

The full report is titled “Effects of Low-Carbohydrate and Low-Fat Diets. A Randomized Trial.” It is in the 2 September 2014 issue of *Annals of Internal Medicine* (volume 161, pages 309-318). The authors are L.A. Bazzano, T. Hu, K. Reynolds, L. Yao, C. Bunol, Y. Liu, C.S. Chen, M.J. Klag, P.K. Whelton, and J. He.

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## Comparing Low-Fat and Low-Carbohydrate Diets

### What is the problem and what is known about it so far?

Obesity is a common problem that increases the risk for cardiovascular disease. Diets may emphasize reducing one’s intake of fat or carbohydrate. It is unclear whether one approach is better than the other, and they have not been compared in studies that included a substantial number of black people.

### Why did the researchers do this particular study?

To compare weight loss from low-carbohydrate and low-fat diets.

### How was the study done?

The researchers enrolled obese people who did not report a history of cardiovascular disease and randomly assigned them to a low-fat or low-carbohydrate diet. During the 1-year study, participants also attended individual and group dietary counseling sessions. Data on participants’ weight, waist size, blood test results, and physical activity were collected at regular intervals during the study. About half of the participants were black.

### What did the researchers find?

At 3, 6, and 12 months, participants on the low-carbohydrate diet had lost more weight than those on the low-fat diet. At 12 months, those in the low-carbohydrate group had lost an average of 7.7 pounds more than those in the low-fat group. Although participants in the low-fat group had a greater reduction in their waist size at 3 and 6 months, there was no difference at 12 months. Overall, blood levels of certain fats that are predictors of risk for cardiovascular disease also decreased more in the low-carbohydrate group. Physical activity was similar in the groups throughout the study, suggesting that the greater weight loss among participants in the low-carbohydrate group was not because they exercised more. When the researchers evaluated the black and white participants separately, the results were similar.

### What were the limitations of the study?

The study lasted 12 months, and whether the participants will maintain the weight loss is not known (people often lose weight initially on a diet but gain it back later). In addition, because the study lasted only 12 months, it is not known whether the reductions in blood markers of risk for cardiovascular disease will be accompanied by reductions in the development of coronary artery disease, heart attacks, strokes, and other cardiovascular problems. Finally, this study involved regular meetings with dietary counselors, and whether results would be similar for people on a similar diet without such counseling is uncertain.

### What are the implications of the study?

A low-carbohydrate diet may be an option for people seeking to lose weight or reduce risk factors for cardiovascular disease.