

# High protein diet and meal replacements can reduce rebound weight gain

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New research shows that there are several effective strategies available to people wanting to avoid regaining weight after a successful diet. Anti-obesity drugs, meal replacements and a high protein diet can help weight loss maintenance, according to a meta-analysis published in the scientific periodical *The American Journal of Clinical Nutrition*.

The study, which was carried out by researchers at Karolinska Institutet's Clinical Epidemiology Unit and the Obesity Centre at Karolinska University Hospital in Sweden, contributes knowledge about what is without doubt the greatest challenge to anyone attempting to lose weight: how to reduce rebound [weight gain](#) and maintain the lower body weight after the weight loss phase.

"The body has several defence mechanisms against weight loss, such as increased hunger, lower energy metabolism and relapse back to old habits," says research team member Dr Erik Hemmingsson. "If the problem of rebound weight gain didn't exist, obesity would be relatively easy to treat. There have been several possible methods to facilitate long-term weight control over the years, and now the database was large enough to make a systematic evaluation of existing studies."

In their meta-analysis, the team combined the results of 20 published scientific studies including a total of 3,017 participants, who were either obese or overweight at the start of the weight loss process. The various studies examined the effects of drugs, meal replacements, high protein diets, dietary supplements and exercise on rebound weight gain after an

intensive weight loss, low-calorie diet (less the 1,000 calories a day).

Even though the study shows that rebound [weight](#) gain is more the rule than the exception, the researchers found that several strategies obviously helped to reduce the unwanted effect: anti-obesity drugs, powdered [meal replacements](#), and a high protein diet. Low glycaemic index (GI) food was also effective, although the data in that case came from a single study, which the researchers say makes the conclusions less reliable.

"Anti-obesity drugs unfortunately carry a risk of adverse events, so the most effective drugs were completely withdrawn a few years ago," says Dr Hemmingsson. "Meal replacement products and [high protein diets](#), on the other hand, are effective and available to everyone."

One interesting result was that exercise had no clear effect on [weight loss](#) maintenance. The reason, however, might be that one of the included trials studied relatively sick patients with serious arthrosis who had been prescribed special physiotherapy. In another study, in which the participants exercised in a more normal way, the effect was similar to eating a high [protein diet](#). Dietary supplements were not associated with a reduced rebound effect.

**More information:** Johansson, K., Neovius, M. and Hemmingsson, E. Effects of anti-obesity drugs, diet and exercise on weight loss maintenance after a very-low-calorie diet or low-calorie diet: a systematic review and meta-analysis of randomized controlled trials, *American Journal of Clinical Nutrition*, 30 November 2013, [DOI: 10.3945/ajcn.113.070052](https://doi.org/10.3945/ajcn.113.070052). [ajcn.nutrition.org/content/ear...113.070052.abstract](https://ajcn.nutrition.org/content/ear...113.070052.abstract)

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