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Weight Loss & Diet Plans

All Calories Not Created Equal, Study Suggests

Low-Fat Eaters Burned Fewer Calories, Were More Likely to Regain Lost Weight



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WebMD Health NewsReviewed by [Brunilda Nazario, MD](#)

June 26, 2012 -- New research challenges the idea that a calorie is a calorie, suggesting that certain foods and [diets](#) may be better than others for burning calories and helping people maintain [weight loss](#).

The study appears this week in the *Journal of the American Medical Association*.

Study participants who had lost [weight](#) agreed to follow low-fat, very-low-carb, and low-glycemic-index diets for a month each.

Even though they ate the same number of calories on each of the three plans, the study participants burned about 300 calories a day less on the low-fat eating plan than they did on the very-low-carbohydrate one, which was modeled after the Atkins diet.

Calories Not Equal, Researcher Says

The very-low-carb plan and the low-glycemic-index plan -- which stresses a variety of high fiber and minimally processed foods -- also resulted in better insulin sensitivity (necessary to process blood sugar effectively) and [cholesterol levels](#).

This suggests that very-low-fat diets may actually slow a person's [metabolism](#) down to a level where it is not burning calories as effectively as it could, says researcher David S. Ludwig, MD, PhD, who directs the Optimal Weight for Life program at the Harvard-affiliated Children's Hospital in Boston.

Ludwig has long studied the low-glycemic-index diet and is one of the diet's main proponents.

He says while people often lose weight on very-low-fat and very-low-carbohydrate diets, the vast majority end up gaining the weight back very quickly.

"From a metabolic perspective our study suggests that all calories are not alike," Ludwig tells WebMD. "The quality of the calories going in is going to affect the number of calories going out."

Different Diets, Different Outcomes

The study included 21 young adults who originally lost 10% to 15% of their body weight on a diet that included 45% carbohydrates, 30% fats, and 25% [protein](#).

During the course of the study, the participants followed three different diets for a month each, including:

A low-fat diet, which included mostly whole grains, fruits, and vegetables, where 60% of daily calories came from carbohydrates, 20% from fats, and 20% from protein.

A low-glycemic-index diet, which included minimally processed grains, vegetables, legumes, and healthy fats, where 40% of calories came from carbohydrates, 40% from fat, and 20% from protein.

A very-low-carb diet, modeled after the [Atkins](#) plan, where 10% of calories came from carbohydrates, 60% from fats, and 30% from protein.

The study participants ate about 1,600 calories a day on each of the diets and the amount of calories burned was measured using state-of-the-art methods.

The testing confirms that they burned about 300 calories more a day when following the very-low-carb eating plan compared to the low-fat plan, and about 150 calories more on the low-glycemic index diet compared to the low-fat plan.

"The best diet from a metabolic perspective was the low-carbohydrate diet, but there were downsides," Ludwig says.

Stress Hormone Levels Higher in Low-Carb Eaters

Levels of the stress hormone cortisol and C-reactive protein -- an indicator of inflammation in the body -- were higher during the low-carb phase of the study.

"The metabolic benefits of this diet may be undermined by more inflammation and higher cortisol, both of which can increase [[heart disease](#) and [stroke](#)] risk over time," Ludwig says.

Nutritionist Elisabetta Politi, MPH, calls the study intriguing and deserving of further research. Politi is the nutrition director of the Duke Diet and Fitness Center in Durham, N.C.

"The idea that the type of calories people take in has a direct impact on the amount of energy they expend is certainly intriguing and worth exploring further," she tells WebMD.

She says since the participants were only followed for the three months that they followed the highly controlled eating plans, it

is not clear if one diet really is better than another for maintaining weight loss.

"It makes sense that people would be able to stick with a low-glycemic-index diet better because it is less restrictive, but that wasn't really shown in this study," she says.

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SOURCES:

Ebbeling, C.B. *Journal of the American Medical Association*, June 26, 2012.
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Elisabetta Politi, MPH, RD, nutrition director, Duke Diet and Fitness Center, Durham, N.C.
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