

Healthy diets have long-lasting positive effects even with partial weight regain

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Mediterranean and low-carbohydrate diets have lasting, healthy effects, even with partial weight regain, according to a follow-up study by researchers from Ben-Gurion University of the Negev (BGU) and Israel's Nuclear Research Center.

The results were published in a peer-reviewed letter in the current [New England Journal of Medicine](#) (*NEJM*) as an update to the landmark study, the workplace-based Dietary Intervention Randomized Controlled Trial (DIRECT), a tightly controlled 24-month dietary intervention.

According to Dr. Dan Schwarzfuchs from the Nuclear Research Center Negev in Dimona, Israel, "Our follow-up subsequent data shows lasting, positive effects of Mediterranean and low-carbohydrate diets six years later." The results suggest that the lipid profile (lower cholesterol, triglycerides and arteriosclerosis) improved for the long term, regardless of partial regain. "Data from trials comparing the effectiveness of weight-loss diets are frequently limited to the intervention period," explains BGU Prof. Iris Shai.

Overall six-year weight loss was significantly lower from baseline for Mediterranean and low-carbohydrate diets, but not for the low-fat group. In the four-year post-intervention, participants regained nearly six pounds. Total weight change for the entire six-year period was approximately -7 lbs. for the [Mediterranean diet](#) and -3.7 lbs. for the low-carbohydrate diet.

After four years post-intervention, more than two-thirds (67 percent) of the DIRECT participants had continued with their original assigned diet, 11 percent switched to another diet and 22 percent were not dieting at all.

The researchers also found that after six years, the HDL/LDL ratio remained significantly lower only in the low-carbohydrate diet. [Triglyceride levels](#) remained significantly lower in the Mediterranean and low-carbohydrate diets. Overall, total [cholesterol levels](#) remained persistently and significantly lower in all diet groups as compared to baseline.

In the original study, 322 moderately obese subjects were randomly assigned to one of three diets: low-fat; restricted-calorie; Mediterranean; or low-carbohydrate, non-restricted-calorie, and were provided color-labeled food per diet daily in the workplace cafeteria. The two-year adherence rate was 85 percent. The results suggested beneficial metabolic effects to low-carb and Mediterranean diets. Moreover, the researchers found a significant diet-induced regression in the carotid vessel wall volume across all diet groups. This change was mainly dependent on diet-induced reduction of blood pressure.

"This breakthrough, even years later, continues to yield valuable information that can help every one of us make healthier [diet](#) choices," says Doron Krakow, executive vice president of American Associates, Ben-Gurion University of the Negev. "It is another example of BGU and Israeli researchers, thanks to generous funding by the Atkins foundation, improving the quality of our lives."

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Provided by American Associates, Ben-Gurion University of the Negev

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