HORMONES - WEIGHT MANAGEMENT

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Hormones - Weight management

There is a lot more to weight loss than the simple advice of move more and eat less. Most people don't realise that it isn't all down to will power and trying harder.

The need to find fuel to generate energy is a profound drive within the biology of all living organisms: we all need food to survive. So, it's not surprising that our bodies have such a complex system to control food intake, driven by hormones.

Hormones act like chemical messengers between the body and the brain that coordinate our eating behaviour and food choices.

These hormones circulate in our blood and come from tissues in various parts of our bodies that deal with energy intake and storage, including the gut (which receives and digests food), fat tissue (which stores the energy as fat), and the pancreas (which makes hormones that are involved in energy storage, such as insulin).

Some hormones are responsible for stimulating hunger (let's call them "hunger hormones") while others responsible for making us feel full (let's call them "satiety hormones").

Leptin And Appetite

Leptin is a hormone that's essential to understand if you are looking to manage your weight. You can imagine leptin as the appetite suppressant hormone. Made within your fat cells, leptin is what makes you feel full. It "talks" to your brain, telling it when you feel hungry or full.

With balanced leptin levels you don't overeat because you feel full after eating a well-rounded meal, and that fullness lasts for hours. Leptin is like insulin in that it responds differently to different foods. Have you ever noticed that sweets or processed foods leave you feeling empty even after a short period of time? Eating trans fats and processed foods over the long term eventually leads to leptin resistance.

Leptin resistance

If you are leptin resistant it means your leptin levels become too high. In fact, overweight individuals who get their leptin levels tested typically find their leptin levels to be as high as four times the normal level. What's more, it's really difficult to balance leptin levels once they've become resistant.

With leptin resistance, communication between the brain and leptin is impaired. Your brain doesn't understand that it's full, and tells your body to keep eating.

You can see now why it's not your fault , it's as if your brain thinks you're starving when in reality, you're just leptin resistant.

To reverse this or to prevent it from happening to you in the first place you need to manage your intake and expenditure, food quality and activity. Everything in your body impacted by what you put into it, and leptin's no different.

Consuming an anti-inflammatory diet

Supplementing with anti-inflammatory fish oil

Committing to a regular exercise routine

Getting truly restorative sleep on a regular basis


AIRFIT

Understand Ghrelin

Ghrelin is your hunger hormone. Like leptin, it communicates with the brain, it tells your brain to eat. Every time your stomach is empty it naturally releases ghrelin into your bloodstream. Ghrelin levels are lowest just after you've finished a meal. They're highest when the stomach is empty and you're ready for your next meal. This scenario is normal when a person is healthy and maintaining optimal weight.

In overweight people ghrelin levels are typically out of whack. In healthy individuals, ghrelin levels decrease in a way that keeps them feeling full and signals their brains to stop eating. But in overweight individuals, ghrelin levels don't decrease enough after eating, which fails to send the brain the signal it needs to stop eating and feel satisfied.

Balance Ghrelin

Eat adequate amounts of protein. Protein helps you feel full and should be consumed with every meal. Studies show how eating protein promotes healthy ghrelin levels.

Consuming too much sugar disrupts hormonal balance, making weight loss seem an impossible feat. Be sure to read labels. If an item contains high-fructose corn syrup, don't buy it. A 2013 study published in Nutritional Diabetes shows how high-fructose corn syrup is one of the primary culprits of imbalance when it comes to hormones and weight gain.

Insulin And Body Composition

Insulin is an important hormone when it comes to weight loss and weight gain. Made by the pancreas, insulin is responsible for storing blood sugar, or utilizing it, depending upon your body's needs. After you eat a large meal, a substantial amount of insulin releases itself into the bloodstream. It also enters the bloodstream as needed throughout the day, ensuring that blood sugar levels remain stable.

Another function of this essential hormone is our fat storage. Insulin decides how much fat to store, and how much to convert for energy expenditure. High levels of insulin can lead to a condition known as insulin resistance. This is linked to an uptick in blood sugar as well as continued elevated insulin levels.

Preventing this insulin imbalance is crucial, as it leads to weight gain, and eventually type 2 diabetes. When insulin levels remain high over an extended period of time, obesity and metabolic syndrome are often the unfortunate outcome.

What you can do: Stop overeating the foods that cause insulin resistance

Overeating leads to insulin resistance, especially when we eat too much food that's no good for our bodies and minds. So we need to stop eating too much. When we eat too much sugar, too much fast food, and too many processed carbohydrates, insulin goes haywire. These elevated insulin levels lead to weight gain and low-grade inflammation. A 2010 study published in the journal Diabetes found that even eating too much of these foods in the short term leads to insulin resistance and weight gain.

You may also want to reduce the balance of carbohydrates in your diet. A study published in the journal Nutrition and Metabolism, a low-carb diet prevents metabolic syndrome and the insulin resistance that causes it. Other findings show drinking green tea, consuming omega-3 fatty acids from fatty fish, and eating adequate amounts of protein all help balance insulin levels.

Cortisol And Weight Loss

Created within the adrenal glands, cortisol is known as the stress hormone. It's essential for survival but is produced too frequently in the modern world. Whenyour body or mind feels it's under stress, cortisol is released into the bloodstream. The trouble is, we feel stressed too often these days, making our bodies produce more cortisol than is optimal.

How does this impact weight? High levels of cortisol are linked to overeating. Ever notice how you eat when you're stressed? A study published in the journal Psychoneuroendocrinology found that higher than normal cortisol levels were linked to overeating and weight gain. Another study links elevated cortisol levels to an increase in belly fat.

Improve Your Insulin Sensitivity

1. Get more sleep

A good night's sleep is important for your health.

In contrast, a lack of sleep can be harmful and increase your risk for infections, heart disease, and type 2 diabetes (1, 2).Several studies have also linked poor sleep to reduced insulin sensitivity (3, 4).

For example, one study involving nine healthy volunteers found that getting just 4 hours of sleep in one night reduced insulin sensitivity and the ability to regulate blood sugar, compared with getting 8 1/2 hours of sleep (4).

Fortunately, catching up on lost sleep can reverse the effects of poor sleep on insulin resistance (5).

Exercise more

Regular exercise is one of the best ways to increase insulin sensitivity.

It helps move sugar into the muscles for storage and promotes an immediate increase in insulin sensitivity, which lasts 2–48 hours, depending on the exercise (6).

For example, one study found that 60 minutes of cycling on a machine at a moderate pace increased insulin sensitivity for 48 hours among healthy volunteers (7).

Resistance training also helps increase insulin sensitivity.

Many studies have found it increased insulin sensitivity among men and women with or without diabetes (8, 9, 10, 11, 12, 13, 14).

For example, a study of men with overweight and without diabetes found that when participants performed resistance training over a 3-month period, their insulin sensitivity increased, independent of other factors like weight loss (11).

While both aerobic and resistance training increase insulin sensitivity, combining both in your routine appears to be most effective (15, 16, 17).

Reduce stress

Stress affects your body's ability to regulate blood sugar.

It encourages the body to go into "fight-or-flight" mode, which stimulates the production of stress hormones like cortisol and glucagon.

These hormones break down glycogen, a form of stored sugar, into glucose, which enters your bloodstream for your body to use as a quick source of energy.

Unfortunately, ongoing stress keeps your stress hormone levels high, stimulating nutrient breakdown and increasing blood sugar (18).

Stress hormones also make the body more insulin resistant. This prevents nutrients from being stored and makes them more available in the bloodstream to be used for energy (18, 19).

In fact, many studies have found that high levels of stress hormones reduce insulin sensitivity (19, 20).

This process may have been useful for our ancestors, who needed extra energy to perform life-sustaining activities. However, for people today who are under chronic stress, reduced insulin sensitivity can be harmful.

Activities like meditation, exercise, and sleep are great ways to reduce stress which helps increase insulin sensitivity (21, 22, 23).

Lose weight

Excess weight, especially in the belly area, reduces insulin sensitivity and increases the risk of type 2 diabetes.

Belly fat can do this in many ways, such as making hormones that promote insulin resistance in the muscles and liver.

Many studies support the link between higher amounts of belly fat and lower insulin sensitivity (24, 25, 26).

Fortunately, losing weight is an effective way to lose belly fat and increase insulin sensitivity. It may also help reduce your risk for type 2 diabetes if you have prediabetes.

For example, a study at Johns Hopkins University found that people with prediabetes who lost 5–7% of their total weight over 6 months reduced their risk for type 2 diabetes by 54% for the next 3 years (27).

Luckily, there are many ways to lose weight through diet, exercise, and lifestyle changes.

Eat more soluble fiber

Fiber can be divided into two broad categories — soluble and insoluble.

Insoluble fiber mostly acts as a bulking agent to help stool move through the bowels.

Meanwhile, soluble fiber is responsible for many of fiber's associated benefits, like lowering cholesterol and reducing appetite (28, 29).

Several studies have found a link between high soluble-fiber intake and increased insulin sensitivity (30, 31, 32, 33).

For example, a study involving 264 women found that those who ate more soluble fiber had significantly lower levels of insulin resistance (32).

Soluble fiber also helps feed the friendly bacteria in your gut, which have been linked to increased insulin sensitivity (34, 35, 36).

Foods that are rich in soluble fiber include legumes, oatmeal, flaxseeds, vegetables like Brussels sprouts and fruits like oranges

And more colorful fruit and vegetables to your diet

Not only are fruits and vegetables nutritious, they also provide powerful health-boosting effects.

In particular, colorful fruits and vegetables are rich in plant compounds that have antioxidant properties (37).

Antioxidants bind to and neutralize molecules called free radicals, which can cause harmful inflammation throughout the body (38).

Many studies have found that eating a diet rich in plant compounds is linked to higher insulin sensitivity (39, 40, 41, 42).

When you're including fruit in your diet, stick to normal portion sizes and limit your intake to one piece per sitting and no more than 2 servings per day.

Cut down on carbs

Carbs are the main stimulus that causes insulin blood levels to rise.When the body converts carbs into sugar and releases it into the blood, the pancreas releases insulin to transport the sugar from the blood into the cells.Reducing your carb intake could help increase insulin sensitivity. That's because high carb diets

tend to lead to spikes in blood sugar, which put more pressure on the pancreas to remove sugar from the blood (43, 44).

Spreading your carb intake evenly throughout the day is another way to increase insulin sensitivity.

Eating smaller portions of carbs regularly throughout the day provides the body with less sugar at each meal, making insulin's job easier. This is also supported with research showing that eating regularly benefits insulin sensitivity (45).

The type of carbs you choose is also important.

Low-glycemic index (GI) carbs are best, since they slow the release of sugar into the blood, giving insulin more time to work efficiently (46).

Carb sources that are low-GI include sweet potatoes, brown rice, quinoa, and some varieties of oatmeal.

Reduce your intake of added sugars

There's a big difference between added sugars and natural sugars.

Natural sugars are found in sources like plants and vegetables, both of which provide lots of other nutrients.

Conversely, added sugars are found in more highly processed foods. The two main types of sugar added during the production process are high-fructose corn syrup and table sugar, also known as sucrose.

Both contain approximately 50% fructose.

Many studies have found that higher intakes of fructose can increase insulin resistance among people with diabetes (47, 48, 49, 50).

The effects of fructose on insulin resistance also appear to affect people who do not have diabetes, as reported in an analysis of 29 studies including a total of 1,005 people who were moderate weight and overweight or had obesity.

The findings showed that consuming a lot of fructose over less than 60 days increased liver insulin resistance, independent of total calorie intake (51).

Foods that contain lots of added sugar are also high in fructose. This includes candy, sugar-sweetened beverages, cakes, cookies, and pastries.

Add herbs and spices to your cooking

Herbs and spices were used for their medicinal properties long before they were introduced into cooking.

However, it was not until the past few decades that scientists began examining their health-promoting properties.

Herb and spices including fenugreek, turmeric, ginger, and garlic have shown promising results for increasing insulin sensitivity.

Fenugreek seeds. They're high in soluble fiber, which helps make insulin more effective. Eating them whole, as an extract, or even baked into bread may help increase blood sugar management and insulin sensitivity (52, 53, 54).

Turmeric. This spice contains an active component called curcumin, which has strong antioxidant and anti-inflammatory properties. It seems to increase insulin sensitivity by reducing free fatty acids and sugar in the blood (55, 56).

Ginger. This popular spice is linked to increased insulin sensitivity. Studies have found that its active component gingerol makes sugar receptors on muscle cells more available, increasing sugar uptake (57).

Garlic. In animal studies, garlic has appeared to improve insulin secretion and has antioxidant properties that increase insulin sensitivity (58, 59, 60, 61).

These findings for herbs and spices are promising. However, most research in this area is recent and was conducted in animals. Human studies are needed to investigate whether herbs and spices do indeed increase insulin sensitivity.

Add a pinch of cinnamon

Cinnamon is a tasty spice that's packed with plant compounds.

It's also known for its ability to reduce blood sugar and increase insulin sensitivity (62).

For example, one meta-analysis found consuming 1/2–3 teaspoons (1–6 grams) of cinnamon daily significantly reduced both short- and long-term blood sugar levels (63).

Studies suggest that cinnamon increases insulin sensitivity by helping receptors for glucose on muscle cells become more available and efficient at transporting sugar into the cells (64, 65).

Interestingly, some studies have found that cinnamon contains compounds that can mimic insulin and act directly on cells (66, 67).

Drink more green tea

Green tea is an excellent beverage for your health.

It's also a great choice for people with type 2 diabetes or those who are at risk for it. Several studies have found that drinking green tea can increase insulin sensitivity and reduce blood sugar (68, 69).

For example, an analysis of 17 studies investigated the effects of green tea on blood sugar and insulin sensitivity.

It found that drinking green tea significantly reduced fasting blood sugar and increased insulin sensitivity (70).

These beneficial effects of green tea could be due to its powerful antioxidant epigallocatechin gallate (EGCG), which many studies have found to increase insulin sensitivity (71, 72, 73)

How do we coach you through these changes?

Coaching you through these stages is an important part of any successful body transformation.

Will power alone doesn't cut it when your hormones and body balance are working against you.

Our coaching through these stages looks at these areas

Nutrition - Macros, food quality, herbs & spices

We help you create the most suitable nutrition schedule for your needs that includes the optimum macro focus and food types for your needs, goals and preferences.

Body fat levels - reducing levels with calorie controlled diet

Having optimum body fat levels support the

positive hormone shifts that we are focussed on achieving. In order to this we utilize the best nutritional and training practices as well as providing accountability and support every step.

Training - Resistance training as primary focus

Resistance training is the foundation to the activity side of the hormone shift. Having an effective training schedule here will make sure you are getting the perfect work to rest balance, which is crucial for long term progress.

Supplements - Chromium, cinnamon, omega 3, turmeric

Creating a supplement protocol with you to optimise your training, nutrition and lifestyle to increase results and performance. Supplements will support your progress and increase your ability to achieve your goals.

Sleep - Quantity, quality

We work with you on our sleep habit coaching section of the course to maximise your recovery, otpimise your hormone function and boost your energy and motivation neurotransmitters.

What we track.

How we measure this

Score 1-5 each section
Weekly total = score

Stress

Sleep

Training

Supplements

SCORE TOTAL