



Grehlin & Leptin – Hormones That Affect Hunger and Weight

Lisa C. Baker, CNC, RNHP – Holistic Nutritionist

We all know that hormones such as estrogen, testosterone, cortisol and others greatly affect weight and hunger, but two of the most specific hormones are ghrelin and leptin. There are other hormones involved, too. Probably some you have never heard of.

For instance, CCK, GLP-1 and PYY.

As the stomach, along with the intestines, get filled from eating, they circulate hormones lovingly-known as ‘satiety’ hormones. These are cholecystokinin (CCK), Glucagon-like Peptide (GLP-1) and Peptide YY (PYY). As the stomach and digestive system empty, the ‘satiety’ hormones subside and the body’s need for additional calories increases. Along with that, the hormone ghrelin, is secreted by the lining of the stomach in response. This stimulates the appetite. Ghrelin acts on brain receptors that induce ‘pleasure rewards,’ and when there is too much, it causes food cravings.

Ghrelin (lenomorelin, or INN) is known as “the hunger hormone.”

Ghrelin production is stimulated by high fructose corn syrup, which is found in nearly every processed food today. Even many commercial yogurts are high in this ingredient, as is wheat bread and many other things that in a cursory way seem ‘healthy.’ When you eat foods high in high fructose corn syrup, your body produces more Ghrelin and tells your body you need ‘more.’ This, in turn, forces your body to believe it needs yet more carbs and sweets, and the cycle goes on and on.

Another “satiety’ hormone is leptin., the opposite of ghrelin. The hormone leptin helps regulate energy balance by inhibiting hunger. Ghrelin and leptin work together to act on receptors in the arcuate nucleus of the hypothalamus to regulate the appetite, and in turn, achieve perfect energy homeostasis. By eating way too much high fructose syrup, which are unfortunately in so many food products, a person is imbalancing this perfect process. When a person becomes overweight from the Ghrelin overproduction, the body also becomes resistant to leptin which means there becomes an inability to recognize satiety, despite the high energy stores. Leptin levels vary depending on the amount of fat and vary throughout the day.

The only way to decrease ghrelin is through dietary measures. Raising Leptin, by avoiding leptin resistance, can only be achieved through dietary measures, although there is a pharmaceutical product, an analog of human leptin metreleptin, has been approved for treatment of complications of true leptin deficiency, and for diabetes and hypertriglyceridemia which is associated with congenital or acquired generalized lipodystrophy.. While there ‘are’ over the counter leptin supplements, they are fully digestible supplements, which mean they never reach the bloodstream, and thus the receptors.

Dietary measures to lower ghrelin and improve leptin include:

- Avoid High Fructose Corn Syrup. This is number ONE.
- Avoid MSG. MSG suppresses leptin, and causes your body to lose its ability to tell that it is full.
- Eat every 3 to 4 hours. Ghrelin is produced in 4 hour cycles. Having a small meal, even if it means breaking up your lunch into a portion at noon and a portion at 3:30 (a good way to eat often while not adding calories), this will tell your body the stomach is satisfied and not stimulate a large amount of ghrelin to be secreted. It also helps keep your blood sugar stable. Make sure there is a protein in each one of these small meals.
- Increase your fiber intake. When the stomach is stretched, the body does not feel the need to produce ghrelin.
- Increase Omega-3. A diet rich in Omega-3 boosts leptin. These include grass-fed meats, walnuts, salmon, mackerel, trout, chia seeds, flax seeds, hemp seeds, summer squash and green leafy vegetables like kale, spinach and others.

A serious imbalance can be corrected through a good Wellness Plan tailored to your health needs – every individual is different, so its never as easy as just eating a ‘healthy diet.’ Balancing ghrelin and leptin can especially be helped by beginning your Wellness Plan with a good detox so that the digestive system, which produces ghrelin, can properly function the many, many jobs it has. A holistic nutritionist can help you develop an appropriate Wellness Plan and get back on track! Weight should never be the only reason you start a new diet, but rather, to improve your health. Once your diet has had a chance to start making cellular changes, your health AND your weight should improve!