. So, why is fiber such an important player on the good-health team?

“Fill up with fiber,” writes Dr. Bob Arnot in his popular book, *Revolutionary Weight Control Program*. “Fiber, derived from plants, is classified as soluble and insoluble. Both types are beneficial. Soluble fibers dissolve in water, and so they soak up liquids. Insoluble fibers do not dissolve in water, though they assist in moving waste through the body.

“FILL UP WITH FIBER”

“Soluble-fiber foods are among your most important weapons against hunger. When water and soluble fiber mix in the gut, the stomach and small intestine expand, sending satiety signals that shut off further eating. That’s why the experimental subjects were satisfied with fewer calories when they ate WHOLE-WHEAT BREAD than when they consumed white bread, which has fiber refined out of it.”

(Dr. Arnot is referring to a revealing study in which one group was given WHOLE-WHEAT BREAD on one occasion and white bread on another. Both times participants were told to eat until they were full. The group consumed far fewer calories when they ate

WHOLE-WHEAT BREAD, and yet were as satisfied as when they ate the greater amount of white bread.)

Dr. Arnot concludes, “The more fiber you load up on early in the day, the more effectively you may kill hunger – and impulse eating – into the evening.”

Today, 64 percent of Americans are overweight, and more than 30 percent are obese, according to the FDA. In fact, obesity is gaining on smoking as the leading cause of preventable death.

“It seems clear that a large proportion of the population could benefit from eating more WHOLE GRAIN, and efforts are needed to encourage consumption,” according to the American College of Nutrition.

Simin Liu, a Harvard researcher with the Brigham and Women’s Hospital in Boston, says, “Americans understand that WHOLE GRAINS are healthier than refined grains, but the average person eats less than one serving of WHOLE GRAINS per day. ... The challenge for the food industry is to make WHOLE-GRAIN products more appealing than refined-grain products.” For the rest of us, she suggests, “The challenge is to develop habits to increase WHOLE-GRAIN intake such as substituting WHOLE-WHEAT BREAD for white bread



when making a sandwich. Developing such a simple habit may have long-term benefits.”

Nicola M. McKeown, Ph.D., adds, “I think people understand the importance of eating fruits and vegetables, but when it comes to WHOLE GRAINS the message has pretty much been lost. This is in part because consumers don’t really understand what WHOLE-GRAIN foods are.”

To that end, the U.S. Department of Agriculture is poised to launch as part of the 2005 edition of the “Dietary Guidelines for Americans” an intensive effort to increase consumption of whole grains and reduce consumption of enriched grains (those stripped of their nutrients in the production process then “enriched” with required vitamin and mineral supplements – virtually all of the breads, white or otherwise, found on supermarket shelves). The USDA would recommend increases of whole-grain consumption by 275 percent for men and 227 percent for women.

“INCREASE WHOLE-GRAIN INTAKE”

NOBODY DOES WHOLE GRAIN BETTER

Great Harvest Bread Co. understands the magic of WHOLE GRAIN. That's why we're here. We have been the WHOLE-GRAIN headquarters for nearly 30 years. WHOLE GRAINS are our niche, our specialty - they're what we do. We mill WHOLE GRAINS in our store every day, so they're always fresh. The truth is that nobody does WHOLE GRAIN better than Great Harvest.

Let's take a look at our basic building block, the kernel of wheat. This natural miracle is a storehouse of nutrients that people have needed and used for thousands of years - the "staff of life." Each kernel (it takes about a million to fill a bushel basket) has three parts. 1) The endosperm is the largest part with 83 percent of the kernel's mass. This is where starch is stored and where the largest amount of flour comes from. It contains carbs, protein, iron and B-complex vitamins. 2) Bran is the fiber-rich outer layer with about 14.5 percent of the kernel, containing protein and B-complex vitamins. 3) Germ is the nutrient-rich embryo, the sprouting section, that packs abundant B-complex vitamins and trace minerals.

In baking WHOLE-GRAIN BREADS, Great Harvest uses the entire kernel. By contrast, many commercial bread makers, producing highly refined white breads and other breads that pose as "whole wheat" or "multigrain," strip away the bran and germ to make soft, airy breads with a longer shelf life. They bleach the

flour, and then add vitamins and minerals to replace the lost nutrients. But many nutrients aren't added, and the lost fiber can't be replaced.

Great Harvest bread is made completely from scratch. Great Harvest's whole grain breads are made using freshly stone-ground flour that we grind from whole wheat kernels in our store daily. The flour in our whole grain breads are never more than 48 hours old, which means that essential nutrients, which begin breaking down over time, are preserved.

Freshly stone-ground 100% whole-wheat flour (from America's best wheat) that's never more than 48 hours old gives Great Harvest bread its exceptionally fresh taste. It also gives Great Harvest bread its satisfying size. Other bakeries use dough conditioners or chemicals to boost loaf volume. At Great Harvest we just use fresh wheat, carefully and stringently selected from the arid high plains of America's best wheat growing regions. That's it. Stone-ground whole wheat - plus proprietary parts of our recipes and baking process - enables most Great Harvest breads to remain fresh 7 to 10 days without preservatives.

At Great Harvest we are all about making the best-tasting, most nutritious whole-grain breads you can find anywhere. We believe that eating our bread can help you lose weight and live a healthier and longer life.



MUSCLE BREAD

As a way of closing, we offer this tip for helping your children understand the difference between "fluff" bread and WHOLE-GRAIN bread. The original idea comes from William Sears, a well-known pediatrician and author from San Clemente, Calif., who dedicated an entire chapter to bread in his *Family Nutrition Book*.

Because parents often complain that their children won't eat anything but white bread, consider taking your kids to the bread aisle at a supermarket. Have them hold a loaf of white bread in one hand and a loaf of Great Harvest WHOLE-GRAIN bread in the other. The WHOLE-GRAIN breads are always much weightier.

Then tell them, in Dr. Sears' words: "The white bread is air bread. WHOLE GRAIN is heavier because it's muscle bread."

We like that... muscle bread.

Here's to your strong muscles and to a long and healthy life from your friends at Great Harvest.

**WHOLE GRAINS FOR
HEALTHY KIDS!!**

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