Every dieter wishes they had a switch to turn off their appetite. Hunger and food cravings are prime reasons why diets fail. It may surprise you to learn that your body does have a switch, or a group of switches, that turn your appetite on and off. In the last decade, scientists have made huge strides in understanding how these switches work. While these advances have not yet given us the ability to turn off our appetites completely, they have yielded knowledge that any dieter can use to eat less without being overwhelmed by hunger and food cravings.

There's a good reason for the complexity of the human appetite control system. For the first 500,000 years or so of our existence, food was often in short supply. Our Paleolithic ancestors spent most of the day either hunting or gathering food. Although today we view food in social and cultural terms, our bodies view food in only one context: as a source of energy. The energy in food enables us to survive. Since Paleolithic meal times were erratic and food was scarce, it was critically important that our ancestors ate whenever the opportunity came around. Can you imagine the implications if, after finding food, our ancestors were not hungry?

If we had evolved during a time when food was plentiful and cheap this would not have been the case. What makes great logic from an evolutionary standpoint creates great frustration for today's dieter. Your body cannot tell the difference between voluntary food restriction to get in shape and involuntary starvation. The good news, however, is that by understanding how the appetite switches work you can make subtle changes in your diet to reduce hunger cravings and feel full even when you are consuming less food.

First let's look at how these hunger switches work. Your body contains sensors found in your fat tissue and GI tract that monitor your body's energy or food status. When your body detects a lack (dieting) or an overabundance (Thanksgiving dinner) of food the sensors activate the appropriate switch that tells you either to stop eating or go find food. Whether you are hungry or full is determined by five different proteins.

The Hunger Proteins

The two most important hunger proteins are ghrelin and NPY. When sensors detect a lack of food these two powerful proteins are released. Ghrelin and NPY make us feel more alert so we can raid the refrigerator or drive to an all-night convenience store. They also have another action that is very frustrating to dieters. When the hunger proteins are activated they divert the food we eat to fat tissue rather than muscle. It's a double whammy for dieters. Not only are they hungry, but when they do eat, the food is converted to fat tissue rather than lean body mass.

The Feel Full Proteins
The three most important proteins for turning off appetite are CCK, PYY and leptin. Leptin is found in fat tissue. When fat tissue increases leptin is released. CCK and PYY are found in the gut. When we eat, our stomach distends, which causes a release of CCK and PYY. These proteins slow the movement of food through the stomach making us feel fuller. Once they’ve been released, all three proteins send a signal to the brain telling us to stop eating. The “feel-full proteins” also make us feel sleepy and lethargic.

Although the hunger and feel-full proteins act in a coordinated way, the hunger proteins are clearly dominant. Remember, without a strong desire for the energy that food supplies we would not have survived as a species. Although future research may identify new drugs that can selectively turn off the hunger switch, these products are not available today. However, there are some easy ways that you can reduce hunger cravings and increase the feelings of fullness even when you are eating less.

1. **Turn on the feel-full switch before you eat.**
   There is about a 15-minute lag between the time we eat and the time when the feel-full proteins in our gut are released. In the days when our diet was made up primarily of foods with low caloric density (lean meat and grain) and meal times extended over one to two hours, this wasn’t a problem. Today, the situation has changed. We eat calorically-dense or high-fat foods and our mealtimes are often 20 minutes or less. This means that the calories are already in our stomach before our feel-full proteins are activated. One way to counter this problem is to consume a small snack, preferably one high in protein, of about 100 calories 15 minutes before your meal so that the feel-full proteins are activated when you start to eat your meal.

2. **Don’t skip breakfast.**
   Levels of the hunger proteins are highest in the morning, which explains why eating breakfast has such a major influence on appetite throughout the day. Eating breakfast can extend the feeling of fullness for 12-15 hours. In fact, researchers have shown that people who eat breakfast consume fewer calories over the remainder of the day than people who skip breakfast. Compared to skipping breakfast, eating breakfast translates into significantly greater weight loss.

3. **Get a good night’s sleep.**
   Sleep has a significant effect on both the hunger and feel-full proteins. Studies with sleep-deprived individuals show they have higher levels of the hunger proteins and lower levels of the feel-full proteins throughout the day. In short, sleep deprivation causes an increase in daily hunger and even when you eat you don’t feel satisfied.

4. **Eat carbohydrate in the morning and protein and fat in the evening**
   At the start of the day your body needs energy, and no nutrient supplies energy better than carbohydrate. Researchers have found that meals consumed later in the day are less satiating, or filling. You can use this to your advantage.
Protein and fats are more satisfying than carbohydrate. Eat a high-protein, moderate-fat dinner (yes, your body needs a small amount of fat to maintain health) to reduce post-dinner snacking.

5. **Eat fats that activate the feel full proteins**
Not all fats are the same. Obviously, certain fats have been shown to be particularly unhealthy. However, there are fats which are not only healthy but are also potent activators of the feel-full proteins. These are long-chain fats such as oleic acid. Foods that are high in oleic acid are sunflower oil, safflower oil, olive oil and avocado. Used sparingly these foods can significantly reduce hunger without adding many calories to your daily meal plan.

Blunting your hunger drive is a key contributor to successful long-term weight loss. You can’t turn off your hunger switch but by implementing the simple strategies I’ve described you can be satisfied even when eating less food.

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