Episode 29 –
Body Set Point Weight and Hormones –
How Our Bodies Work Against Our Weight Loss Efforts

This is the TD Fitness Podcast with Coach T, episode number 29.

Welcome to the TD Fitness Podcast, giving you ways to live a healthy lifestyle without giving up the things that make life worth living. Now your host, certified health coach and personal trainer, Coach T.

Hey guys, this is episode number 29, Body Setpoint Weight and Hormones. How Our Bodies Work Against Our Weight Loss Efforts. I'm sure you all have heard the equation that 3,500 calories equals a pound so if you create a calorie differential of 3,500 pounds either through reducing your calorie intake or burning excess calories then you'll lose a pound of fat.

Well, if you tuned into episode number 28, the previous episode, you may recall that the math doesn't exactly work that way. The changes we initially, the changes that we see initially don't last past a few weeks or a few months. The weight comes back no matter how strict we are with our diets. Well, the long term success rate of a typical dieter is around 5% and two-thirds of those who initially lose the weight don't just gain it back over time but they gain more than they lost, resulting in a heavier state than when they started.

That extra weight is usually stored in the mid-section or the belly. I've seen this dilemma referred to as the weight loss check mark. If you can imagine a graph where on the left hand side the vertical axis is your weight and the bottom, the horizontal axis, is time you see it's shaped like a check mark. You start at a certain weight, you lose weight over a little bit of time, and then it starts to gradually creep back up and just gets higher than when you started.

Now, the Mayo Clinic conducted a study where they had 16 normal weight individuals and they overfed them by about a thousand calories per day, and they did that for eight weeks. A thousand calories is about equivalent to two double cheeseburgers each day, that's on top of what they were already eating. The participants were asked not to perform purposeful exercise. According to the 3,500 calories per pound rule then each of them should have gained about 16 pounds over the course of those eight weeks.

Well, you can probably guess the results. Some people gained less than a pound and the ones that gained the most only gained about nine pounds of so. Now, nine pounds is nothing to scoff at for sure, especially within a two month period. I would not be happy if I gained nine pounds in two months but, again the numbers, the equation that states that they should have gained 16 pounds, it didn't work out that way so what's that all about?

Again, here we see that the numbers don't add up, whether we're talking about weight loss or weight gain so there's definitely something else going on here. Now, several studies have shown that after you lose about 10% of your body weight the body adapts, metabolic adaptation kicks in. What does that mean? It means that the body tries to return to its baseline weight so whether you call it

metabolic adaptation, adaptive metabolism, adaptive thermogenesis or setpoint weight, all of these terms essentially mean the same thing, and I'll refer to it as setpoint weight in this episode.

The takeaway here is that the body has a tendency to want to stay at a certain weight no matter what you do so if and when you do lose weight you'll likely face a constant battle as the body works to get you back to your previous weight. How does it do that? By hormonally prompting you to retain weight, to eat more, and exercise less. Now in the past, in years back when we would see this, we would see people unsuccessfully try to keep the weight off and words like lazy or undisciplined would come to mind to explain why the anticipated results didn't come when the so called equation said that they should weigh less.

They followed the equation, they exercised more, they ate less, and the weight did not stay off. We've even thought of ourselves this way, I certainly have. Thinking that maybe we just lack the willpower or lack the motivation or that dieting and eating better and living a healthier life is just too hard for me to do. Well, what I want to do here is explain a few things around setpoint weight and your hormones. I want you to know that you are not flawed. This is science and once you know about it, and once you know and understand a little bit more about how the body works then you can better prepare, you can better plan, and you can set realistic expectations when it comes to living healthy and losing excess weight.

Now, as it turns out there is a lot of growing evidence around this concept of setpoint weight. That is, that our bodies essentially are driving us to correct excessive weight loss and return to that setpoint. Think of it this way. The body strives to maintain a core temperature of 98.6 degrees and when we get overheated the body has ways of cooling itself down, we start to sweat. That's one of the body's mechanisms of cooling itself down. When we get cold, again, the body has mechanisms to start to warm us up. We start to shiver, that's the body's effort to generate some heat.

It's constantly driving us toward that 98.6 degree core temperature and it's using the mechanisms that it has at its disposal to do that. Well, scientific data is growing around the idea that the body does the same thing with weight. Once a person reaches a setpoint weight the body adjusts and it does things to keep it there. For example, when you lose weight the body changes the amount of calories you burn each day by lowering your metabolic weight.

Essentially, your metabolism slows down meaning you'll burn fewer calories. The body also uses hormones at its disposal to make us hungry or to crave food so you can already see that there are a couple of things working against us. It goes back to the survival mechanisms that I alluded to in the last episode. Centuries ago humans didn't know when or where the next meal would come from so the body created mechanisms to maintain weight, to keep us alive, to keep us healthy.

That's good in a survival circumstance but we're hardly in a survival mode now. We can eat literally whatever and whenever we want and therein lies the rub. We have to understand a couple of things. We have to understand how the body responds to dietary restrictions and why the body naturally wants to revert to that setpoint weight. We have to start to change our views on weight loss. These, I believe, are the first steps towards breaking out of the yo-yo diet and the weight gain, weight loss, cycle.

I think the discussion really needs to start with hormones. Hormones tell everything else in the body what to do. I'll read you a quote from the book, The Obesity Code, by Dr. Jason Fung. It says, "Hormones are central to understanding obesity. Everything about human metabolism including the body set weight is hormonally regulated. A critical physiological variable such as body fatness is not left up to the vagaries of daily caloric intake and exercise. Instead, hormones precisely and tightly regulate body fat. We don't consciously control our body weight any more than we control our heart rates, our basal metabolic rates, our body temperatures or our breathing. These are all automatically regulated and so is our weight. Hormones tell us when we are hungry, hormones tell us when we are full, hormones increase energy expenditure, and hormones shut down energy expenditure. Calories are nothing more than the proximate cause of obesity."

Here what he's saying is that hormones are the driving force behind weight gain, not calories like we've all been led to believe. Let's talk about some of these hormones, and I'm going to briefly run through just a few so you know that they exist and that they're a part of the discussion but I'm going to spend the most time on insulin and cortisol since they are the heavy hitters in the weight loss battle.

I mentioned in the previous quote that hormones tell us when we're hungry. The hunger hormone is ghrelin and it acts on brain cells to tell us when we're hungry. The body acts through this hormone to make you hungrier when you lose weight. Again, it's trying to get you back to your previous weight. There are hormones like leptin and peptide YY that tell you when you're full. When you consume dietary fiber those hormones are released, which is why fiber gives you a greater feeling of satiety or fullness.

Testosterone and estrogen play a role as well and hormones such as adrenalin increase energy expenditure. The thyroid hormone shuts down energy expenditure. The thyroid hormone controls metabolism, it affects literally every cell, tissue, and organ, influences cholesterol levels, your heart rate, digestion, mood, energy, skin, hair quality, you name it. Hormones play a vital role in how we feel, what our hunger state is, how full we are, and so many other components of our health and well being.

Now, since insulin and cortisol have the largest negative impact on weight and belly fat I'll talk more about these. You can't talk about insulin without talking about sugar so insulin is produced in the pancreas and it signals sugars to be taken up by the cells. Here's how this works. You eat and the carbs you eat are digested and then enter the bloodstream. In their simplest form carbohydrates are broken down as sugar so once carbs enter the body they're either used in ... One of three things happens.

They're either used as fuel, so immediately as fuel, or they're stored for later use, stored as energy for later use, or if your energy stores are full then they're stored as fat. The pancreas produces and releases insulin to push the sugar into the cells to be stored and later used for energy. What's the problem with insulin or sugar in the bloodstream? Absolutely nothing at all as long as it's not always there, as long as it's sporadic.

That's what happens after a meal and after meals that's normal. You eat, your insulin sugar levels spike and then they go back down, that's the way it's supposed to work but when we constantly consume the types of foods that keep sugar and insulin levels high then there's no drop. Think about those simple carbs, those things that create the quickest insulin response and release.

Things like sugary drinks maybe that you'll sip on throughout the day or other unhealthy snacks that you're constantly snacking on throughout the day.

What was kind of a given in the past was that we all had a natural fasting period where insulin levels could drop for an extended period of time, and that was when we slept. As we have become a society of less and less sleep, we reduce our natural fasting period and there's even more of the day with an insulin response. What's the so what here, who cares if insulin stays high? Well, first of all, over time continually elevated levels of insulin in the bloodstream makes us insulin resistant. It's just like alcohol, the more often you drink the higher your tolerance, you become resistant to the effects of alcohol.

Being insulin resistant is an issue. It can lead to diabetes, it doesn't in everyone but it could. Certainly, elevated levels of insulin affect our weight, that's the other important takeaway here. Insulin causes weight gain, which means your body set weight will continue to creep up. Insulin inhibits fat burning. This is important because when insulin levels are high you can't burn fat for fuel so your body will retain that fat.

Insulin increases the hunger hormone ghrelin. Insulin decreases the satiety hormone leptin and it causes a rush in dopamine, that's the feel good hormone so it certainly has addictive qualities. Another reference from The Obesity Code stated that in a recent study it suggested that 75% of weight loss response in obesity is predicted by insulin levels; not willpower, not caloric intake, not peer support or peer pressure, not exercise, just insulin.

What are some of the causes of insulin dysfunction? Well, weight gain is the first one. This kind of the chicken and the egg scenario because not only does insulin, continued elevated levels of insulin cause weight gain but if you are, if you do carry excess weight you also are susceptible to higher levels, continued levels of having insulin in your bloodstream. It's kind of a circular pattern that works in negative ways throughout the entire spectrum.

Next, your diet. A poor diet can cause insulin dysfunction; excess carbohydrates, not enough quality proteins, not enough healthy fats, and not enough fiber. A lack of exercise is another one, lack of sleep, and chronic stress. Remember, cortisol is the stress hormone so think about long workdays, over-training or any of the other constant stressors that affect us today. The takeaway here is that continued elevated levels of insulin causes weight gain and, by extension, increases the body setpoint weight.

Speaking of stress, that brings us back to the stress hormone cortisol. Now cortisol is produced by adrenal glands and it's best known for its role in the fight or flight response. It works through the brain to control your mood, your motivation, and fear. Now some stress is okay, it's the stressor that tells you to be afraid or to run away and that's all good, that's prudent. Cortisol also has positive properties, it keeps inflammation down, it regulates your blood pressure.

If you've ever heard the doctor tell you to reduce stress to reduce your blood pressure that's why. It controls your sleep and your awake cycle and it boosts your energy so that you can handle stress and then restores balance afterwards. Again, small spikes in stress and in cortisol are okay. Again, that's how the body is supposed to work. Think about all of the things that cause stress in our lives now,

ask yourself if you're living in a constantly stressed state, certainly most people are. Just like insulin, although the hormone itself is a good thing, constant elevated levels of it are not good.

Too much cortisol drives us to eat more of the wrong foods more often, it makes it much more likely that we're going to gain weight. I advise those that I work with that when starting a new diet or a new exercise routine or some other kind of positive, healthy habit change, you should really try to choose a time of your life when you're not overly stressed because it's hard to start something new and bring in new stressors, if you will, if you're already in a stressful mode.

Consistent levels of elevated cortisol suppress you immunity. If you get sick often or you know somebody who gets sick often it could very well be that that's stress related. Elevated levels of cortisol mean we're stressed more often, it raises your blood sugars and your insulin and increases abdominal weight gain, and cortisol slows metabolism through the thyroid and it affects testosterone, sleep, and rejuvenation. You crave sugars when cortisol is continually elevated. It's like things go south really fast when your hormones aren't regulated.

Now there's still a lot that we need to learn and discover about the body setpoint weight but what we do know is that under or overfeeding triggers metabolic and hormonal changes that have a huge influence on our ability to keep weight off. I know this can all seem pretty depressing and that is really not my intent here but I do want you to know that the risks from yo-yoing back and forth, losing the weight, gaining it back again over and over, it's not only risky but it causes your hormones to react in unpredictable ways and can raise your body setpoint weight.

The proposed solution is one that you've actually heard me say many times before. Focus exclusively on living a healthy lifestyle. Let your body find its setpoint weight and trust that your healthy living habits will indeed pay off. Remember, weight loss shouldn't always be the goal. Instead, it should be a byproduct of healthy living. You're probably wondering, "Okay, can I lower my setpoint weight?" Well, the sad news here is that the evidence is not encouraging.

That setpoint weight is determined by genetics, by environmental exposures, and a lot of other variables that we don't completely or fully understand yet. It's not even easy to calculate the setpoint weight. I will tell you that people who have succeeded in the weight loss battle, and by succeeded I mean they've lost more than 10% of their body weight for more than a year, they tend to share similar habits.

The National Weight Control Registry, which I'll provide a link to in the resources section of the show notes, they tracked the traits of these successful people and they found a couple of things. With respect to diet, their daily lifestyle includes a portion controlled, nutrient dense, low fat diet. When it comes to activity, they exercise for at least one hour a day, they weigh themselves at least once a week, and spend less than 10 hours per week watching television.

Now let me say that while those traits are common in those who have achieved and maintained success in a weight loss arena, I want you to realize that you don't and maybe can't necessarily start there. Most of the year I don't exercise for an hour a day, I only get seven hours of exercise a week when it's close to my long race for the year. The point is that you have to find what works for you and gradually work toward incorporating those healthy habits in your life.

What are some of the other things you can do to put the odds in your favor and break away from the eat less, move more model? The research that I found suggests a few things actually, the first is to explore your motivation for weight loss. Typically, your motivation is not just to lose the weight, there's something deeper behind that. You want to tap into what that is. Next, you want to set smart goals, specific, measurable, attainable, relevant, and time bound. This serves to put some specificity into your goal setting and put some thought into it so that it's actually something measurable, attainable, and bound by time.

You want to set modest goals so if you have to establish weight loss goals try to aim for about one to two pounds initially over the course of a couple weeks. Remember that the hardest part of the change is not necessarily losing the weight but it's keeping it off. Be open to seeing examples of success. There are a number of people who've successfully lost weight and kept it off. I mentioned the National Weight Control Registry so among the nearly 3,000 participants in that registry about 87% of them are able to maintain that 10% weight loss for over five, even 10 years or more. It can be done and it just takes consistency and practice.

Next, I want you to understand the past experiences. What I mean by this is that maybe you didn't know about this setpoint weight thing before. Maybe you didn't know how your hormones were affecting your efforts, and not that you'll be an expert after listening to this but at least you'll be aware that there are things working against you. Again, once you recognize that then you can plan around those. You want to recognize the barriers that you're going to be up against in your weight loss efforts and focus on a healthy lifestyle and prevention of weight gain, not necessarily weight loss but prevention of weight gain.

I know weight maintenance goals seem less exciting than the weight loss goals but unlike weight loss objectives maintenance goals are achievable and effective. I want you to also celebrate your successes and think about defining success differently. In previous episodes, I've talked about performance based goals versus outcome based goals. Outcome based goals are those things that you don't necessarily have control over but those are the ones that typically we set the most often.

For example, I want to lose 10 pounds this month, that's an outcome based goal, you're judging your performance based on the outcome. Instead, if you set up performance based goals, a performance based goal such as I want to exercise two times a week for the next four weeks. That is something you can absolutely control because even if you exercise five times a week you may not lose 10 pounds. There are so many other variables that go into that like we talked about in the last episode.

Next, don't blame yourself. Lapses and relapses are part of the journey. There are things working against you, people regress all the time, I do it too but regression doesn't have to be permanent so don't let it dissuade you or get you down. Make your exercise positive, make it a positive experience. Do things you enjoy doing. If you don't like participating in certain types of exercise, if you don't like running then find something else to get your heart rate up and get you moving. The point is to take part in things that you enjoy doing because you have a greater chance of maintaining those habits over time.

Realize that it's not just as simple as sticking with the plan or embracing and eat less and move more approach. Now, all of those things that I just mentioned, again, I found all of those in researching for this episode. I'm pretty excited because, literally, each and every one of those things is a component of The Fit Life Program and it feels good to have what I know is a great program further validated by what doctors, researchers, and scientists recommend.

These things are what The Fit Life Program is all about, targeting the long term, not the short term results. I'll wrap it up there. The science of setpoint weight suggests that we may need to move away from a weight loss mentality and move towards a healthier living and a weight maintenance over time mentality. Therefore, the focus needs to be on lifestyle changes. I really hope this has been beneficial and informative to you guys.

Just a quick reminder that the show notes for this episode can be found at tdfitness.net/029. There you can listen, you can watch or you can read the content. Also on that page you'll find links to The Fit Life Program, the National Weight Control Registry, and some of the other TD Fitness posts related to hormones and setpoint weight. As always guys, thanks for tuning in, I want you to have a blessed one. Coach T, out.