

Fast weight loss may mean muscle loss

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Study volunteers eating 500 calories a day lost more muscle than those eating more than twice as much.

(HealthDay)—If you lose weight too fast, you lose more muscle than when you shed excess pounds more slowly, a small study says.

The researchers put 25 participants on a five-week very-low-calorie diet of just 500 calories per day. Another 22 volunteers went on a 12-week low-calorie diet of 1,250 calories per day.

The investigators found that right after the end of their diets, both groups had similar levels of weight loss. The average weight loss was a little over 19 pounds among those on the very-low-calorie diet and just under 19 pounds among those on the low-calorie diet.

The researchers then looked at the loss of fat-free mass, which includes all the tissue in the human body, except fat. The major tissues are blood, bones, organs and muscles. However, the mass of the organs, blood and bones does not change during dieting. Therefore, changes in fat-free mass during dieting are mainly due to changes in muscle mass.

Participants on the very-low-calorie diet had lost about 3.5 pounds of fat-free mass, compared with 1.3 pounds among those on the low-calorie diet. Fat-free mass accounted for 18 percent of weight

loss in the very-low-calorie diet group and 7.7 percent of weight loss in the low-calorie diet group, the study found.

Four weeks after the end of their diets, reductions in fat-free mass averaged 1.8 pounds among those in the very-low-calorie diet group and 0.7 pounds among those in the low-calorie diet group. Fat-free mass accounted for 9.4 percent of weight loss in the very-low-calorie diet group and 2.9 percent of weight loss in the low-calorie diet group, according to the report.

The findings were presented Wednesday at the European Congress on Obesity in Bulgaria.

"Loss of fat-free [mass](#) was higher after rapid than slow diet-induced weight loss with similar total [weight loss](#)," said the study's authors, Roel Vink and Marleen van Baak, of the School for Nutrition, Toxicology and Metabolism at Maastricht University in the Netherlands, and colleagues.

However, the authors also pointed out in a meeting news release that muscle loss among people in the very-low-calorie diet was likely overestimated immediately after they completed the diet, compared with four weeks later.

This is likely because they had a larger loss of water and glycogen (a natural form of sugar in the body) when they had just completed the diet than four weeks later, the researchers explained.

Research presented at meetings should be viewed as preliminary until it is published in a peer-reviewed medical journal.

More information: The U.S. National Institute of Diabetes and Digestive and Kidney Diseases explains how to choose a safe and successful [weight-loss program](#).

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