PRIMAL POTENTIAL

MASTER YOUR HORMONES

Lose Weight & Feel Great with Simple Hormone Balancing Strategies

Calories vs. Hormones: What Matters More?

You want to look and feel your best. If you're like me, you're probably tired of dieting and feeling deprived. Dieting and deprivation is not the only way! In fact, those strategies are probably holding you back! Look through this list and see if you struggle with any of these issues:

Weight gain	Low sex drive	Inflammation
Trouble losing weight	Menstrual irregularities	Diabetes
Stubborn belly fat	Infertility	Short attention span
Love handles	Excessive hunger	Lack of focus
Low energy	Cravings	Memory loss
Stress	Mood swings	Acne
Anxiety	Joint pain	Dry skin or hair
Depression	Bloating	PCOS

If you struggle in any of these areas, especially if you're struggling in more than one, chances are that your hormones are out of balance and that is impairing your natural fat burning ability. We are going to have to fix that if you want to get healthy and lose fat. We will do it by making the right food, exercise and lifestyle choices. Yup, that's right, we will start bringing our hormones into balance through what we eat & how we move. Balancing our hormones is the first and most important step towards lasting fat loss.

Let me say right off the bat that calories DO matter when it comes to fat loss. If you're taking in more fuel (food) than your body needs, the excess will be stored and your body won't go looking for additional energy in your stored body fat tissue. However, calories are just ONE part of the equation, and they aren't the most important part. What matters more? HORMONES.

Seriously. Hormones are chemical messengers. They're constantly assessing the conditions inside and outside your body and firing off signals and instructions based on what they detect. Your hormones determine what your body does with the fuel you're consuming. Your hormones are responsible for instructing your body to either burn fat or store fat. They're determining if you're tapping into muscle for fuel or not. They trigger mood swings, hunger and cravings. They are responsible for your energy, your ability to think clearly (or not), your libido and your metabolic rate. Hormones run the show.

A calorie deficit is not enough. In fact, creating a calorie deficit when your hormones are imbalanced is a recipe for disaster. In response to cutting calories when your hormones are imbalanced gives your body a few options:

1. Slow your metabolism to compensate for the lack of calories (this is pretty common).
2. Burn precious muscle tissue, resulting in weight loss but poor body composition and putting your health in jeopardy.
3. Burn minimal fat while still slowing your metabolic rate and furthering hormonal imbalances.

Sure, you can cut calories without regard to hormone balance. Traditional crash diets or extreme exercise routines will wreak total havoc on your hormones. They'll drain your energy, make you hungry and send your cravings through the roof. Have you experienced that before? I sure have!! Over time, they'll slow your metabolism – that's why people tend to regain the weight they lose on traditional diet programs. Not only that, any weight you are lucky enough to lose is just as likely to be muscle or water as it is fat. That doesn't do good things for the way your body looks, never mind your overall health!

Specific hormonal signals are what allow you to burn fat. Not some arbitrary calorie deficit. To achieve lasting fat loss and stay in fat burning mode you are going to need BOTH a moderate calorie deficit AND hormonal balance. Period.

How The Body Works - Survival Comes First

Your body is designed to ensure your survival. When you focus on creating the largest calorie deficit possible by eating less and exercising more, your hormones create a survival-first scenario in your body. It perceives that fuel is scarce and responds by increasing your hunger, increasing your cravings, slowing your metabolism, releasing stress hormones and holding on tighter than ever to your stored fat in case its needed for survival. Your body immediately sends out smoke signals to get you to eat more. Hunger, cravings & low energy are those smoke signals. Meanwhile, it downshifts your metabolism so you hold on to as much fuel as possible until you start eating more.

On the other hand, there are basic nutritional and lifestyle principles that balance these hormones. They encourage fat loss. They decrease hunger. They reduce cravings. They improve your mood, outlook and mental focus. They increase your metabolism, quench inflammation and help you sleep better at night. They allow you to burn stored fat without hunger, low energy, mood swings and cravings. That's right – the way we eat, the types and quantities of food, create the hormonal environment that determines how we feel and if we're burning fat or storing it.

At the center of this process is the endocrine system. Your endocrine system is a very intricate, complex network of glands and tissues that constantly manufacture, process and deliver hormones. None of these hormones work in isolation. When one hormone is out of balance, it impacts the others. They have a ripple effect on all your other hormones and together they create the picture of your health from weight loss, weight gain, libido, energy, mood, cognitive function and much more.

Proof That Hormones Matter

Just how, exactly, do we know that our hormones influence our ability to lose weight in such a profound way? Let's look at a couple of examples.

Individual A and Individual B weigh the same. Their body composition is the same. Their daily caloric intake and expenditure is exactly the same. Individual A's diet has 70% of calories coming from carbohydrate and 30% coming from protein. Individual B has 70% of calories from protein and 30% from carbohydrate. They are both consuming 2,000 calories per day – will their results be the same? No, most likely not. Why? The hormonal influence is vastly different.

Similarly – let's say they're both on the 70% protein 30% carbohydrate diet. Same calories, same activity level. Individual A sleeps restfully for 9 hours each night while individual B is lucky to get 4 solid hours of sleep. Are their results the same? No, their results probably aren't the same. Why? The hormonal influence is vastly different. Sleep has a tremendous impact on our hormones.

One more example: Leisure walking burns fewer calories than jogging, right? Then why do some people have more fat loss success by incorporating leisure walking than jogging regularly? The hormonal response is vastly different. Leisure walking reduces stress hormones and will likely decrease hunger and cravings while sustaining or even boosting energy. Jogging, on the other hand, is likely to increase stress hormones causing an increase in hunger and cravings and potentially a negative impact on energy levels later in the day. With jogging, you're more likely to experience compensatory eating later in the day or week. One clearly favors calorie burn yet the other favors fat loss in most people.

There is no question that you need to consume fewer calories than your body needs in order to lose weight. However, that is only one small piece of the puzzle. If you focus merely on eating less and moving more, who's to say you're burning fat? You might be burning primarily muscle and never really tapping into your fat stores. Your body weight would go down but your pant size may in fact go up! You might not lose any weight at all, regardless of where it comes from! In fact, a lot of chronic dieters find that they can drastically cut calories and exercise regularly and not experience any type of weight loss. I've been there. It's so frustrating and it's a VERY clear indicator of hormonal imbalances.

Why Diets Don't Work

Traditional dieting is NOT the answer. In fact, traditional diets are CONTRIBUTING to the obesity epidemic! Traditional dieting is not only unsustainable over the long term (and therefore any results are only temporary) but it creates complete hormonal chaos.

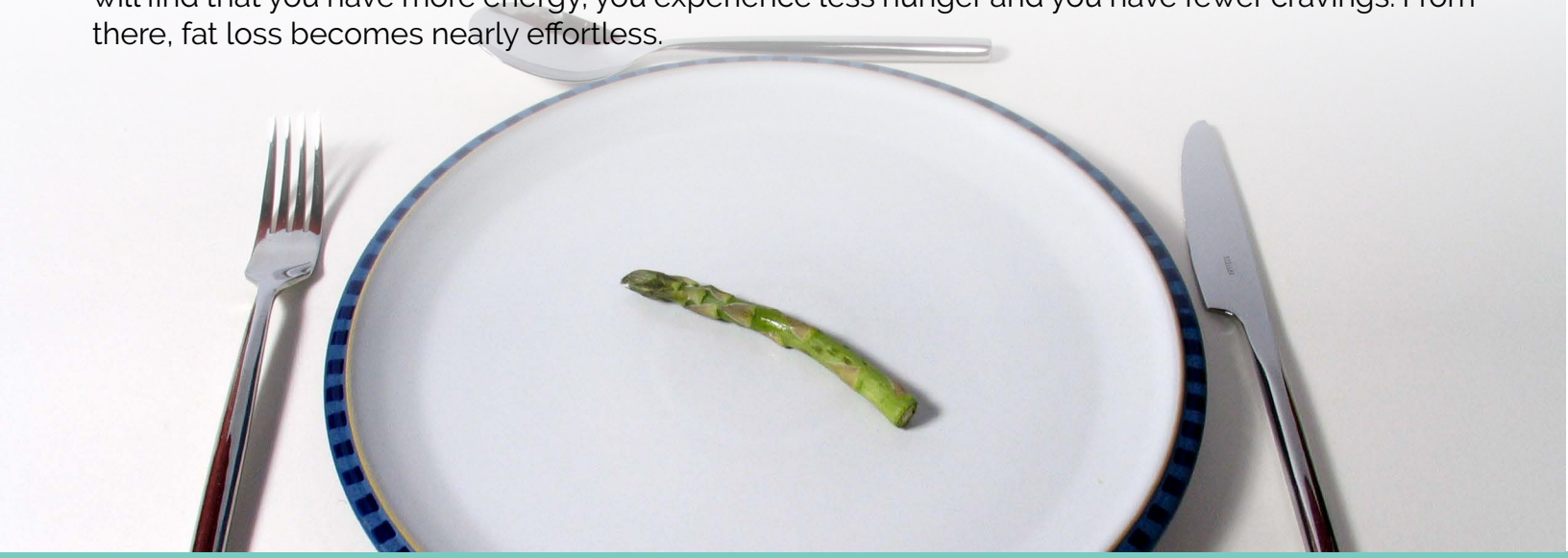
Short term strategies give you short term results.

When you slash calories (the traditional dieting protocol), your body responds by releasing hormones that trigger hunger and cravings. In an attempt to ensure your survival, your metabolic rate will slow and your body will go into fat-storing mode while flooding your system with stress hormones. This hormonal cascade caused by the traditional dieting models triggers depression, anxiety, fatigue, fat storage and suppresses your immune system. Seriously – crashing dieting can make you fat and miserable. Anybody been there?! Besides, it won't yield what you're ultimate after: health & lasting fat loss. So pretty much, it's a big waste of time and energy. There's a better way.

To lose fat you need a combination of moderate calorie deficit and optimal hormone balance. By focusing on whole foods and cutting out processed foods and grains you naturally reduce calories. Most people can eat whole foods to satisfaction, remain satisfied, keep cravings at bay and never need to count calories. Eating whole foods and cutting out processed foods and grains also manages your hormonal response by moderating blood sugar and minimizing the release of insulin. Naturally, without counting or obsessing, you manage your hormonal response and create a calorie deficit.

First Things First

If you want to lose fat and keep it off you need to focus first on getting healthy. Without question, getting healthy requires that you balance your hormones. When your hormones are balanced you will find that you have more energy, you experience less hunger and you have fewer cravings. From there, fat loss becomes nearly effortless.



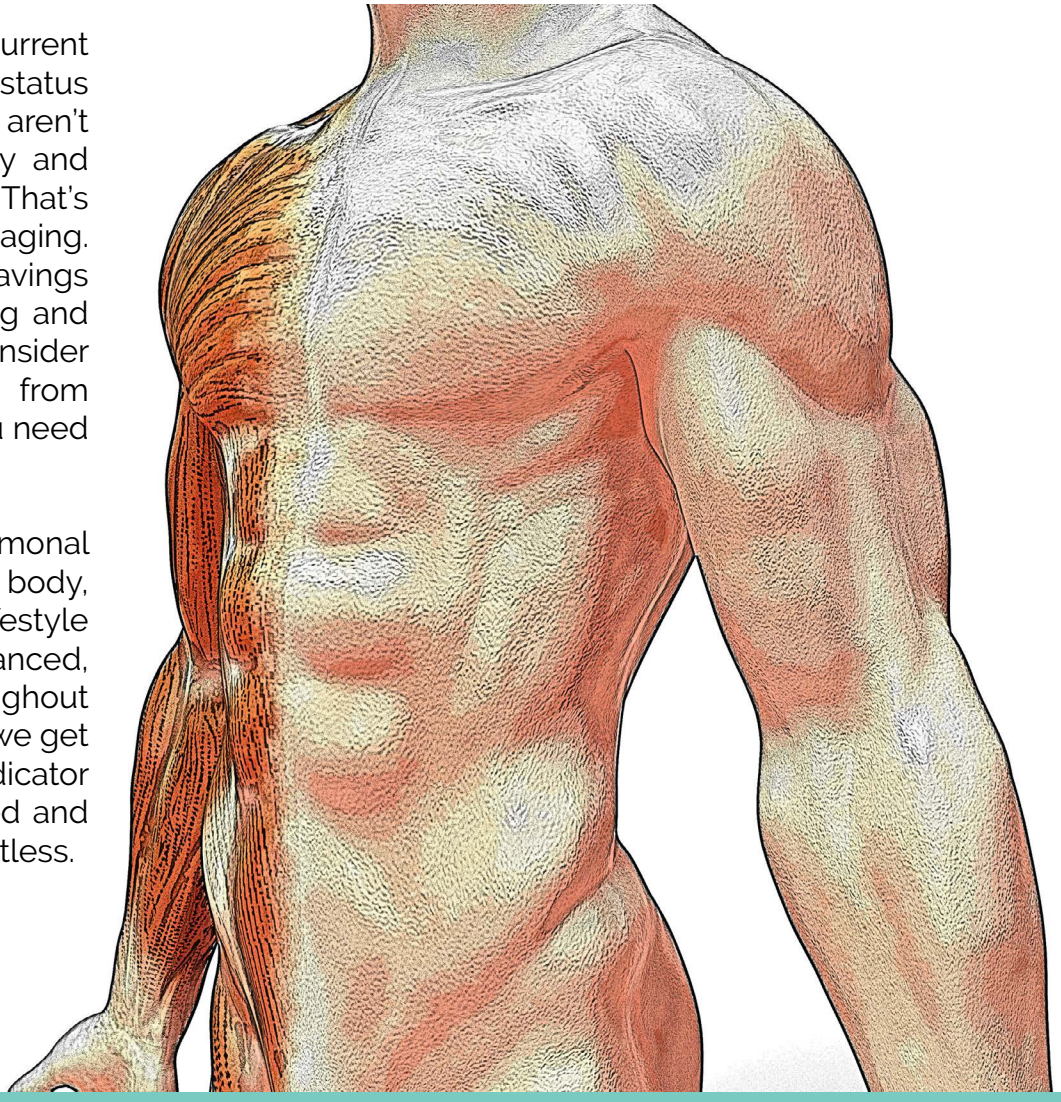
Are You Listening? Your Hormones Are Talking To You!

When I start to talk about hormones, most people will ask, "How do I know if my hormones are balanced? What tests do I need my doctor to perform?" Those are great questions. Sure, you can go to your doctor and get a bunch of blood work done, but you can tell if your hormones are balanced just by paying attention to the signals you receive from your body every day. It's true! Things we feel (and often ignore) every day are actually hormonal signals intended to keep us healthy. We just don't know that we're supposed to be paying attention and most of us don't know what signal is tied to what hormone and how we can influence it with our diet & lifestyle choices.

The human body is FANTASTIC about communicating when things are right or not so right! You just have to know what the signals are and what they mean. Your hormones are constantly signaling your body based on internal and external triggers. More often than not, we can feel and sense those signals. Shifts in your hormones will cause changes in your hunger, stress level, energy level and cravings. If we understand which hormone triggers which sensation and why, we can respond intelligently and encourage our hormones to work in our favor and not against us.

You may have accepted your current energy and stress levels as the status quo. But here's the thing: you aren't SUPPOSED to be tired, hungry and stressed. That's not normal. That's not an acceptable part of aging. Improving your energy levels, cravings and mood comes via managing and optimizing your hormones. Consider those feelings smoke signals from your body, warning you that you need to make some changes.

When we're in tune with the hormonal signals we're receiving from our body, it's far easier to make food and lifestyle choices that will help us feel balanced, energized and satisfied throughout the day. That is the goal. When we get to that point, it's a reliable indicator that our hormones are balanced and fat loss will become nearly effortless.



Assessing The Conditions

To begin to understand the state of your hormones, you're going to have to start paying attention to the sensations they most obviously influence: hunger, mood, energy, stress level and cravings. At every meal, I'd like you to write down everything you eat and rate your hunger, mood, energy, stress level and cravings. Let's look a little closer at each of these items.

Hunger is the physical sensation your body sends when you need to eat or it senses that not enough fuel is available. Hunger doesn't always indicate the need to eat. It might be a stress signal based on a particular hormonal imbalance. Beyond that, do not confuse hunger with cravings. Cravings are more psychological and behavioral whereas hunger is a physical sensation. Several different hormones influence hunger and when we evaluate our hunger levels throughout the day we can learn a lot about which of our hormones might be imbalanced. On a 1-10 scale, 1 would indicate no hunger at all and 10 would indicate ravenously hungry. Prior to eating, rank your perceived hunger on a scale of 1-10.

Monitoring changes in your energy level throughout the day and in response to food will help complete the picture of what's going on with your hormones. It is not only possible, but also optimal, to wake up energized and remain energized throughout the day (without relying on stimulants!). By identifying how your current eating habits impact your energy levels we can easily make adjustments and improvements. On the 1-10 scale, 1 would indicate extremely low energy and 10 would indicate bouncing off the walls and ready to take over the world.

Cravings are different from hunger as they are primarily psychological and/or behavioral. When you know you aren't hungry but you're just dying for a chocolate bar, that is a craving. When you just finished breakfast but can't stop thinking about the donuts, that is a craving. Cravings are often for something in particular – sweet, salty, crunchy. Cravings are often influenced by behavior patterns such as sitting on the couch to watch TV, but imbalances in several hormones can send your cravings through the roof. Not only that, but certain hormones are responsible for increasing cravings for specific types of foods. On the 1-10 scale, 1 indicates no cravings and 10 indicates extreme cravings.

Your stress level is constantly influenced by your lifestyle and circumstances and fluctuates throughout the day. Like energy and cravings, your stress level provides tremendous insight into the state of your hormones. Chronic stress has a hormonal cascade effect, wreaking havoc throughout your body. There's no denying that some stress is unavoidable but we can work to change our response to stress and make specific diet and lifestyle choices to minimize stress and reduce its impact on our body. On the 1-10 scale, 1 indicates stress free and 10 indicates extremely stressed.

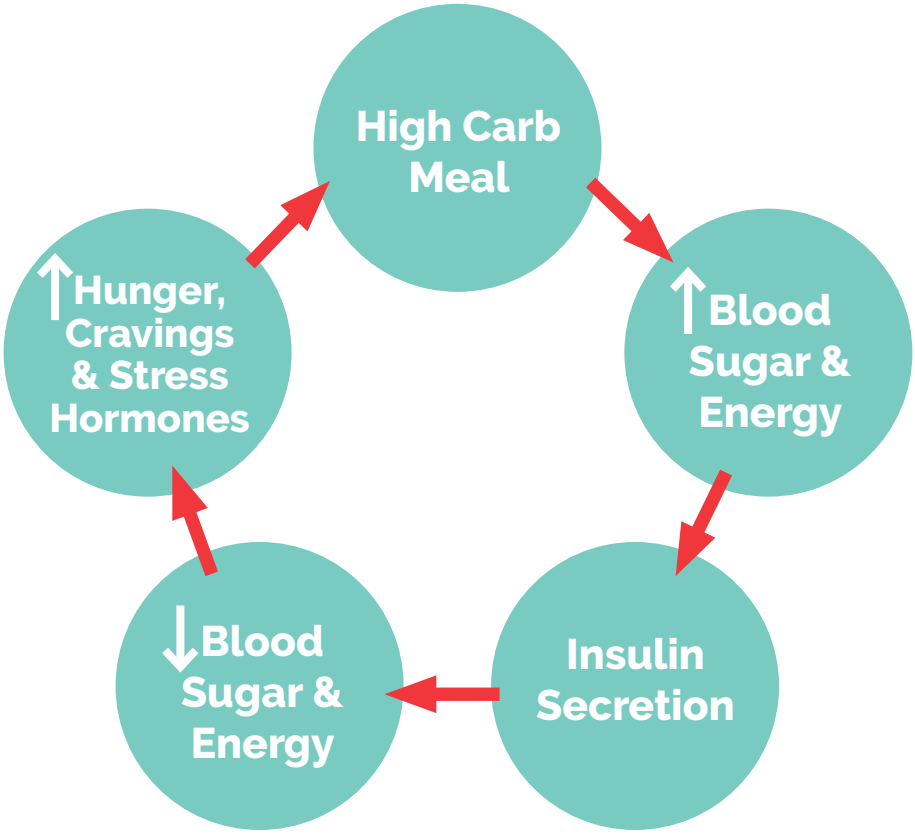
Prior to eating every meal and snack, rank these areas on this 1-10 scale. Be sure to document every food and drink you've consumed. This food journal will become one of the most powerful tools at your disposal when it comes to having the information you need to balance your hormones and lose fat.

The Vicious Carbohydrate Cycle – It's Making You Fat and Hungry!

Does this sound familiar? You wake up in the morning, exhausted and hungry. You wish you could go back to sleep for another hour or two but unfortunately that's not an option. You trudge downstairs and pour yourself a large bowl of cereal while you brew an even larger cup of coffee. You mindlessly wolf down your cereal and then go about your day. Your energy picks up a little bit and you're feeling all right. About an hour later you realize you're hungry again. What the heck? You practically just finished breakfast?! Already in the full swing of your day, you've started to feel fatigued and you grab a granola bar to silence your rumbling tummy and give you a little pick me up. It works for a couple of hours. Then, barely lunchtime, you're starting to crash. You get a sandwich and fries with a colleague and feel ready to tackle the afternoon. That is, until about 3pm when you just want to put your head on your desk and take a nap. You're tired, you're hungry and you've got a killer craving for something sweet. You inventory the vending machine at work and decide on a little pack of cookies. It gives you the boost you need to get through your afternoon, until dinner, that is…

Welcome to the carbohydrate cycle. Yup, that's what you and most Americans are living in. The vicious cycle of hunger, cravings, rapid energy swings and accelerated fat storage. Here's what's really happening and why you have a hard time breaking free.

When you wake up in the morning, your blood sugar and insulin levels are low because you haven't eaten in many hours. Your body, built for survival, sends signals to your brain that fuel is needed. Low levels of insulin signal your brain to trigger hunger and carbohydrate cravings. Why carb cravings? Because carbs will provide a rapidly available fuel source because they are metabolized faster than fat or protein. Not knowing any better, you respond to the hunger and cravings by eating carbohydrates. They are quickly broken down and raise your blood sugar fast. This gives you a little burst of energy and, for a few moments, relieves your hunger. Unfortunately, as quickly as they raise your blood sugar, insulin responds and clears it out, dropping your blood sugar rapidly. Now we're back to where we started! Low blood sugar, low insulin and your hormones signaling your brain to trigger hunger and carbohydrate cravings. All this excess carbohydrate you're eating is certainly not needed for fuel (unless you're running a marathon that day) and so insulin takes that excess sugar and happily stores it as fat.



So how do we break free from this unfortunate cycle of hunger, cravings, energy swings and fat storage? We pay close attention to those signals our body is sending us and we respond intelligently.

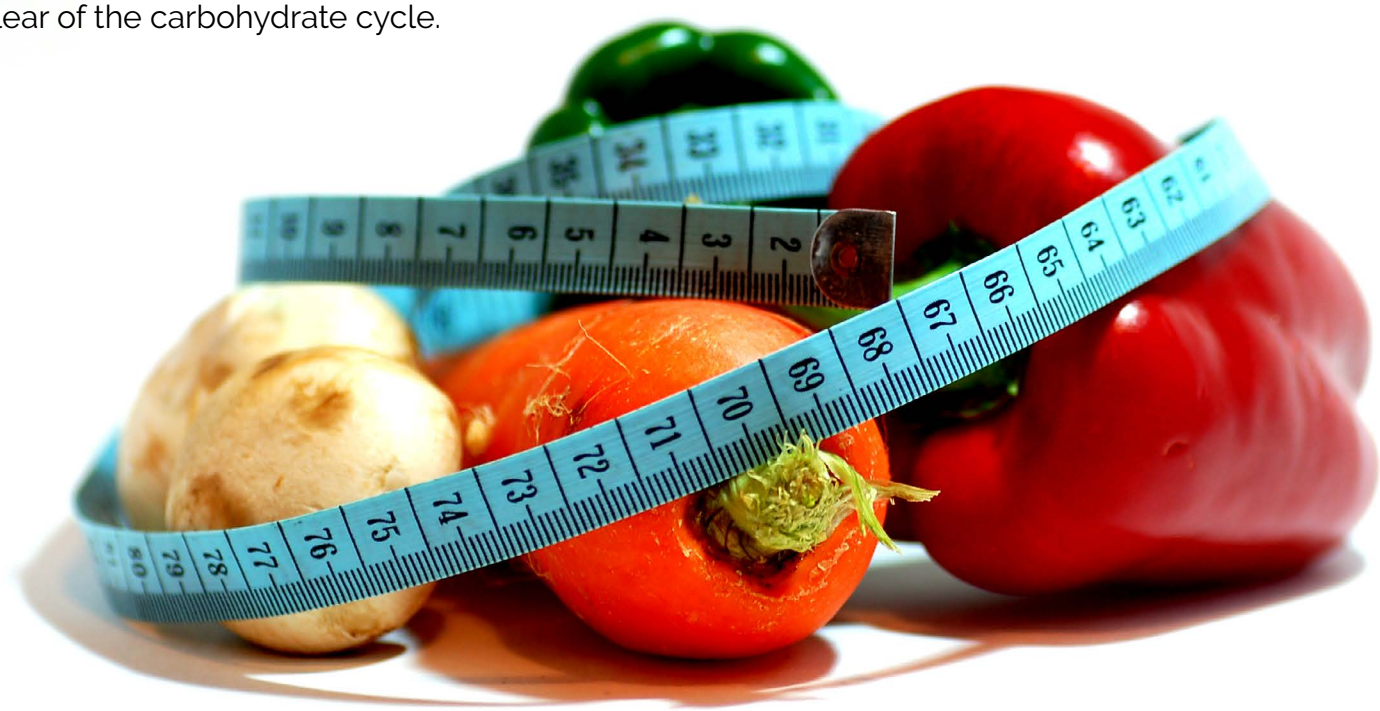
First and foremost you'll want to avoid the rapid spike in your blood sugar.

While yes, it will increase your energy and silence your hunger, what goes up must come down and it will cause your energy to crash while triggering hunger and carb cravings. The easiest way to avoid those rapid spikes is to avoid processed foods, limit high carbohydrate foods like wheat, rice, oats, pasta and be sure to include protein or healthy fats at every meal. Protein and fat metabolize more slowly than carbohydrates and they aren't broken down into sugar, so they help you avoid that spike in blood sugar.

Second, when you do notice those sensations of hunger and cravings, realize that you have the choice to either enter the carbohydrate cycle or not. Entering it means hunger, cravings and a significantly reduced ability to burn fat. Not entering it means sustained energy, no hunger, reduced cravings and an increased ability to burn fat. You do NOT want to just ride out the hunger and be miserable and hangry (hungry + angry).

Choose foods that will satisfy your hunger without causing a spike in your blood sugar. For example, if you wake up hungry, opt for an omelet with lots of veggies and a slice of bacon. If you don't have time for that, mix up a protein shake with some almond butter. When you hit that mid-afternoon energy slump, don't run for the vending machine. Be prepared with some beef jerky, some hard-boiled eggs or a handful of nuts.

The key to breaking free of the carbohydrate cycle is to understand the difference between what your body needs for energy and fat loss as opposed to what your body seems like it wants. Don't ignore hunger and cravings but don't respond instinctively, either. Now that you know how and why your body will signal you to eat, give it what it needs to keep you healthy, lean and satisfied. Steer clear of the carbohydrate cycle.



Insulin Control: Fundamental For Fat Loss

I never gave insulin much thought. I assumed insulin was something only diabetics needed to be concerned with. I wasn't diabetic; my blood sugar levels were within the normal range so I never imagined that I might have a problem with insulin. I think most of us probably feel the same way. Here's the truth: if you want to be lean or healthy, you need to understand and control insulin. If you're carrying extra weight and having a hard time getting it off, you MUST pay attention to insulin. It's not optional. Insulin is the single most influential hormone when it comes to fat loss. Lack of insulin management will have a trickle down effect, sending all of your hormones into chaos and making your weight loss an unnecessary uphill battle.

Insulin became a problem for me (without me knowing it) because I spent years in the carbohydrate cycle. My body was overproducing insulin and unbeknownst to me, that was at the foundation of my weight gain, constant hunger and insatiable cravings.

So let's dive in and tackle the fundamentals of insulin, shall we?

What It Is

Insulin is considered a storage hormone. More precisely, insulin is an anabolic hormone. Insulin builds things up. This can include your muscle tissue or your fat tissue. Insulin is critical for healing, repair and recovery within our bodies.

Insulin's primary job is to respond to high blood sugar and usher it out of the blood stream and put it somewhere fast. Insulin ushers sugar in the blood to into storage somewhere else in the body. Sugar must get out of the blood quickly. If it doesn't, it can create serious health problems, so insulin's job is really important! When insulin responds to high blood sugar, it has a few choices when it comes to determining where to store the sugar (aka glucose). Whatever is needed for IMMEDIATE energy is burned as fuel, but the rest has to be stored.

What It Does

Insulin has a few storage options for sugar. The first place it's going to try to take it is to your muscles. Excess sugar is stored in the muscles in the form of glycogen (just longer chains of simple sugars). This storage space is important because it acts as a reserve during physical activity. It's instant fuel for your muscles. It's very easy for your body to tap into, but the reserve space is limited. If you eat a high carbohydrate diet (or even a moderate carbohydrate diet) and you aren't exercising regularly, chances are that this storage space stays pretty full. When it's full, insulin will try to usher the blood sugar to its next option: the liver.

Like your muscle storage, the liver storage space is very limited. In fact, your body's total short-term storage capacity between the liver and muscles is only about 400 grams. That's not much at all! And that's not a daily limit, that's a TOTAL limit. When you aren't constantly burning through those glycogen stores, any and all additional carbohydrates consumed spill over. "Spill over where?", you might be wondering. Well, when your body doesn't need immediate fuel and the muscle and liver

storage space is full, the glucose is converted to triglycerides (fat) which either keeps circulating through your blood or is stored in your adipose tissue as body fat. So, in short, it spills over into FAT. Here's the bad news: the storage capacity for body fat is unlimited. And, unlike the liver and muscle glycogen stores that are easily accessed and used as fuel, stored body fat is NOT readily accessed for fuel. Your body holds on to it pretty darn tight. It's tough to get rid of.

Insulin and Fat Burning

You are either in fat-storing mode or in fat-burning mode. You're always in one or the other and you cannot be in both. The determining factor? Insulin. When insulin is elevated, you cannot burn fat. It puts your entire body in storage mode.

Let me break that down a little further because it generates a lot of questions. Remember how I said that insulin is a storage hormone? It is classified as an anabolic hormone because its role is to make things bigger and deliver fuel to different parts of the body. Because insulin is an anabolic hormone, the mere presence of insulin tells the body that an anabolic process has taken over and all catabolic (breakdown) processes need to stop. Think about it – you can't throw a ball up and down at the same time. It's either going up or it's coming down. Insulin puts your body in anabolic mode. You can't be in catabolic mode at the same time. Fat burning (and weight loss) is a catabolic process. The presence of insulin turns it off.

If we think about it from a common sense perspective and leave the science out of it, it makes a lot of sense. The presence of insulin sends the message to the rest of your body that there's plenty of fuel available (via the sugar its trying to store) so there's no need to tap into fuel reserves for energy. The body will burn down stored body fat when extra energy is needed. Insulin indicates that extra energy is NOT needed because there's already an excess of sugar in the blood.

It's important to note that insulin doesn't stay elevated forever. That is how people are able to eat carbs and still burn fat. There are a few different factors that go into consuming carbs and avoiding weight gain or fat gain. We'll get into them in a few minutes but here's a quick overview:

1. Avoid eating so many carbs that they spillover
2. Regularly turn over your muscle & liver glycogen stores so that carbs consumed are stored in muscle tissue or liver storage instead of as body fat
3. Be in peak hormonal shape so your body is VERY sensitive to insulin. This means that the body will only produce a tiny amount of insulin in response to carb consumption and your muscles & liver respond immediately to it. This peak hormonal shape means that insulin is not elevated for long and you can return to fat burning mode very quickly. We're going to talk much more about this one.

The problem is that many people who struggle with their weight are not in peak hormonal shape and their bodies are not very sensitive to insulin at all. That makes weight loss extremely challenging. Let's look at that situation more closely now.

Chronically high insulin from consistent carbohydrate consumption is obviously bad news for fat

loss, but it's terrible for overall health as well. And it does far more than just inhibit fat loss. Let's take a closer look at the ripple effect of chronic carbohydrate consumption and elevated insulin.

What Goes Wrong

1. Chronic high insulin levels cause your cells become resistant to insulin. It's always around, so they stop responding. You know how after listening to loud music for a while it doesn't seem so loud? The same thing is happening to your cells. Insulin is always around sending these loud signals and your body just gets used to it and begins to ignore it. When your cells stop responding to insulin, not only does your blood sugar remain high, but your body perceives that it needs more insulin and keeps producing more and more, creating a cycle of increased fat storage, impaired fat burning and excess insulin production. Insulin resistance prolongs the amount of time during which your body CANNOT and WILL NOT go into fat burning mode.
2. When insulin resistance prevents glucose from getting into your cells, your cells think there isn't enough glucose in your body and so they initiate a process called gluconeogenesis. Gluconeogensis is the process of generating more glucose and dumping it into the blood stream for energy. Of course this energy isn't needed and likely gets stored as fat. In this case, you aren't even eating anything but you're likely gaining more weight and becoming less healthy!
3. Your blood sugar stays elevated for longer than normal since insulin can't efficiently clear it. This leads to the formation of advanced glycation end products (AGEs). Advanced glycation end products accelerate aging (the acronym is pretty appropriate, huh?) by triggering inflammation, neuropathy (numbness in your hands and feet), fine lines and wrinkles and much more.
4. Chronically elevated insulin triggers systemic inflammation, which may lead to heart disease, impaired blood flow and autoimmune diseases. Inflammation is the starting point for just about every degenerative disease we know of.
5. Your pancreas will eventually get tired of over-producing insulin. Remember that it is overproducing insulin because your body isn't responsive to it. More and more insulin is required in order to get your body to respond. When this happens, you may become "insulin dependent" – requiring injections of insulin to help control blood sugar because your body just can't keep up with production anymore. Yes, this process takes a while but if you don't break free of this carbohydrate cycle, that's where you're headed.
6. Excess insulin wreaks havoc on your other hormones. It can decrease your body's production of growth hormone, which is essential for energy, repair, metabolism, immunity, libido and much more.
7. Insulin resistance decreases certain thyroid hormones, slowing your metabolism while increasing fat storage and decreasing your energy levels.
8. Elevated insulin decreases sex hormone synthesis, which negatively impacts your menstrual cycle, fertility, mood, sex drive and energy levels.
9. Chronically elevated insulin encourages fat storage. The more body fat you have, the more of the hormone leptin you produce. Just like you can become insulin resistant, you are likely to become leptin resistant as you gain weight. Leptin is responsible for signaling the brain that you've had enough to eat. When you're leptin resistant, your brain has a hard time receiving those signals and you don't experience that "I'm full" feeling. This creates an unfulfilling cycle of

overeating and overindulging.

10. Elevated insulin prevents the hormone glucagon from doing it's job. Glucagon is a hormone that is required for fat to be allowed to leave fat cells and travel to be burned as energy. Glucagon will not operate in the presence of elevated insulin. Remember, this is because insulin puts your body in anabolic mode and turns off catabolic processes. Glucagon is a big player in this catabolic process so it does not function when insulin is around.

Scary stuff, huh? The reality is that this is what is happening to your body when you eat a high carbohydrate diet rich in processed foods. It's compounded if you're eating poorly AND not exercising.

The GREAT news here is that most of us have the power to control our blood sugar, moderate our insulin release, make our bodies highly sensitive to insulin and become a fat-burning machine!

When your body is highly sensitive to insulin, it signals your genes to create more receptor sites for insulin making you even MORE sensitive to insulin!

When you exercise regularly, you repeatedly deplete the glucose stored in your muscles and liver, allowing your next meal to refill those stores instead of being stored as fat. Your body becomes highly efficient at utilizing nutrients and drawing on fat stores for additional energy needs.

Sensitivity vs. Insensitivity – The Advanced Class for Insulin Control

Alright, let's break this down a little further. Clearing the excess sugar from the blood is super important. Whatever is not immediately needed for fuel gets stashed away, right? When fat loss is the goal, of course we want that "extra" to be stored in our muscle or liver tissue, not body fat. Essentially, we want our muscle tissue to be incredibly sensitive to the presence of insulin so that with just a tiny rise in insulin, the muscles eagerly welcome that glucose. The more responsive our muscle tissue is, the less likely we'll get into that spillover situation.

On the other hand, when insulin comes knocking on the door of our fat tissue with extra energy to store, we don't want our fat tissue to respond so openly. Bottom line, we want our muscle tissue to be very sensitive to the presence of insulin and we want our fat tissue to be less sensitive. Guess what? We can create that!!

Here's how it works: insulin, acting as the usher for that excess glucose in the blood, comes knocking on the door of the muscle tissue with energy to deliver.

There are these little things called glucose transporters that we'll consider the doorway into the cell. They're referred to as GLUTs for short. There are different types of GLUTs in different types of tissues, but we'll keep it simple for the sake of explanation. The more GLUTs we have in the muscle tissue, the more doorways there are for this glucose. This means we can get more glucose into the muscle tissue faster. That is a great thing for two reasons:

1. Insulin stays elevated for a much shorter period of time so we can get back to fat burning mode

2. Less glucose is potentially left out in the blood looking for another place to be stored (ie, body fat)

We have the power to do two different things: We can increase the total number of GLUTs in our muscle tissue and we can increase their sensitivity to the presence of insulin so they are more responsive. These are ways that we make our muscle tissue more insulin sensitive. Here's how we do it: Weight training. Yup. It's true. Lifting weights increases the total number of GLUTs in our muscle tissue and makes them more sensitive.

There is a flip side that you need to be aware of. When we are sedentary and avoid regular physical activity, our body actually decreases the total number of GLUTs in our muscle tissue. We aren't using them so we lose them. The bottom line is that activity helps & inactivity hurts. Inactivity is not neutral. It actually works against you.

There is a caveat to taking advantage of your muscle tissue so you can enjoy carbs without storing fat:

1. This storage space is limited. You can't chow down on pasta morning, noon & night and assume it is all going to the muscle tissue. You still have to be moderate.
2. You have to make sure there is room available. You have to force your body to tap into this storage space to make more room available. The best way to do this is with weight training and high intensity interval training (short duration/high intensity workouts).

Making A Difference – Controlling Insulin For Health & Fat Loss

Carbohydrates control insulin and insulin controls fat storage. Your dietary choices determine whether or not you're allowing insulin to work for you. You're either eating to trigger fat storage, accelerated aging and inflammation or you're eating to burn through your fat stores.

- Eat to control your blood sugar. This means avoiding processed foods, wheat and grains. Build your meals around healthy fats, protein and vegetables. When you eat carbohydrates from natural sources, be sure to pair them with either fat or protein to blunt the impact on your blood sugar.
- Aim to workout a minimum of three times each week. Be sure to include weight training. This will work to deplete your glycogen stores and teach your body how to be energy efficient by increasing the total number and sensitivity of your GLUTs.

Leptin

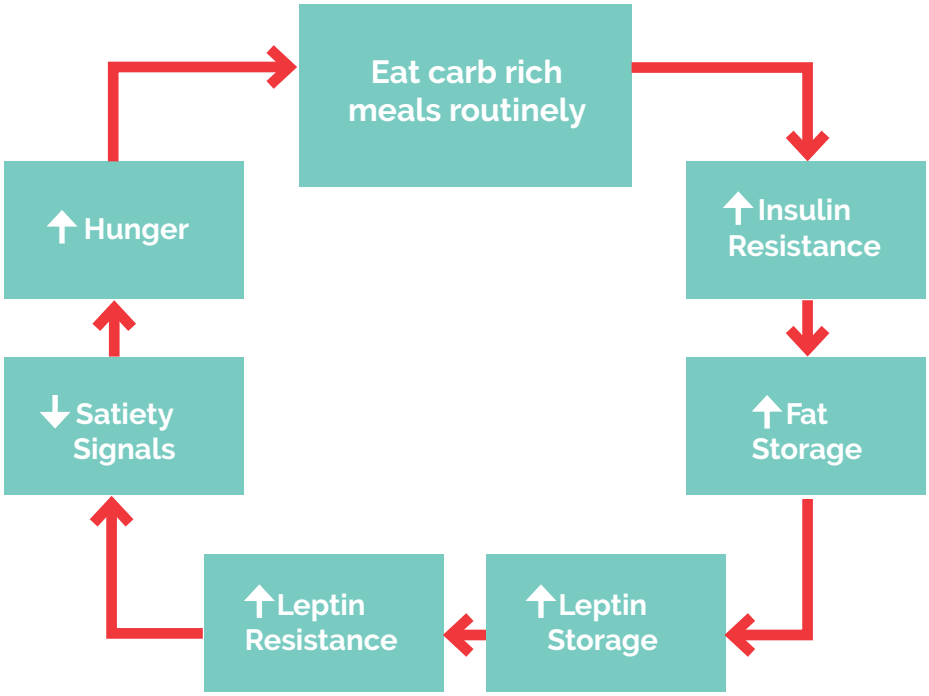
Leptin is at the top of the fat loss hormonal hierarchy. It might as well be lumped in with insulin because its influence on fat loss is overwhelming. Here's the thing about leptin: it's JOB is to keep you from storing too much fat. Unfortunately, when it's signaling ability gets screwed up, it can make it very difficult for you to release and burn fat.

What It Is & What It Does

Leptin is released by our fat cells. Consider it the "hall monitor" of fat accumulation. When you start accumulating excess body fat, your fat cells release leptin to signal the brain that plenty of fuel is available. This signal then kicks off a cascade of events to decrease your hunger and increase your metabolism (via stimulating your thyroid and adrenals). Leptin tries to act as your internal fuel gauge. Plenty of fuel stored in your body fat? Better tone down hunger and kick metabolism into high gear!

On the flip side, when there aren't an excess of fat cells secreting leptin, the low leptin levels communicate to the brain that there isn't enough energy stored and so your appetite is stimulated and your metabolic rate is slowed down. In short, the way leptin is intended to work is by triggering hunger & cravings and down-regulating metabolism when you don't have adequate body fat storage and silencing hunger & cravings while up-regulating metabolism when there is enough body fat storage.

What Goes Wrong



Sounds like a pretty perfect system that should keep anyone from gaining too much weight, right? Unfortunately, just like what happens with insulin, we fuel our bodies so poorly that leptin's ability to signal goes very wrong. Just like we have the carbohydrate cycle, there is a similar cycle I've put together to show how chronically high carbohydrate diets and high insulin levels impair the proper function of leptin in a big way.

Let's look at what happens here – and remember – this is what happens over time, leading to excess weight gain, insulin resistance and ultimately leptin resistance making it hard for overweight and obese people to break the cycle and successfully lose weight.

So you'll recall that when we routinely eat high carbohydrate diets, especially processed, cheap carbohydrates that send our blood sugar through the roof, our body becomes far less sensitive to the presence of insulin. This is what we call insulin resistance and it causes our body to store more fat. More fat means that more leptin is going to be released because leptin is released by our fat cells. Well, as you continuously pile on more fat cells, leptin secretion continues to rise. The same thing happens that we see with insulin. Leptin is always around and your body tunes out the signals it is sending out. Leptin resistance and insulin resistance go hand in hand.

Why You're Still Hungry!

When you are leptin resistant to any degree, your body won't receive the satiety (fullness) signals it is supposed to. You can eat in excess without feeling full. Your hunger mechanisms are rarely turned off. Your metabolic rate slows because you aren't receiving those messages that ample fuel is available so your adrenal and thyroid function slow down. You eat more, you are highly likely to store the food you eat as excess body fat, and you rarely feel satisfied.

Managing Your Leptin Response

There is good news. As with insulin, we have a tremendous amount of control over the action of leptin through the food we eat and the lifestyle habits we adopt. Because leptin is so significantly impacted by insulin, one of the most important things you can do to encourage healthy leptin signaling is to control blood sugar. A quick reminder on how we can control blood sugar:

- Reduce or eliminate processed foods
- Reduce or eliminate wheat and grains
- Focus on whole foods such as vegetables, fish, beef, poultry, nuts, seeds and some fruits
- Eat protein and healthy fats at every meal
- When you are ready, incorporate high intensity interval workouts 2-3 times each week. Include weight training.
- Keep your sugar intake low – even natural sugars like honey. Sugar should be an occasional indulgence – not daily.

These metabolic hormones are all closely intertwined. We've talked about how insulin and leptin go hand in hand but you also see that leptin function influences your thyroid hormones and your adrenals. You cannot address one without impacting the other. If you do damage to one, it will impair the others. Remember that while calories do matter, you can't make lasting progress without working towards balancing these critical metabolic hormones.

Cortisol

What It Is

Cortisol is a hormone that belongs to a group of hormones known as glucocorticoids. This term, glucocorticoid, is important because the word itself indicates cortisol's ability to raise our glucose levels. Since we now understand the role that blood sugar plays in both our overall health and our ability to lose fat, we can start to imagine how this hormone may impact our fat loss goals. Cortisol is produced by the adrenal glands in response to physical and emotional stress.

What It Does

Cortisol's fundamental role is to help us survive in times of stress. It controls blood pressure, our sleep/wake cycle, blood pressure, digestion and of course our stress response. In response to stress, the adrenal glands release cortisol for two primary purposes:

1. To increase blood sugar so our muscles have adequate fuel to escape/survive the threat
2. To increase blood pressure so you have more oxygen pumping through your system to fuel your muscles

You can imagine how this backfires when we are chronically putting ourselves under physical or emotional stress!!

What Goes Wrong

Our stress response was designed to protect us from danger and help ensure our survival. Unfortunately, we were designed to only withstand short bursts of stress (like being chased by a tiger). Our stress response was designed to trigger sensations of urgency and alarm while increasing blood flow to help us outrun said tiger, and live. However, the standard American lifestyle of chronic, prolonged stress leads to a metabolic nightmare where those systems in place to protect us work to keep us fat, hungry and anxious. Many of us live in a state of constant stress. Our cortisol surges never turn off.

The presence of high cortisol levels signals your body that a threat is imminent. In times of threat, your body certainly doesn't want to allow fat burning because you might need those energy reserves to combat the current threat.

It increases glucose production and release, increasing both blood sugar and triggering the release of insulin. It can also suppress your immune system, encouraging all your body's resources to be ready and available to fight this threat, not off spending energy on something non-essential like digestion or fat burning.

A second stress hormone, neuropeptide Y, is also released in response to chronic stress. Neuropeptide Y decreases your overall metabolic rate, increases the rate of fat storage, especially in and around the abdomen, and triggers hunger and cravings for high sugar and high fat foods.

This is a particularly dangerous situation when you consider some of the other effects of chronically elevated cortisol: it depletes serotonin, contributing to feelings of sadness and anxiety and blocks the messages sent by leptin, preventing your brain from letting your body know that you've had enough to eat and triggering feelings of satiety (fullness).

Cortisol also works differently depending on what other hormones are hanging around. If cortisol is high when insulin is high you can kiss your fat loss goodbye. That is why it's best to avoid carbohydrates in the morning because you'll spike insulin at the time of day when cortisol is at it's highest (it naturally peaks around 7am). Combining high insulin levels with high cortisol levels turns fat release and burning OFF while turning fat storage on high.

How Cortisol Can Help

When functioning as intended, our stress response can actually help us to burn fat faster. That's why high intensity interval type exercise (HIIT) is so effective for fat loss. It engages this short-burst stress response that accelerates fat release and burning while preventing fat storage. When cortisol levels are chronically high it does the opposite of what it's intended to do – it ramps up fat storage and slows down fat release and burning in an attempt to reserve all fuel for fighting this perceived threat.

On the other hand, when cortisol is elevated in the presence of adrenaline and human growth hormone (and insulin is not around!) then you've got a great environment for fat release and burning.

Making A Difference – Making Cortisol Work For You

- Avoid processed foods, wheat and grains to keep insulin low.
- Minimize stress to avoid prolonged high cortisol levels
- Engage in high intensity, short duration exercise to create the environment of elevated cortisol with human growth hormone and adrenaline.
- Get enough sleep. This is a very individual thing but shoot towards 8 hours each night.
- Don't go overboard with caffeine. This elevates cortisol.
- Engage in relaxing activity each day. Try leisure walking, meditation, naps, sex, deep breathing or spending time with friends, loved ones or pets.
- Don't sweat the small stuff. I know it's easier said than done, but when you look at the serious health implications of chronically elevated cortisol, is getting stuck in traffic really worth stressing over?

Managing cortisol can have a massive impact on the success or failure of your fat loss efforts. Remember that none of these hormones work in isolation. If any one of your metabolic hormones is out of whack, the entire communication network is in jeopardy.

Ghrelin

Ghrelin is a hormone secreted by your stomach that is responsible for making you feel hungry. Understanding what triggers ghrelin helps us to control and minimize both hunger and cravings.

Increased ghrelin levels trigger your brain to stimulate hunger. It also encourages your body to store fat in your abdominal region. When we control our ghrelin levels, we control our hunger, our cravings and how quickly or slowly hunger returns after we eat. Low levels of ghrelin have the opposite effect – they minimize our hunger and cravings.

Here are some strategies to consider to help keep ghrelin levels low and hunger and cravings at bay.

- Avoid severe caloric restriction. Low calorie diets increase ghrelin production.
- Eat your veggies. Non-starchy vegetables like Brussels sprouts, broccoli and cabbage are high in both water and fiber. They stretch out your stomach, which lowers your ghrelin levels and keeps them low for longer.
- Eat protein and healthy fats with each meal. This slows the digestive process and slows the rate at which food is emptied from your stomach. The longer you have food in your stomach, the longer your ghrelin levels stay low and the longer you have before hunger returns.
- Avoid fructose, especially from processed foods, soft drinks and fruit juice. Yes, fructose is found in fruit but is most concentrated in processed foods in the form of high fructose corn syrup. Fructose raises ghrelin levels, making you feel hunger, and it also lowers leptin levels, preventing you from feeling full.
- Eat often, especially when you're starting out in your fat loss journey. You'll be best served to eat every 3-4 hours. This will help keep your ghrelin low and your hunger and cravings to a minimum.
- Avoid chronic stress. We all need to work on this one, but chronic stress increases ghrelin production.
- Exercise regularly, especially in the form of high intensity intervals and weight training. These activities increase our production of human growth hormone, which inhibits ghrelin.
- Make sure you're consuming adequate omega 3 fatty acids, especially EPA and DHA from oily, cold-water fish like salmon, sardines, anchovies or mackerel. Studies have shown that insufficient omega 3 intake increases ghrelin production.

Being hungry and battling intense cravings makes fat loss harder than it needs to be. Controlling hunger and cravings can make healthy eating almost effortless.

Thyroid

The thyroid hormones tend to get the most attention from the general public when it comes to weight loss. You hear people say all the time that they struggle with their weight because they have a "slow thyroid" or something to that effect. There is no doubt that thyroid hormones play a major role in both weight loss and weight gain. They are significantly impacted by insulin, cortisol, leptin, and the other metabolic hormones.

What It Is

Think of your thyroid as your body's metabolic thermostat. Your thyroid is a gland that secretes hormones that influence the function of pretty much every cell in your body.

When your thyroid is functioning optimally you feel energetic, vibrant and optimistic. When it's not functioning optimally you can feel tired, depressed, sluggish and foggy while experiencing weight gain, bloating and trouble regulating your body temperature.

What It Does

There are several thyroid hormones and they all function differently. They are produced and released based on signals the thyroid receives from the brain. Your thyroid is extremely sensitive to external inputs such as diet, environment, stress and toxins. Suboptimal diet and lifestyle choices can wreak havoc on your thyroid.

Let's talk about several thyroid hormones and how they are different from one another. T3 is the hormone we're typically referring to when we think about metabolism. It is an active hormone that regulates your body's fuel usage and temperature. T4 is the inactive precursor to T3. T4 must be converted to T3 to be impactful. Although T4 makes up more than 90% of your thyroid hormones, its really just sitting, waiting to be converted to T3 so it can get in the game and make a difference. Reverse T3 is also inactive.

Your thyroid responds to stress, injury, illness or calorie restriction by producing reverse T3 – a subtle way of slowing thyroid function and metabolism so the body can conserve energy for healing.

All three of these hormones need to be successfully produced and they need to be produced in the proper ratios. If the overall amounts or the ratios are off, your thyroid function will be impaired.

Producing these hormones in adequate amounts and proper ratios is not all that is required for your thyroid to function optimally. The hormones must be successfully released from the cell and they must successfully attach to the precise receptor on the cell it is targeting. All those factors must be in place or else you'll impair thyroid function.

What Goes Wrong

Remember that your body is designed for survival. When you drastically reduce your calorie intake,

your thyroid function slows down. Why? Because your body senses that fuel intake is limited and it doesn't want to allow you to burn off your stored energy in case you need it. When you slash your calorie intake, your thyroid hormone production is reduced and much of the thyroid hormone you will produce and release will be the inactive form. This is your body's way of conserving energy in times of perceived threat. Thyroid hormones control your body's response to stress, injury, illness and calorie restriction by slowing your metabolism to allow your body to conserve energy.

The responses of your thyroid are defense mechanisms to keep you alive and healthy. Unfortunately, we actively create thyroid issues by crash dieting.

Similarly, when your leptin levels are low or you are resistant to leptin (due to being overweight, obese, or consuming a very high carbohydrate diet), your thyroid function will decrease. Again, your body is either not getting signaled, or cannot properly receive the signal, that there is adequate stored energy in your body so it opts to downshift your metabolism to keep you "safe".

High levels of estrogen (which we'll talk about soon) also can slow your overall thyroid function. The presence of excess estrogen increases certain proteins that bind to your thyroid hormones and render them inactive. The thyroid is producing the hormones you need but they aren't able to do their job because their receptor has been taken.

Finally, cortisol impacts your thyroid function. This relationship is a little more complicated. You'll remember that in small, intermittent doses, cortisol is a significant fat loss ally. In these small, intermittent doses, cortisol can make your thyroid more efficient. Unfortunately, as is more often the case, excess cortisol inhibits the conversion of T4 (your inactive thyroid hormone) to T3, the active form. Take that in: chronic physical, mental or emotional stress will slow your metabolism.

Thyroid Disruptors

Did you know that you are constantly exposing yourself to chemicals and toxins known as thyroid disruptors? These chemicals affect our T3 levels (the active thyroid hormone responsible for regulating our metabolism) and are found in things we encounter and ingest daily! Some of the most common thyroid disruptors are bisphenol-A, dioxin and red dye #3. Bisphenol A is commonly found in plastic products like beverage bottles, Tupperware and plastic utensils. Dioxin can be found in animal & dairy products as well as some fruits and vegetables – choosing organic foods helps you to avoid dioxin. Red dye #3 is commonly found in processed foods including candies, cereals, soda, jello and breakfast bars.

Optimizing Thyroid Function Naturally

As you can see, there is a lot that can go wrong and impair thyroid function, leading to a slower, less efficient metabolism and an impaired ability to burn fat. Fortunately, there is a lot we can do to support the thyroid through diet, lifestyle and exercise.

First of all, proper thyroid function relies on several key nutrients. Here's the thing – these nutrients MUST be consumed daily because our bodies have no ability to store them. Which nutrients am I talking about? Specifically iodine, zinc and selenium. Eating a wide variety of organic fresh fruits and vegetables will help you get these on a daily basis. If you aren't sure if you are getting enough

of these, hedge your bets and invest in a high quality multivitamin. Nutrition is critical for optimal thyroid function.

As has been the case with all the hormones we've talked about so far, one of the most impactful changes we can make to maintain metabolic hormone balance is to control our blood sugar. Avoid dramatic peaks and valleys. The most straightforward and effective way to do this is to cut out processed foods and limit wheat and grain products. In fact, avoiding them completely is the ideal. Start by cutting out processed foods and focusing on vegetables, meat, fish, poultry, nuts, and some fruit. However, as you make this transition be sure you aren't drastically cutting your calories. Remember that dropping your calories slows your thyroid function. Eat when you're hungry, stop when you're full.

Avoid thyroid disruptors. Install a water filter in your kitchen and showers. If you drink out of plastic bottles, make sure the bottle indicates that it is BPA free. Choose organic foods. Avoid processed foods in general, especially those containing red dye #3!

Finally, lifting heavy weights and high intensity interval type training improves thyroid function by increasing the sensitivity of the cellular receptors to which your thyroid hormones need to attach to function.

I hope you're beginning to see a trend as it relates to balancing and optimizing your metabolic hormones. They all work differently but they all impact each other. Not only that, they all benefit significantly from a healthy diet that minimizes the blood sugar spikes that result from processed foods, wheat and grain products.

Adrenals

It seems like adrenals and thyroid are all the rage lately. Everyone I talk to is complaining about an underactive thyroid or adrenal fatigue. Let me be clear about this: the first step towards a healthy thyroid or healthy adrenals is control of insulin, cortisol and leptin. Period. The food we eat and the way we manage our stress has the most powerful impact not just on our thyroid and adrenals but also on every hormone and every body process.

Adrenal health is absolutely IMPERATIVE for women as they approach and enter into menopause. Why? Because after menses stops (for good), your adrenals take over the production of hormones your ovaries once produced. Women who are really struggling with uncomfortable symptoms during menopause likely have suboptimal adrenal function. The body is designed to not skip a beat when transitioning into menopause; the adrenals should pick up right where the ovaries left off. Unfortunately, due to chronic stress and/or poor blood sugar management; the adrenals are often highly inefficient.

What They Are

Your adrenals are small glands, about the size of a walnut, that sit on top of each of your kidneys. They produce a number of hormones including adrenaline, cortisol and testosterone. They also produce aldosterone, which regulates fluid balance and controls blood pressure.

What They Do

Though primarily responsible for controlling your response to acute and chronic stress, the adrenal hormones influence your overall mood, energy and sense of wellbeing. If your adrenals are not functioning optimally you might experience cravings, fatigue, depression, lack of focus, dizziness, headaches or trouble staying asleep at night.

In response to acute (immediate, short term) stress, the adrenals secrete adrenaline. Adrenaline triggers the use of sugar for energy and starts to slow or shut down all non-essential body processes like digestion to deal with the stressor at hand.

What Goes Wrong

In response to chronic (ongoing) physical, mental, or emotional stress, the adrenals secrete cortisol. One of the most common reasons for the adrenals to get overworked is the chronic physical stress inflicted on the body via excessive carbohydrate consumption. Yup, it's very true. Excessive carbohydrate consumption creates major stress within the body. It's also not uncommon to experience adrenal burnout due to chronic emotional stress. In the cortisol section, we talked about how your body is not designed for chronic stress. It is not equipped to constantly produce and release stress hormones. It creates an environment of high insulin, high cortisol, inflammation and hormonal chaos.

Are you responding to all stressors, regardless of their degree, in the same way? Do you stress over

lost keys, grumpy children, traffic, work problems or an argument with your spouse? You're totally wearing out your adrenals! They can't possibly keep up with the demand you're placing on them! They respond to stress by pumping out stress hormones. Relax! Give them a break! You're headed for a burnout if you aren't there already!

The adrenals can also become overworked by the physical stress caused by food allergies or sensitivities. For example, if you are sensitive to gluten but continue to consume it, you're inflicting ongoing stress on your body and the adrenals have to work overtime to manage the stress response. When your adrenals can no longer keep up with the demand for stress hormones, you'll experience a slowed metabolism, inflammation, lethargy and depressed mood. Exhausted adrenals make it very difficult for your brain to produce "happy chemicals" such as serotonin, norepinephrine and dopamine. This just makes it worse, doesn't it? The more you stress, the worse you feel, the more depressed your mood, the more easily stressed you are. It's a dangerous cycle but controlling your blood sugar and your stress response can help you break free from it.

Adrenal health begins and ends with controlling your stress response and managing your blood sugar.

Protect Your Adrenals

You have to pay attention to adrenal health. It impacts thyroid health, weight management, mood, energy and so much more. The most straightforward way is to keep your blood sugar, physical stress and emotional stress under control. We know how to do this, right?

- Avoid processed foods
- Avoid wheat and grains
- Include protein and/or fat at each meal and snack
- Avoid excessive steady-state chronic cardio
- Practice stress management techniques
- Get enough sleep
- Lay off the stimulants (cut your caffeine!)

You should be getting very used to seeing these recommendations by now. How are you doing with them? Do you feel like you have a few down pat but continue to struggle with one? Start to work on it. Come up with baby steps for adoption and being to practice. Not only will it accelerate your progress towards your fat loss goals but it help balance all of your other hormones!!

Glucagon

This hormone doesn't get nearly enough attention. It is responsible for allowing your body to burn fat, or not. Glucagon, also secreted by the pancreas, works opposite insulin. Insulin is secreted when blood sugar is high; glucagon is released when blood sugar is low. Insulin is released to take energy and store it; glucagon is secreted to allow stored energy to be released and burned.

How It Works

When your blood sugar is low, the release of glucagon triggers your body to take stored fat and stored sugars and burn them for fuel. You cannot burn stored body fat without glucagon release. More importantly, glucagon cannot be released when insulin is high. This is why we say that you might lose weight but you cannot lose FAT if you have chronically elevated blood sugar and insulin. It goes back to the fact that insulin is an anabolic process. It stops other catabolic processes. Glucagon is a catabolic hormone. Its role is breakdown of stored fuel for energy.

What Goes Wrong

If you are one of those people who starts the day with carbohydrates or sugar, has a high carb (or even moderate carb) snack a couple hours later, eats lots of carbs with lunch, snacks again later and has a big, starchy dinner, your insulin levels are always at least slightly elevated. Guess what? You can't burn fat like that. Unless you're a marathoner or regular power-lifter, you are seriously impairing your ability to burn fat. Glucagon is required to allow the release of stored fat to be burned and it will not operate in the presence of insulin.

If you are insulin resistant, meaning you've been stuck in the carbohydrate cycle for so long that your body isn't responsive to insulin, it's going to be nearly impossible for you to burn fat because insulin will always be hanging around in your system.

Like I said above, you might lose weight. That weight will come from stored water or muscle breakdown, but you cannot lose fat if you're constantly introducing sugar and processed carbs into your system. You want to lose fat, not muscle or water, because losing muscle and water will not change your body shape (except maybe for the worse).

Getting More From Glucagon

If you want to allow glucagon to do it's job and released stored fat for use as energy, here's what you need to focus on: KEEEPING INSULIN LEVELS LOW for the majority of the day.

We do this by not allowing our blood sugar to spike or rise dramatically. There are several easy ways to do this:

- Do not eat carbohydrates in the morning. A healthy, fat loss breakfast can be an omelet, bacon and eggs, a very low sugar protein shake with nut butter or leftover meat and veggies from last night's dinner.

- Avoid processed foods. These are full of quick-digestive carbs and sugar that will send your blood sugar through the roof.
- Stop eating wheat and grain products when your goal is fat loss.
- Eat protein and fat with each meal and snack. Because they take longer to digest, they slow the release of any blood sugar from starches you might consume. If consumed on their own, they don't initiate hardly any insulin response at all. Plus, glucagon is released in response to the intake of animal protein so definitely be sure to get enough! Great fat loss options!

The bottom line is this: you cannot burn your stored fat as fuel without glucagon and glucagon will not operate in the presence of insulin. If you want to lose fat, you need to control your blood sugar and insulin.

Estrogen

Estrogen is a serious problem for many overweight and obese individuals – both men and women! While it is a female sex hormone, it influences many other areas of health including heart health, bone density, mood and body fat distribution. Imbalances in estrogen can lead to obesity, reproductive cancers, heart disease, infertility, PCOS, endometriosis and more. Fortunately, there is much we can do to balance estrogen naturally.

What It Is

Though usually referred to as one hormone, estrogen actually represents a group of hormones that all function differently.

Estradiol is the most potent and prevalent form of estrogen and it is responsible for most of the functions we think of when we think of estrogen. It is responsible for thickening the lining of the uterus, libido, bone health, heart health and it influences our sensitivity to insulin, helping to balance blood sugar.

Estrone is also naturally produced within the body but has more negative effects than estradiol. Estrone not only blocks many of the beneficial effects of estradiol, but it has also been associated with impaired cellular health leading to female cancers such as ovarian and breast.

Estriol, on the other hand is considered "good" estrogen. Both estradiol and estrone can be converted to estriol and it has the potential to block the negative effects of estrone, specifically on breast tissue.

In order to maintain balanced estrogen levels, you not only have to produce theright amounts of estrogen in the correct ratios, but you have to be able to metabolize and excrete it. Your liver is responsible for estrogen metabolism. If that process is broken or impaired, excess estrogen will build up in your system.

While the ovaries are primarily responsible for producing and releasing estrogen, your fat cells also produce estrogen. The more body fat you have, the most estrogen you produce.

What Goes Wrong – Understanding Estrogen Dominance

When we have balanced estrogen levels, estrogen can encourage fat loss. When there is an imbalance, however, either in the ratios of the types of estrogens, orrelative to its counterbalance hormone, progesterone, or there is simply too much or too little overall, it can make fat loss far more difficult.

This imbalance of estrogen is very common, especially in overweight women, and is most often referred to as estrogen dominance. Remember that this might be an overall excess of estrogen, estrogen that is too high in relation to progesterone, or an imbalance in the types of estrogen. Estrogen dominance causes weight gain, water retention, difficulty losing weight and mood swings. It has been associated with polycystic ovarian syndrome (PCOS), infertility, endometriosis, breast cancer and more.

Estrogen dominance is a vicious cycle for those looking to lose weight. Excess estrogen encourages fat storage and insulin resistance, leading to weight gain. The more weight you gain, the more estrogen you produce, the more fat you store. Proper estrogen balance is an absolutely critical component of sustainable fat loss for women (and often for men, too!)

Estrogen dominance results in a pear or apple body shape with excess fat stored primarily around the belly, hips and thighs. It causes excessive weight gain, water retention and mood disorders while significantly increasing your risk for heart disease and reproductive cancers.

Trouble Spots – Factors That Increase Estrogen

There are a number of dietary and lifestyle factors that increase estrogen and understanding them can help us to work towards overall estrogen balance.

- Our estrogen levels are determined by the estrogen our bodies produce as well as the estrogen we consume. You can consume estrogen from food sources such as soy but also from many prescription medications like birth control pills or hormone replacement therapy. We also unknowingly introduce excess estrogen into our system by exposing ourselves to estrogens found in many plastic products, pesticides and herbicides. Be very cautious of the amount of excess estrogen you are introducing into your system.
- Chronic stress encourages your body to use progesterone to manufacture cortisol. This lowers your progesterone levels, creating a situation of estrogen dominance without directly impacting your estrogen levels.
- Carrying extra weight creates a situation where your fat cells produce more of the "bad" estrogens and increases the overall storage of estrogen in your fat cells.

What About Low Estrogen?

It's important to note that low estrogen can be dangerous as well. Low levels of estrogen blunt estrogen's cardio-protective benefits. It also decreases production of serotonin and dopamine, which make contribute to mood swings, depression, low energy levels and cravings.

Estrogen Fluctuations

Of course, estrogen levels naturally fluctuate during the course of the menstrual cycle. Estrogen steadily rises during the first half of the cycle (from menses through ovulation). When it is low, right before the start of menses and for the first few days of your cycle, you may experience more hunger, cravings and mood swings. As estrogen rises you become more sensitive to insulin.

Interesting Estrogen Fact: The presence of estrogen is one of the reasons women tend to accumulate more lower body fat. This is due to the way estrogen encourages the activity of a particular group of cell receptors that slow down our fat burning potential. These cell receptors are called alpha adrenergic receptors and women have nearly 10 times more of these receptors in the lower half of their body than men do!

More On Environmental Estrogens

Estrogen dominance is often due to either producing too much estrogen or consuming too much estrogen. We need to evaluate some of the ways in which we expose ourselves to estrogen without even realizing it. Xenoestrogens are estrogen-like compounds found in foods, plastics, herbicides, pesticides, cosmetics and even water. While we can't totally avoid them, reducing our exposure can go a long way towards reducing our overall estrogen load and slowing (or even stopping) the cycle of fat storage and excess estrogen production by body fat.

How To Reduce Your Exposure

- Eat organic. This reduces your exposure to herbicides, pesticides and hormones that contain xenoestrogens.
- Avoid foods containing soy. Components in soy mimic the action of estrogen in your body.
- Do not eat or drink out of plastic vessels – especially avoid heating food or drink in these plastic vessels. Many of the plastics contain xenoestrogens and when heated, the chemicals leach into your food.
- Use a water filter. Not only should you drink filtered water, invest $30-$40 in getting a shower filter. You skin is your largest organ and in a hot, steamy shower your pores open up, allowing all the toxins and chemicals (including xenoestrogens) right into your skin. Interesting Estrogen Fact: The presence of estrogen is one of the reasons women tend to accumulate more lower body fat. This is due to the way estrogen encourages the activity of a particular group of cell receptors that slow down our fat burning potential. These cell receptors are called alpha adrenergic receptors and women have nearly 10 times more of these receptors in the lower half of their body than men do!
- Wear gloves when using cleaning products to reduce your exposure to toxins and chemicals.

- You don't need to be totally paranoid about xenoestrogen exposure but you do need to be aware. Pick one change that seems manageable for you and work towards adopting it. I don't often remember to wear gloves when I'm cleaning but I am very cautious about eating out of plastic contains, I have a water filter and I choose organic most of the time. Do the best you can. The little things add up.

Optimizing Estrogen For Fat Loss

So what should we do to help balance estrogen and take advantage of its fat burning properties?

- Eat more cruciferous vegetables like broccoli, Brussels sprouts and cauliflower. Certain compounds found in cruciferous vegetables are natural estrogen detoxifiers – they improve your ability to metabolize and excrete estrogen to avoid toxic buildup within your body.
- Control your blood sugar and insulin by eliminating processed foods and reducing or eliminating your intake of wheat and grains. • Watch out for toxic plastics. Do your best not to eat or drink out of plastic vessels
- Reduce your intake of soy and dairy products • Eat organic produce & hormone free meat/ poultry
- Limit your stress

Progesterone

Progesterone is a sex hormone that works opposite of estrogen. The body is always striving for a perfect balance between estrogen and progesterone. During the course of a woman's menstrual cycle, estrogen and progesterone ideally need to be working closely together, balancing out the effects of the other. In order to be healthy and able to lose fat, we need to make sure that our progesterone levels are balanced – neither too high nor too low and at appropriate levels relative to estrogen.

What It Does

Progesterone helps the lining of the uterus to thicken in preparation for implantation of an egg. Progesterone levels rise through the 2nd half of the menstrual cycle and if no egg is implanted, they drop off, triggering the start of menses.

Progesterone plays a protective role in our bodies, protecting us from the potentially harmful effects of the bad forms of estrogen, acting as a natural diuretic, supporting thyroid function, helping us sleep soundly and reducing anxiety. When properly balanced with estrogen levels, progesterone helps protect us from breast and prostate cancers. Progesterone also helps to increase metabolic rate and fosters feelings of calmness.

What Goes Wrong

When progesterone is too low, that creates estrogen dominance, regardless of whether or not your estrogen levels are normal. Remember, these two are working in tandem, so if you aren't producing enough progesterone, your estrogen levels are out of balance as well, relative to progesterone.

Progesterone production begins to decrease in our 30s and if we don't actively choose to balance our hormones through our diet and lifestyle, we can quickly become deficient. Chronic stress can lead to progesterone deficiency, as the body will keep cortisol elevated by using our progesterone to produce more cortisol and blocking progesterone's cellular receptors so it can't do its job.

An underactive thyroid can also lead to low progesterone levels. This will lead to feelings of anxiety, trouble coping with day-to-day stress, water retention and bloating. Imbalances of progesterone may also lead to endometriosis and trouble sleeping.

Optimizing Progesterone For Fat Loss & Health

You'll notice that the recommended tips for balancing progesterone levels are similar to many of the other hormones. Remember that this is because they all work synergistically and what benefits one hormone has a cascade effect on the others.

- Control your blood sugar and insulin levels. None of your hormones can function optimally when blood sugar and insulin are routinely high. Do this by cutting out processed foods, wheat and grains. Avoid even healthy foods that will spike your blood sugar, such as dried fruits.

- Eat protein and fat at every meal. This will support your thyroid function and a healthy, functioning thyroid is imperative for progesterone.
- Avoid chronic stress; at a minimum, actively engage in restorative activities like naps, yoga, leisure walking, massage, or sex. Chronic stress creates complete hormonal chaos.
- Eat cruciferous vegetables. They are estrogen detoxifiers, helping your body metabolize the bad forms of estrogen. That will go a long way towards balancing your estrogen/progesterone ratios.

Testosterone

Testosterone is an androgen – a male sex hormone – but both men and women produce testosterone and it plays a very important role in body composition, mood, memory, libido, skin tone and much more.

In men, testosterone is produced by the testes. In women, it is produced by the ovaries. In both men and women it is supplementally produced by the adrenals. Men produce 10-40 times more testosterone than women.

What Goes Wrong

In both sexes, testosterone naturally decreases with age. This decline is associated with increased fat mass and decreased muscle mass. Unfortunately, testosterone levels are dropping faster than ever due in large part to our diets, our lifestyles and the excess body fat most of us carry.

Body fat contains an enzyme called aromatase, which actually converts testosterone to estrogen. Both the increase in estrogen and the decrease in testosterone work against our fat loss goals, encouraging our body to store more fat and reducing our ability to burn fat.

Maintaining optimal testosterone levels is critical for both men and women, not just for health, but also for fat loss, body composition and overall hormone balance. When testosterone is imbalanced, it increases insulin resistance, increases cortisol levels and that trickle down effect puts all the metabolic hormones at risk. In women, high levels of insulin trigger the ovaries to produce more androgen hormones. Stress also increases the production of androgens.

Low testosterone levels are associated with fatigue and low sex drive. High testosterone levels are associated with acne, PCOS, weight gain, insulin resistance and excess hair growth (especially on the face and arms).

Supporting Healthy Testosterone Levels

To optimize testosterone levels you'll want to do the following:

- Control blood sugar and insulin to prevent fat storage
- Control cortisol levels by reducing stress, getting enough sleep and avoiding chronic cardio
- Reduce exposure to environmental estrogens from plastics, conventionally raised meat/poultry and soy.

If you are concerned about your testosterone levels being either too high or too low, it's not a bad idea to have them checked by your health professional. Testosterone is a powerful influencer of mood, memory, motivation and libido so you definitely want to do all you can to keep your levels where they need to be!

Body Fat Is More Than Fat

Did you know that your stored body fat is actually an active, endocrine organ? Your body fat is actively producing and secreting hormones 24 hours a day. That's why hormonal imbalance problems become so extreme for overweight and obese people – they're producing more hormones because of their body fat! The more body fat you have, the more hormones you will produce and secrete. It's a vicious cycle, really. Hormone imbalance encourages fat storage and the more fat you store, the more of these hormones you produce, creating an even greater hormone imbalance!

When we talk about body fat being an endocrine organ, we're talking primarily about visceral fat. Visceral fat is the fat that wraps around your organs. Subcutaneous fat sits just below the surface of your skin. Fat around the abdominal region is typically visceral fat and is extremely dangerous. Visceral fat has been linked to cancer, heart disease and type 2 diabetes. It triggers inflammation in your body and releases leptin and tumor necrosis factor.

You might be thinking that the release of leptin should be a good thing, right? Afterall, leptin is the hormone that signals our brain that we're full and have enough stored fuel. In theory, that is true. But, when your visceral fat is pumping out leptin all the time, what do you get? Fast-tracked to leptin resistance. That's right, this is why so many overweight and obese individuals don't hear those satiety signals. They're overproducing leptin and their body is deaf to the signal.

Tumor necrosis factor is a powerful inflammatory trigger and you'll recall that inflammation is the starting point for just about every disease out there. Not only that, but inflammation creates hormonal chaos, compounding your weight struggles and encouraging fat storage while limiting fat burning potential.

So what do we do about this visceral fat? As seems to routinely be the answer: control blood sugar to manage insulin. High levels of insulin encourage fat storage, but they also encourage fat to be stored as visceral fat as opposed to subcutaneous fat. Controlling blood sugar and insulin is the starting point for all hormonal challenges. We do this by:

- Eliminating processed foods
- Reducing or removing wheat and grain products from our diet
- Including protein and/or fat at every meal and snack
- High intensity, short duration exercise
- Stress management

One of our primary motivators for weight loss is to look better. I get that, I've been there, that's totally relatable to me. However, there is a massive health concern when it comes to visceral fat and the inflammatory cascade it initiates. The more stored body fat we have, the higher our risk for countless serious health problems.

Your Simplified Action Plan

You've seen a number of suggestions and recommendations repeated through this entire protocol. Let's boil them down to the top 10 most impactful changes you can work towards adopting to balance your hormones. Work on one at a time until it feels effortless. Then, and only then, you can work on the next one. Continue to monitor the signals your body is sending you through sensations such as hunger, mood, cravings, energy and mental focus. Paying attention and modifying accordingly is one of the most intelligent, sustainable ways you can approach health and fat loss!

1. Stop eating processed foods.

If you make any one change, this should be it. I know it's a big step but it will have the most profound impact on your hormones, health, longevity and waistline. Think of processed foods as "pre-digested". They're so manufactured they hardly resemble food (and I'd argue that much of it is not truly food). These processed foods, generally loaded with carbs and sugar, hit your blood stream so fast because of their pre-digested nature. This has major hormonal implications that you'll experience as severe energy swings, recurring hunger, lack of satiety and cravings for carbs, sugar and salt.

2. Cut out wheat and grains

No, they are not part of a healthy diet. I don't care what people have told you. It's not true. Do they contain vitamins and minerals? Sure they do. But they also contain anti-nutrients that bind and eliminate those nutrients so you aren't able to digest them. But that's neither here nor there. Wheat and grains dramatically spike your blood sugar. This IS something you need to be concerned about regardless of whether or not you have diabetes. Seriously. The foundation of hormone balance is blood sugar control.

Nutritionally, you do not need wheat and grains. They initiate absolute hormonal chaos and trigger inflammation. Like processed foods (largely because most processed foods contain wheat and grains), they increase hunger and cravings while not providing lasting feelings of satiety. Bad news all around. The MOST important time to avoid both processed foods and wheat/grains is in the morning. If you're going to eat them (which I don't advise), make it later in the day. Your hormonal environment is so sensitive in the morning – stick to protein, fat and non-starchy vegetables in the morning for optimal fat loss and hormone balance.

3. Include protein and/or fat with all meals and snacks

Hunger and cravings stem from hormonal signals. Eating protein and fat satisfies both hunger and cravings because of its impact on these hormones. Both protein and fat slow digestion, minimizing any peaks or valleys in your blood sugar level, compounding their positive hormonal effect.

4. Go organic

When we eat conventionally grown produce or factory-farmed meat, poultry or fish, we expose ourselves to herbicides, pesticides and directly to hormones. Consuming these hormones in our food compounds our hormonal imbalance and the herbicides, pesticides and other toxins trigger inflammation, which furthers this hormonal destruction. To limit your exposure, choose organic fruits and vegetables. Look for grass-fed, hormone-free organic beef and poultry. Avoid farm-raised fish; opt for wild caught. Yes, these items are more expensive than non-organic options, but you need to consider both the benefits to your health and the savings you'll accrue when you stop buying all the processed garbage.

5. Get a water filter for your kitchen and bathroom

There are hormones, chemicals, pesticides and other toxins in our water. It's not pretty but it's true. You can invest in very inexpensive water filters for your kitchen faucet and your shower to reduce your ingestion of these chemicals. Don't forget the shower filter, though! Your skin is your largest organ and when you step into a steamy shower, your pores open up, allowing these chemicals right in through your skin and into circulation.

6. Lift heavy weights

Lifting heavy weight elicits a very positive hormonal response. It triggers the release of hormones that keep us young, fit and healthy while suppressing hormones that encourage fat storage, hunger, cravings and depressed mood. Don't be scared, you won't get "bulky" – you'll get healthy. In the words of Nike, just do it.

7. Implement high intensity intervals (HIIT)

High intensity interval workouts are short (usually less than 20 minutes) workouts where you push to your max capacity for a short interval and then rest before pushing again. These can be done regardless of your fitness level because "high intensity" is relative. Like heavy lifting, HIIT generates a very positive hormonal response, boosting our body's ability to burn stored fat as fuel. A word of warning about this, however: it only works if you're eating for hormonal balance. As they say, you can't outexercise a crappy diet. If you aren't eating for hormonal balance, you won't reap the hormonal benefits of HIIT. Get your food right first.

8. Walk slowly, a lot.

Don't interpret this as huffy, puffy powerwalking. That is "chronic cardio" and that can have a negative hormonal response. We're talking about a casual, slow stroll. This helps to reduce your stress hormones - a requirement for optimal fat burning. Your goal here would be 1 hour every day of slow, leisurely walking. For best results, take your stroll outdoors.

9. Reduce your stress

Controlling your blood sugar is step 1 for hormonal optimization. Controlling your stress is step 2. Stress can make you fat. Stress can turn off your body's ability to burn fat and amplify your body's ability to store it. Stress triggers inflammation and hormonal chaos, impacting every other hormone negatively. We can't completely avoid stress but we can work towards improving our stress management techniques. Make it a priority.

10. Get more sleep

We know that sleep is restorative. Sleep also allows our body to recover and heal. Powerful hormones are produced when we sleep – hormones that help to keep us young, vibrant and lean. If you are skimping on sleep, you aren't getting the hormonal benefits for your body composition that you need. Sleep also helps to resolve inflammation and chronic stress, providing significant benefits to all our metabolic hormones.

Remember, you don't have to do this all at once. Pick one step and begin to practice it daily. Once it feels effortless, move on to another. Don't overwhelm yourself by taking on more than you can handle. We're after progress, not perfection, and small changes have a ripple effect. Work slowly and consistently towards hormone balance and you'll quickly start to see improvements in your body composition, energy, mood, overall health and much more!!

Want more from Primal Potential?
We have tons of free information and resources and
I would personally be honored to have you join our community!

You can join our Facebook page here:
https://www.facebook.com/PrimalPotentialFatLoss

Want more strategies for sustainable fat loss & hormone balancing?

Check out the Carb Strategies for Fat Loss Course!
http://primalpotential.com/product/carb-strategies-ecourse/