

When Dieting, Not All Calories Are Created Equal

A low-glycemic-index diet is better than a low-fat or Atkins diet in terms of improving metabolism and reducing the risk of various chronic diseases

By [Christopher Wanjek](#) and [LiveScience Bad Science Columnist](#) | June 27, 2012



A calorie is a calorie, goes the popular mantra. But now doctors and dieticians might have to eat those words.

Researchers have found that not all calories are created equal and that the types of calories you eat, particularly after losing weight, can have a profound effect on how efficiently your body burns calories and keeps off unwanted pounds.

The ideal diet that promotes a fast metabolism — that is, your body's ability to quickly burn off calories — as well as promotes long-term health in terms of disease-free organs appears to be (surprise!) fresh vegetables and whole grains or any foods that reduce the surge of blood sugar after a meal.

These foods are said to have a low glycemic index and are generally foods that are not processed. The Mediterranean diet is one example.

The study, led by researchers at Boston Children's Hospital, is detailed in the June 27 issue of the Journal of the American Medical Association.

Blame it on evolution

Anyone who has struggled to lose weight knows that the harder part is keeping off that weight. One of the reasons is that, after weight loss, the rate at which people burn calories decreases, reflecting a slower metabolism.

Blame it on evolution: Your body doesn't want to lose weight, so it becomes efficient at doing more with fewer calories when faced with times of famine, which in these modern

times is called a diet. As a result, some dieters find themselves packing on pounds even while on a calorie-restricted diet because their metabolism has become slower.

Cara Ebbeling of the New Balance Foundation Obesity Prevention Center at Boston Children's Hospital, first author on the study, and her colleagues have found that what you eat can significantly affect your metabolism rate. A diet full of processed foods and simple carbohydrates, which have a high glycemic index, eventually will lead to a slower metabolism.

This index, a scale from 0 to 100, is a measure of how quickly a carbohydrate is digested and released into the bloodstream as glucose. So, 200 calories of corn flakes (93 on the glycemic index), or a diet filled with such processed foods, can continuously spike the blood with glucose and trigger a cascade of events that ultimately lead to more weight gain compared to 200 calories of hummus (6 on the glycemic index).

Not necessarily fat vs. carb

Specifically, Ebbeling's group studied three dietary paradigms: an Atkins' low-carb diet (60 percent of calories from fat, 10 percent from carbs); a mixed diet with foods generally low on the glycemic index (40 percent of calories from fat, 40 percent from carbs); and a low-fat diet with a mix of carbohydrates generally high on the glycemic index (20 percent of calories from fat, 60 percent from carbs).

Patients, who had recently lost weight, were placed on each of these diets for four weeks. They lived in the care of the researchers, who controlled meals and measured various aspects of their metabolism and blood profiles.

In terms of metabolism, the Atkins-like diet was the winner, said the study's senior author, David Ludwig, director of the obesity center. While on the low-carb diet, patients burned 300 more calories each day during normal activities compared to the time spent on the low-fat diet. Three hundred calories is about the amount of energy burned in an hour of moderate exercise, which the low-carb dieters are getting for free, Ludwig said.

But there was a catch. Blood samples taken while participants were on the low-carb diet revealed spikes in cholesterol and other measures of heart disease, stroke and even diabetes risk. [7 Foods Your Heart Will Hate]

The low-glycemic-index diet offered the best in terms of modest improvement in metabolism and reducing the risk of various chronic diseases, Ludwig told LiveScience. The low-fat diet — what's recommended by the U.S. government and the American Heart Association — performed the worse, Ludwig added, because it decreased the metabolism rate and raised the risk for diabetes and metabolic syndrome.

Processed vs. non-processed

At first glance, this study might appear to rule out a so-called "low-fat" diet. Not so, says Dean Ornish, founder of the Preventive Medicine Research Institute in Sausalito, Calif., and of the low-fat diet that bears his name.

"The choice is not between a diet that is low in fat yet high in sugar versus one that is low in sugar but high in fat, or an in-between diet," Ornish told LiveScience. "An optimal diet is predominantly whole foods that are low in fat and low in sugar and [low in] other high-glycemic-index foods," a diet he has long advocated.

Ludwig agreed that a low-fat diet could work provided that the carbohydrate component of the diet is low on the glycemic index. But this is complicated in an American diet, he said, because even whole grains, when heavily processed, can spike the blood sugar. Soft, whole wheat bread can have an identical glycemic index profile as white bread.

"We believe that low-glycemic-index diets are easier to stick to on a day-to-day basis, compared to low-carb and low-fat diets, which many people find limiting," said Ebbeling. "Unlike low-fat and very-low-carbohydrate diets, a low-glycemic-index diet doesn't eliminate entire classes of food, likely making it easier to follow and more sustainable."

"The focus on fat reduction is a waste of energy," added Ludwig. "Low-carb has downsides, too."

Christopher Wanjek is the author of the books "Bad Medicine" and "Food At Work." His column, Bad Medicine, appears regularly on LiveScience.