

# Losing fat while gaining muscle: Scientists close in on 'holy grail' of diet and exercise

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This is an image of a weight scale. Credit: CDC/Debora Cartagena

Researchers at McMaster University have uncovered significant new evidence in the quest for the elusive goal of gaining muscle and losing fat, an oft-debated problem for those trying to manage their weight, control their calories and balance their protein consumption.

Scientists have found that it is possible to achieve both, and quickly, but

it isn't easy.

For the study, 40 young men underwent a month of hard exercise while cutting dietary energy they would normally require by 40 per cent of what they would normally require.

"It was a gruelling affair," says Stuart Phillips, a professor in the Department of Kinesiology at McMaster and senior investigator on the study. "These guys were in rough shape, but that was part of the plan. We wanted to see how quickly we could get them into shape: lose some fat, but still retain their muscle and improve their strength and fitness," he says.

The researchers divided their subjects into two groups. Both groups went on a [low calorie diet](#), one with higher levels of protein than the other. The higher-protein group experienced muscle gains—about 2.5 pounds—despite consuming insufficient energy, while the lower protein group did not add muscle.

The lower-protein group at least had the consolation of not losing muscle, which is a predictable outcome of cutting calories and not working out, say researchers.

"Exercise, particularly lifting weights, provides a signal for muscle to be retained even when you're in a big calorie deficit," says Phillips.

Researchers were intrigued because the high-protein group also lost more body fat.

"We expected the [muscle](#) retention" said Phillips, "but were a little surprised by the amount of additional fat loss in the higher protein consuming group."

The results showed that the high-protein group lost about 10.5 pounds and the low [protein](#) group only eight pounds. All of the participants, by virtue of the demanding six-days-a-week exercise routines, got stronger, fitter, and generally were in much better shape.

However, researchers caution this regimen is not for everyone.

"We designed this program for overweight [young men](#), although I'm sure it would work for young women too, to get fitter, stronger, and to lose weight fast. It's a tough program and not something that's sustainable or for those looking for quick and easy fix," says Phillips. "We controlled their diets, we supervised the exercise, and we really kept these guys under our 'scientific' thumb for the four weeks the participants were in the study."

Phillips and his team hope to conduct a follow-up study on women and also explore a different approach that he says will be "a little easier and much more sustainable."

The study was published in the latest issue of the *American Journal of Clinical Nutrition*.

Provided by McMaster University

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