

Obese people can maintain stable weight loss

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Credit: University of Copenhagen

Maintaining a stable weight loss is the biggest struggle for obese individuals, yet new research from University of Copenhagen have allowed researchers new insights into the complex processes involved in obesity and especially weight loss in obesity. It is now possible to offer overweight people a clearer understanding of how to sustain weight loss.

"This study shows that if an overweight person is able to maintain an initial [weight loss](#)—in this case for a year—the body will eventually 'accept' this new weight and thus not fight against it, as is otherwise normally the case when you are in a calorie-deficit state," says Associate Professor Signe Sorensen Torekov from the Department of Biomedical Sciences and Novo Nordisk Foundation Center for Basic Metabolic Research.

The research has recently been published in the *European Journal of Endocrinology*.

Appetite inhibiting hormones

The main finding in the study revealed that after one year of successful weight loss maintenance, the researchers were able to demonstrate that postprandial levels of two appetite inhibiting hormones (GLP-1 and PYY) increased (=appetite inhibition) from before-weight loss level—in contrast to the hunger hormone ghrelin, which increased immediately after weight loss but returned to normal levels (= low hunger) after one year. This demonstrates that the hormones GLP-1 and PYY are able to adjust to a new 'set point' and thus may facilitate the continuation of a new and lower body weight.

"We know that obese people have low levels of the appetite inhibiting hormone GLP-1. The good thing is that now we are able to show that you can actually increase the levels of this hormone as well as the appetite inhibiting hormone PYY by weight loss and that the levels are kept high (=increased appetite inhibition) when you maintain your weight loss for a year," adds first author of the study MD and PhD student Eva Winning lepsen.

Maintain your weight loss

Twenty healthy, but obese, individuals followed an 8-week low-calorie powder diet and lost on average 13 % of their body weight. After the initial weight loss, the participants entered a 52-week weight maintenance protocol, which consisted of regular meetings with a clinical dietician with instructions on lifestyle changes as well as diet calendar tracking. In case of weight gain, the participants could replace up to two meals per day with a low-calorie diet product.

During the study period the participants completed three meal tests—before weight loss, immediately after weight loss and after 52 weeks of weight loss maintenance, where blood samples were collected after fasting as well as postprandially and subsequently analysed.

"The interesting and uplifting news in this study is that if you are able to maintain your weight loss for a longer period of time, it seems as if you have 'passed the critical point', and after this point, it will actually become easier for you to maintain your weight loss than it was immediately after the initial weight loss."

"Thus, the body is no longer fighting against you, but actually with you, which is good news for anyone trying to lose weight," concludes Associate Professor Signe Sorensen Torekov.

More information: Eva Winning Iepsen et al. Successful weight loss maintenance includes long-term increased meal responses of GLP-1 and PYY 3-36, *European Journal of Endocrinology* (2016).
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