The Best Foods that Fill You Up and Boost Your Metabolism and Shed Pounds

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By Ori Hofmekler

What you're about to read here may change the way you think about food. Yes, once you see the facts, you'll realize that most of the products on the grocery shelves don't fit your biology. Most of today's dietary products are not designed to keep your body young.

The genes that regulate your biological age are highly sensitive to your diet, as they're triggered or inhibited by what you eat, how much you eat, and how often. The point is: You need to know how your diet affects your biological age. You need to know what food keeps you young and what food is making you old.

How Your Diet Affects Your Biological Age

It has been largely agreed that one of the most detrimental causes of aging is excessive calorie intake. Scientists speculate that humans have an overly strong drive to eat when food is readily available. And since people are surrounded today with calorie dense food, they tend to consume excess calories, which then cause them to gain weight, lose health, and age prematurely.

Given this, many believe that calorie restriction is the most effective strategy to get in shape and counteract aging. But the calorie restriction theory is only partly true. It can't always predict whether you'll gain weight or lose weight, neither can it predict whether you'll get in shape or get out of shape. You can be on a low calorie diet and fail to lose weight, and you can be on a high calorie diet and yet manage to slim down.

Emerging evidence indicates that there is another powerful factor behind the scene – one that overrules and dictates your energy expenditure, metabolic rate, body fat percentage, physical shape and eventually your biological age. That factor is the system that controls your hunger and satiety signals. And as you'll soon see, it has nothing to do with your calorie intake, but rather with what you eat and how often.

How Your Hunger-Satiety System Affects Your Physical Shape

Your hunger-satiety system consists of multiple neuro-peptides that act to initiate or terminate your feeding. These are your hunger-satiety hormones. Their signals are integrated by centers in your brain to modulate how you consume, spend or store energy. The balance between these signals dictates whether your body is in a fat-burning or a fat-storing mode.

In order to maintain a healthy body weight, your hunger and satiety signals must continually adjust your food intake to your energy expenditure. Any imbalance between these two will affect your fat stores and physical shape. Obesity, for instance, is a result of a disrupted energy balance in which a surplus of accumulated food energy is stored as body fat.

Again, your physical shape seems to depend on the ratio between your hunger and satiety hormones and so is your biological age. Both hormones regulate your eating behavior and metabolic rate, albeit with opposite effects on your body.

Hunger Hormones vs. Satiety Hormones

Your hunger and satiety hormones are constantly clashing with each other like two armies at

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war. And the consequences of that hormonal clash are manifested in your body. Hunger hormones ter metabolism and increase your body fat whereas satiety hormones tend to boost your metabolism and decrease your body fat.

Simply put, if your hunger hormones get out of control, you'll be prone to suffer from a sluggish metabolism and excess body fat. And if your satiety hormones take over, they will counteract the effects of your hunger hormones to allow you greater energy and a leaner healthier body.

But note that your hunger hormones are not inherently bad; when balanced, they play important roles in your metabolic system. Under healthy conditions they may even help you burn fat. The hunger peptide ghrelin, for instance, is a most potent trigger of your growth hormone – it binds to growth hormone secreagogue receptors (GHS-Rs) and increases its release by six fold. Indeed, fasting and hunger boost your growth hormones and potentiate its actions to burn fat and repair tissues more efficiently than drugs – naturally and safely without side effects.

Your hunger hormones are part of your survival apparatus. They relate to your satiety hormones like yin to yang. They keep you alert and give you the drive to search for food along with the desire to achieve. And they balance the actions of your satiety hormones which tend to calm you down.

But if you let your hunger hormones get out of control, you'll experience chronic hunger, diminished energy, metabolic decline, decreased libido and increased tendency to gain weight.

You need to know how to manipulate both types of hormones to work for you. And you certainly need to keep your hunger hormones under control. But how can you do that if you don't even know what causes your hunger hormones to get out of control?

What Causes Your Hunger Hormones Get Out of Control?

Normally your hunger hormones are highly responsive to feeding – their levels increase during fasting and reduce upon food ingestion. Your most notable hunger hormones are ghrelin, neuropeptide Y (NPY) and agouti-related protein (AgRP).

During fasting, your hunger hormone ghrelin peaks, boosting your growth hormone to initiate fat burning. Meanwhile, your remaining hunger hormones are continually balanced by your satiety hormones (adiponectin and glucagon-like peptide). This keeps your hunger under control and potentiates your sensitivity to satiety signals.

Then, when you resume eating, your hunger hormones decline – allowing your satiety hormones to kick in and act to boost your metabolism.

That's how your hunger-satiety system works under healthy conditions. It allows you to burn fat when you don't eat and it acts to boost your metabolism when you eat. Hence, a win-win situation.

But your hunger-satiety system can only function well as long as your diet is adequate. If your diet is high glycemic and your feeding episodes are too frequent, your hunger-satiety system will be utterly disrupted.

Frequent consumption of high glycemic meals impairs your key satiety hormones insulin and leptin, leaving your hunger hormones unopposed and dominant. When insulin is impaired (such as in cases of insulin resistance), ghrelin levels remain elevated even after meal consumption – a condition that leads to chronic hunger (mostly for carbs), excess food intake and undesirable weight gain.

This issue has been widely overlooked, perhaps because people normally like to consume baked goods and candies on a daily basis and even more so during celebrations. But the evidence leaves no doubt: frequent consumption of high glycemic foods jeopardize your satiety apparatus and put your body under the tyranny of your hunger hormones.

To prevent that you need to avoid high glycemic foods and resist cravings for sweets. You need to know how to boost your satiety hormones and let them take control over your metabolism.

How to Boost Your Satiety Hormones

Your satiety hormones include insulin, leptin, adiponectin, cholesystokinin (CCK), glucagon-like peptide (GLP), PPY and melanocortin. When potentiated to counteract your hunger hormones, they help increase your energy expenditure, stimulate your thyroid, enhance your sex hormones, lower your stress hormones and increase your capacity to burn fat.

The three main factors that boost your satiety hormones are:

- Food restriction
- Exercise
- Weight loss

Food restriction, exercise and weight loss increase the sensitivity and effectiveness of your insulin and leptin while potentiating the actions of your other satiety hormones. This means that with proper diet, exercise and restoration of a healthy body weight, you can increase the efficiency of your satiety hormones to allow you be at your peak physical potential. But how do you put this in practice? How do you put your satiety hormones in charge?

There are three ways to achieve that:

1. Eat satiety foods
2. Avoid hunger foods
3. Train your body to endure hunger

Eat Satiating Foods

The food that promotes satiety most is protein. It yields satiety more effectively than carbohydrates or fat. Out of all proteins, the one with the fastest satiety impact is whey protein – that's if the whey is whole and non-denatured.

Studies reveal that consumption of whey protein before meals can swiftly boost the satiety peptides CCK and GLP-1, which have been shown to decrease food intake and increase weight loss. Whey protein is also beneficial when consumed before exercise. Having a small serving of whey protein (with no sugar added) about 30 minutes before exercise seems to help sustain intense muscle performance and increase the efficiency of muscle protein synthesis after exercise. A pre-exercise whey meal has also shown to boost the body's metabolic rate for 24 hours thereafter.

Other satiety-promoting foods are low glycemic plant foods including raw nuts, seeds, legumes, roots, cruciferous vegetables, tomatoes, eggplants, grasses and green leafy vegetables.

Being low glycemic and fibrous, these plant foods are a great fit for your insulin and leptin as well as your whole satiety system. Nuts and seeds trigger PPY – a satiety peptide which is highly sensitive to dietary fat. PPY shifts your cravings from carbohydrates to fats and increases your metabolic capacity to convert fat to energy.

That action counteracts your hunger hormones, which typically shift your cravings towards carbohydrates. Note that it's the shift towards refined carbohydrates that has been linked to chronic cravings and excessive food intake. This is the reason why once you open a bag of potato chips and start crunching, you may find it difficult to stop.

And note that your muscle isn't programmed to do well on hunger foods; it rejects fructose and has a limited capacity to utilize high glycemic foods. But your muscle literally thrives on satiety foods. Combinations of whey protein and berries, eggs and beans or meat and nuts have unmatched muscle nourishing properties. Furthermore, being satiety oriented, these food combinations promote the right hormonal environment for muscle rejuvenation and buildup.

All that said, you can't fully benefit from your satiety food if you don't know what food to avoid.

Avoid Hunger Foods

Stay away from high glycemic foods including all refined carbohydrates, sugars, fructose products, baked goods, candies and sugary beverages. Fructose in particular has shown to cause leptin resistance, lipid disorders, hypertension, obesity and diabetes. Studies reveal that the muscle rejects fructose as an energy substrate and the liver has a limited capacity to utilize it; excess fructose is converted into triglycerides and body fat.

But nothing is more damaging to your satiety than the combination of high sugar and high fat. This dietary combo packs on empty calories, causes insulin and leptin resistance and shatters your satiety along with your whole metabolic system. In fact, it has been found that the high sugar-high fat combo causes insulin and leptin resistance even prior to any change in body composition.

This means that all food products made with a high content of sugar and fat are poisonous to your satiety system. These include cookies, cakes, ice creams and chocolates, all of which set you up for serious metabolic setbacks associated with insulin and leptin resistance which may include excess estrogen, excess cortisol, low testosterone, hypoglycemia, hyperglycemia and increased belly fat.

The good news is that both insulin and leptin resistance can be reversed by food restriction and weight loss. Hence, your insulin and leptin are restored by austerity and shattered by indulgence.

It has been suggested that insulin and leptin play important roles in times of scarcity but have a lesser role in times of plenty. To keep your insulin and leptin intact you must not indulge yourself with high glycemic treats, not even in moderation. Otherwise, your body will get the wrong signal and you'll pay the consequences with your weight, energy and state of health.

Now that you know how to choose your satiety foods, let's take a look at the other methods that boost your satiety hormones.

Train Your Body to Endure Hunger

Hunger should be treated like physical exercise. Both are perceived by your body as survival signals to adapt and improve. When your body is repeatedly challenged with acute (temporary) hunger, such as due to periodic fasting, it adjusts itself by decreasing the number of hunger receptors in your brain and thus making you increasingly resilient to hunger. This in turn increases the efficiency of your satiety hormones, and potentiates them to take control of your metabolism.

But only real hunger can benefit you that way. Real hunger is what you experience while fasting or undereating, not the kind of craving you feel on a fully belly after finishing a meal.

There are different ways to train your body to endure hunger. You can try to gradually increase the gap between your meals or alternatively put your body in an undereating state for most of the day. And you can also try exercising while fasting. Let's see how all this translates into practice.

Undereating

You can put your body in an undereating state by minimizing your food intake during the day to small, low glycemic, fast assimilating protein meals such as quality whey (every 3-5 hours), which could be served with (or substituted with) small servings of fruits and vegetables. Have your main meal at night.

Undereating has some notable advantages over complete fasting. It challenges your body similar to fasting – yielding a negative energy balance which increases your adaptability to hunger while promoting fat burning and tissue recycling. However unlike fasting, it allows you to nourish your body with protein and antioxidants, and you won't feel the desire to eat as intensely as when you completely avoid food.

But whether you fast or undereat, do not chronically restrict your calories. Your hunger must be acute, not chronic. Treat yourself with sufficient food in your main evening meal to compensate for the energy and nutrients you spend during the day.

Exercising While Fasting

Probably the most intense way to improve your hunger durability is by exercising while fasting. This presents a double challenge to your body and it yields a stronger signal to adapt than fasting or exercise alone. Though exercise while fasting may initially affect your maximum performance, it will nevertheless come with an additional bonus.

A study published in the Journal of Physchology/November 2010 indicated that exercising while fasting increases the body's metabolic adaptation efficiency to utilize energy, burn fat and deposit protein in the muscle – substantially more than when exercising after a meal. The researchers reported that the increased capacity to deposit protein in the muscle as observed in people who were exercising while fasting and then eating a post-exercise meal, is a result of increased insulin sensitivity and activation of the muscle mTOR (the mechanism that increases muscle protein synthesis).

Your body is inherently programmed to benefit from acute hunger (via periodic fasting or undereating) and even more so when exercising while fasting. This probably has to do with an early adaptation mechanism to hunger and hardship which evolved to support human survival during primordial times of food scarcity and intense hardship. Apparently, this primal evolutionary trait is still pertinent today and it potentially affects your physical shape.

Projections

Understanding the biological system that regulates hunger and satiety along with energy balance is essential for preventing excessive weight gain, metabolic decline and premature aging. More studies are needed to elucidate the relationship between human nutrition and aging. As the mechanisms of feeding and energy homeostasis are studied and clarified, treatments based on natural manipulations of hunger and satiety could be just as effective as hormonal therapy in adjusting hormonal disorders and deficiencies.

Manipulations of hunger and satiety through special nutritional strategies may be useful in restoring thyroid hormone activity, balancing estrogen, and attenuating or preventing growth hormone and testosterone decline. These strategies may help affect the enormous morbidity associated with obesity, diabetes and related diseases.

In today's world, you need to know what are your best options for keeping your body biologically young. In this case, nature doesn't leave you with many choices – controlling your hunger is not an option, it's a necessity.

About the Author

Ori Hofmekler, author of The Warrior Diet, The Anti-Estrogenic Diet, Maximum Muscle Minimum Fat, and the upcoming book Unlock Your Muscle Gene is an expert on how to improve your health with foods.

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