

'Yo-yo' effect of slimming diets explained

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This image shows a dessert. Credit: Rui Ornelas

If you want to lose the kilos you've put on over Christmas, you may be interested in knowing that the hormones related to appetite play an important role in your likelihood of regaining weight after dieting. A new study confirms that people with the highest levels of leptin and lowest levels of ghrelin are more likely to put the centimetres they lost back on again.

Doctors often have to deal with patients who, after sticking to a slimming [diet](#), have regained the kilos lost in just a short time – or weigh even more than they did before they started the diet. This is called the 'yo-yo' effect, and it is noted in some people who follow such weight-loss programmes.

"There are patients who are susceptible to and others who are resistant to the benefits of a diet", Ana Belén Crujeiras, lead author of the study and a doctor at the University Hospital Complex of Santiago (CHUS), tells SINC. "It seems that the way each patient responds to treatment is predetermined by their own characteristics".

The researchers analysed the role of the [plasma levels](#) of hormones such as ghrelin, leptin and insulin on weight recovery in 104 overweight people following a hypocaloric diet. After eight weeks, the group that had regained more than 10% of the weight lost was found to have higher levels of leptin and lower levels of ghrelin. No differences were observed in their insulin levels.

The results, published in the *Journal of Clinical Endocrinology & Metabolism*, also show that ghrelin has a specific impact on men and leptin on women.

"Some obese or overweight patients who gain more weight following a diet could even be identified before they embark on their weight-loss therapy, just by looking at their plasma levels of these hormones", Crujeiras stresses.

A very useful dietary weapon

According to the authors, this study opens the door to more exhaustive studies on appetite-related hormones as tools for developing individually-tailored weight-loss programmes that would guarantee success for obese and overweight patients in keeping the weight lost off.

"Endocrinologists and nutritionists should design a special programme for patients with the highest plasma levels of leptin and the lowest ghrelin levels before they start on a hypocaloric diet, knowing that these patients are the most likely to regain the [weight](#) they have lost over the

short term", concludes the expert.

More information: Ana B. Crujeiras, Estíbaliz Goyenechea, Itziar Abete, Mary Lage, Marcos C. Carreira, J Alfredo Martínez, y Felipe F. Casanueva. "Weight Regain after a Diet-Induced Loss Is Predicted by Higher Baseline Leptin and Lower Ghrelin Plasma Levels".
[doi:10.1210/jc.2009-2566](https://doi.org/10.1210/jc.2009-2566)

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