

# Not your fault! Hormones linked to weight regain

October 26 2011, By MALCOLM RITTER , AP Science Writer

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Any dieter knows that it's hard to keep off weight you've lost. Now a study finds that even a year after dieters shed a good chunk of weight quickly, their hormones were still insisting, "Eat! Eat! Eat!"

The findings suggest that dieters who have regained weight are not just slipping back into old habits, but are struggling against a persistent biological urge.

"People who regain weight should not be harsh on themselves, as eating is our most basic instinct," Joseph Proietto of the University of Melbourne in Australia, an author of the study, said in an email. The research appears in Thursday's issue of the [New England Journal of Medicine](#).

Weight regain is a common problem for dieters. To study what drives it, Proietto and his colleagues enrolled 50 [overweight](#) or [obese patients](#) in a 10-week diet program in Australia. They wanted to see what would happen in people who lost at least 10 percent of their body weight. Ultimately, only 34 people lost that much and stuck with the study long enough for analysis.

The program was intense. On average, the participants lost almost 30 pounds during the 10 weeks, faster than the standard advice of losing 1 or 2 pounds a week. They took in 500 to 550 calories a day, using a meal replacement called Optifast plus vegetables for eight weeks. Then for two weeks they were gradually reintroduced to ordinary foods.

Despite counseling and written advice about how to maintain their new weights, they gained an average of 12 pounds back over the next year. So they were still at lower weights than when they started.

The scientists checked the [blood levels](#) of nine hormones that influence appetite. The key finding came from comparing the [hormone levels](#) from before the weight-loss program to one year after it was over. Six hormones were still out of whack in a direction that would boost hunger.

The [dieters](#) also rated themselves as feeling hungrier after meals at the one-year mark, compared to what they reported before the diet program began.

Experts not connected to the study said the persistent effect on [hormone](#) levels was not surprising, and that it probably had nothing to do with the speed of the weight loss.

People who lose less than 10 percent of body weight would probably show the same thing, though to a lesser degree, said Dr. George Bray of the Pennington Biomedical Research Center in Baton Rouge, La.

A key message of the study is that "it's better not to gain weight than to try to lose it," Bray said.

Why would a dieter's body rebel against weight loss? It's an evolutionary holdover from earlier times, when weight loss could threaten survival and reproduction, says Dr. Rudolph Leibel, an obesity expert at Columbia University in New York. So "it's not surprising at all" that our bodies would fight back for at least a year, he said. "This is probably a more or less permanent response."

People who lose significant weight not only gain bigger appetite but also burn fewer calories than normal, creating "a perfect storm for weight

regain," Leibel said.

He said avoiding [weight regain](#) appears to be a fundamentally different problem from losing weight in the first place, and that researchers should pay more attention to it.

The study was supported by the Australian government, medical professional groups and a private foundation. Proietto served on a medical advisory board of Nestle, maker of Optifast, until last year.

**More information:** *New England Journal of Medicine:*  
<http://www.nejm.org>

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