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The Binge Eating Prevention Plan

DIET

# Appetite Hormones: The Disruptive Effect of Dieting

Ten tips to fix—and avoid—enduring hormone imbalances.

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Reviewed by Jessica Schrader



## KEY POINTS

- Diets affect the hormones that regulate appetite.
- Difficulty sustaining weight loss is partly due to changes in the regulation of ghrelin and leptin.
- Restrictive diets often result in long-term, persistent metabolic adaptations that promote weight gain.



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*Written by Gia Marson,  
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Feeling hungry, hopeless,  
and constantly tired after  
dieting? You are not alone.

Dieting causes enduring changes in crucial hormones that  
regulate appetite, leaving you hungry beyond your energy

needs and less satisfied after you eat.

On top of that, most people who lose weight from dieting eventually gain it back—but it's not because of lack of self-control.

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“One year after initial weight reduction, levels of the circulating mediators of appetite that encourage weight regain after diet-induced weight loss do not revert to the levels recorded before weight loss.” - Sumithran et al.

This weight cycling can have negative health effects over time. Your body signals become unreliable indicators of how much and when you need to eat—even up to a year after you give up your diet.

The good news: you can regain control.

You just need to understand what appetitive hormones do—and how to rebalance them after dieting.

**What are the factors that affect appetite after a diet?**

**Appetitive hormones:** The main hormone that signals hunger in the body is ghrelin. In those that have had diet-related weight loss, ghrelin levels are elevated. With excess ghrelin, your body may tell you it feels hungry more often.

Meanwhile, satiety hormones (such as leptin) signal to the body you've had enough to eat. For dieters, levels of these "filling" hormones can be well below the levels expected for a non-dieter of the same body mass. With extra leptin, your body will tell you it isn't full yet even if it actually is.

**Resting metabolic rate:** After a cycle of dieting, changes in hormones can cause a disproportionately lower resting metabolic rate and promote energy storage from the food we eat. Essentially, your body learns to conserve energy and burn less at rest, explaining why some people end up with a higher weight after a diet than they had before.

"...metabolic adaptations can readily promote weight regain" - Melby, et al.

**Human evolution:** So why does it seem our body works against us when we diet? Our bodies are designed to get us through periods of scarcity and famine. But this can work against us in the modern landscape, where food is usually accessible.

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**Food on the brain:** The body's drive for survival and food is so pervasive that dieting impacts not only our feelings of hunger and satiety but also how rewarding we perceive items to be. Thus, after dieting, we often crave high-calorie, high-sugar foods.

## How to fix—and avoid—disruption in appetite hormones

Although hormone disruption exists at a physiological level, some research suggests evidence-based lifestyle strategies may help you overcome weight cycling.

1. **Move your body—and do it often. Find physical activities that are enjoyable, accessible, and fit with your schedule.** Exercise raises metabolic rate, and it may suppress hunger. Repeated short bursts of intense movement can also help with heightened sensations of hunger.
2. **Make your eating style personal:** Research shows a range in how people respond to food and eating patterns. That is, there is no one perfect way of eating. Find your unique, sustainable approach.
3. **Learn to listen to your body:** Notice how your food choices and eating patterns impact your energy level and satiety.
4. **Get enough protein:** Protein-rich foods produce high thermic activity, meaning your body uses more energy to digest them. They can also make you feel fuller than other micronutrients, which is helpful if your leptin levels are lower than expected.
5. **Include fiber to improve your mind-body connection:** Eating foods high in fiber gives your stomach enough

warning and time to produce anorexigenic peptides (hormones that can lower appetite). Fiber-rich foods also take longer to empty from the stomach and make it easier to experience satisfaction after eating—just as you did before dieting interfered with leptin and ghrelin.

6. **Focus on whole foods:** Studies on the Mediterranean diet, relying primarily on whole foods such as home-cooked meals, fruits, vegetables, whole grains, nuts, lean proteins, and olive oil, etc., have shown improvement in Type 2 diabetes (T2D) and metabolic syndrome.
7. **Consider the impact of the glycemic load of your meals:** High glucose levels in the blood raise insulin, which can throw your appetitive hormones further out of balance.
8. **Stop depriving yourself:** Unfortunately, the biological and psychological fallout from dieting often leads to weight gain, weight cycling, and feelings of shame and frustration. Stop restrictive eating to avoid inevitable, post-diet problems before they start.
9. **Embrace weight neutrality:** Approach wellness by focusing on health markers such as cardiac risk factors, not BMI or weight. Improvements to your lifestyle and specific health parameters can benefit mental and physical health. In contrast, subjecting yourself to a weight-based health paradigm, rooted in weight bias and size discrimination, may increase vulnerability for disordered eating, isolation, health care avoidance, weight gain, and even mortality.
10. **Accept that lower weights aren't necessarily healthier:** Lower weights are not necessarily associated with better health. In 2009, the Prospective Studies Collaboration analyzed 894,576 participants from 57 prospective studies and reported the lowest mortality rate was for those with a BMI between 22.5 and 25. Not only were mortality rates higher for participants with a BMI above that range, but people who weighed less were also at

higher health risk.

✓ THE BASICS

What are healthy approaches to dieting?

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Diets may seem like a magic bullet solution because they may work well in the short term. But too often, they can create more problems down the road.

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