

EPISODE 238

Cravings

Shawn Stevenson: Welcome to *The Model Health Show*. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today. This episode is dedicated to something that is incredibly important today.

We're going to be talking about a subject that impacts all of our lives. Something that can actually be driving us to make decisions behind the scenes, but little do we know we have less control over it, or more control over it depending on where we lie in the spectrum of action.

Now, this was brought about by a recent segment that I did with *ABC News*, and just a big shout-out to Olivia Smith who helped put that together.

We talked about cravings, and we did a show for *ABC News* dedicated to that, but there was so much more to the picture.

As you know, news segments can tend to be a little bit shorter content, so I wanted to dive in and dissect this topic so that you have the science of cravings, and how to master your hunger hormones.

Now this was a part of this recent media tour that I did, and it was just an amazing time. I had the opportunity to right after my ten year wedding anniversary, we went to New York City which was just amazing, just one of the best times ever, and one of the first times that my wife and I were able to travel and go somewhere just ourselves, without the kids, and not for something that's work related.

And guys, I mean we saw a Broadway musical, and we also saw Radio City Music Hall, Dave Chappelle and Chris Rock. What? What?! It was just a once-in-a-lifetime experience. And you don't know who else is going to pop out.

Arsenio Hall came out and did a set while we were there. Jeffrey Ross who's like the king RoastMaster, he came out and some people selected from the audience, they volunteered to come up and he did a live roasting session.

We had Russell Peters who's one of the top comedians in the world came out, and a couple of other people as well. It was just amazing.

The night before that, Kevin Hart came out and did a set. Just those kinds of opportunities and events is just kind of priceless, and so we had a great time doing that.

So from there we hopped home for a couple of days, grabbed my youngest son- my five year old son, and then we headed to Los Angeles and we hung out with a very dear friend of ours, Cynthia Pasquella, and we've got some things cooking by the way to look out for.

And I did a segment for *ABC News* while I was there, and again Olivia helped to put that together, and it was just an amazing time.

From there we hopped down to San Diego for a very special meet and greet for *The Model Health Show* listeners, and I just want to thank everybody who came out.

It was just such a powerful time, and I'm very, very grateful for you guys. It just means the world to me to be able to hang out, and again just thank you so much for coming to see me.

And of course Braden was the big highlight of the experience. You know he was actually up on the little platform with me, and I didn't really realize until later, I saw some videos that he was mimicking my movements, right? And how I'm speaking.

He was mimicking my hand movement, and he was just ready so that he can get the microphone and share his little insights.

And so I definitely have to bring him on the show at some point as well.

Now while I was there, the Organifi team helped to put all the event together in San Diego. So I just want to thank those guys as well, specifically Shawna over at Organifi. She's just a superhero.

She actually decided- she asked if we want her car. Who gives somebody their car? Right? Giving somebody their car is like letting somebody borrow your toothbrush, you know?

Like there's not a lot of people who are going to do that. You don't even let your mom borrow your toothbrush.

You know, but she actually let us use her car because just kind of jumping around from place to place, city to city, was kind of a tight situation and just being able to- instead of renting a car or grabbing an Uber, to have her car.

So thank you so much for that. But one thing I've got to mention. We got in there, hooked up the aux cord, about to play a nice little jam. I think it was the DJ Khaled, maybe it was the Rihanna / Bryon Tiller song, 'Wild Thoughts,' right?

We hooked it up, and we were about to bump, and it's just like, 'Why does it sound like that?'

Shawna and/or her husband pull all the bass out of their sound. So it was like -5 bass. I've never seen anything like that in my life.

I was like, 'People do this?!' So there was no bass, but anyways we turned the bass up so it was all good. But again, thank you so much, Shawna.

And by the way, so the team at Organifi, we love those guys, and they've been a sponsor of the show for a very long time now, and I've been using Organifi for almost- it's getting close to two years, and this is something that I add in on a consistent basis, and my kids love as well.

Especially my oldest son, Jordan. You know he's an athlete, he's in football season right now, and every day he's getting in his Organifi.

A big part of the reason I love it so much is that we're talking about a combination of some of the most powerful superfoods in the world, and it's low temperature processed.

So it's not cooking the life force out of it, and you're actually getting the things in there that you're looking for. This is the real vitamin and mineral supplement that you're wanting.

When you're getting it from these cookie cutter synthetic so-called multivitamins, you're not actually getting what you think you're getting.

And so spirulina is in here, chlorella and chlorella growth factor which is clinically proven to have some benefits in removing heavy metals from your body.

Spirulina, highest protein food in the world. About 71% protein by weight, plus a rich source of beta carotene, magnesium, also a very rare compound called fikosianin which is clinically proven to increase your production of stem cells.

Wait, what?

Have you heard such a thing before? That's so powerful because there are not many substances in our reality that can initialize or trigger our body to produce more stem cells.

Which stem cells are the root cells that become anything your body needs. Whether it's more meniscus, or whether it's more muscle tissue, or adipose tissue.

Whatever the case might be, you need stem cells to do the job. Very, very powerful stuff.

Plus they have ashwagandha for stress modulation, organic wheat grass powder with all the different minerals and trace minerals in there, and it tastes good. That is the key, it tastes good. That's why my kids will drink it.

So it has the coconut water, mint, and just a really nice flavor combination so that this is the best tasting greens drink that I've ever had, and I've tried so many. At least two dozen, alright? At least like 24 or 25 different green blends over the years for you. Human guinea pig.

I human guinea pigged it up, and I've found myself planted firmly at Organifi. So head over there, check them out.

You actually get 20% off exclusive with *The Model Health Show*. All of your purchase, your entire purchase whether it's the greens drink, whether it's their new red drink which we'll be talking about soon, whether it's their protein formula, whether it's their incredible turmeric product, you get 20% off.

Head over to www.Organifi.com/model. That's www.Organifi.com/model and you're going to get 20% off.

Now on that note, let's go ahead and get to the iTunes review of the week.

iTunes Review: Another five star review titled 'New Listener, But Hooked for Sure' by Floray.

'I stumbled upon this podcast series after I decided to really take charge of my life, and become the healthiest person I can. With all the information out there today, it can get confusing what is best.

The thing that hooked me for sure to listen to this series is Shawn's knowledge of sleep.

Being a certified sleep educator, it always makes my heart happy to hear nutritionists emphasize the importance of sleep.

I deal with patients on a daily basis who just have no idea how important sleep is to their overall health, and how important it is to treat sleep apnea, insomnia, et cetera.

I've actually recommended your three part series of *Help Me Sleep* to a few patients who were interested in how they could get the best sleep.

And for myself, I love hearing how nutrition and sleep interact.

Overall great series, and I couldn't be happier that I stumbled upon it.'

Shawn Stevenson: Perfect. Thank you so much for leaving that review. I'm so happy that you stumbled upon us as well, and I truly, truly do appreciate that. It means so much for you taking the time to share that.

And you mentioned the three part *Help Me Sleep* series. This was very, very early in *The Model Health Show*, so this was years ago when I did three episodes back to back dedicated to sleep wellness.

And that was actually- a little fun fact, the catalyst for my bestselling book, my international bestselling book, 'Sleep Smarter,' which I'm very, very honored and grateful to be able to say that.

But it started here, it started here on this podcast, and thank you so much for sharing that, and for acknowledging me, and I just appreciate you so much.

And on that note, let's get to our topic of the day.

Today we're talking about the science of cravings, and how to master your hunger hormones.

So I think a good place to start with this topic is what are cravings? Have you ever thought about that? Like what is a craving actually? What is it doing? What's going on behind the scenes?

So if we look at cravings, it's really a series of chemical reactions in the body that lead us to a heightened desire for a specific substance.

Now what does that mean in the real world? In real world terms, that means when we get a craving it creates a strong drive to eat something that's been flirting with our emotions, alright?

If you play with my food, you're playing with my emotions.

Alright so this is what's happening with cravings, and by the way with this breakdown of what's happening behind the scenes with cravings, you're going to be able to see them more clearly.

You're going to be able to acknowledge them when they present themselves, and not be able to kind of dominate and control your thinking anymore.

And now with that said, where do cravings actually come from? Now if we look at this, there are two parts to the equation.

We've got hunger, and we've got cravings. So we're going to piece these apart and talk to them collectively as well.

But first and foremost, we're talking about specific areas of the brain, and the one that I want to target and focus the most here is something called the appetite regulating network. Alright?

Appetite regulating network, or you can call it the ARN. And this consists of distinct circuitries in the hypothalamus that propagate and relay the appetite drive.

And this is the most important part. It's subject to modulation influence by excitatory and inhibitory messages.

Alright so this system that's controlling our appetite is subject to being excited, and being inhibited by external things, by your environment, and by internal things that you put into your body.

These things can affect your appetite and...cause cravings.

Alright, now with that said, the appetite regulating network- again this is in the hypothalamus, right? So this is known as really the master regulator of your endocrine system. Alright the master gland in your body.

Now not only is it for your endocrine system, AKA your hormonal system, but it's the interface. Your hypothalamus is where your endocrine system and your nervous system integrate, and it's reading all of that.

So your nervous system is really how you're reading the world, it's how you're experiencing the environment, right? It's via your nervous system, and internally as well.

Your nervous system is communicating feedback and you're having resulting neurotransmitters, resulting hormones from your endocrine system, and all of that is being governed by your hypothalamus.

So a lot of powerful stuff here. Your hypothalamus is also responsible for regulating things like your digestion, your metabolism, your fight or flight system, right? So we're talking about adrenal function.

It's all along something called the HPA axis, or the hypothalamic pituitary adrenal axis. It's this super highway that's communicating information throughout your entire body based on your experience, your perception, your environment, and also coming back out based on- creating feelings within your body that you then go and act upon the world.

So it's pretty important, all of this stuff. And your thyroid is also along this information super highway, and so as you know, your thyroid is kind of the master regulator of your metabolism.

And again, all of that, the governing body, the governing force is located in your brain and it's known as the hypothalamus.

Now we understand that a lot of the party is going down in your hypothalamus, but this is also related to some very significant hormones and neurotransmitters in how we experience cravings.

So there are signal specifically from leptin, which is your body's kind of glorified satiety hormone. When leptin is functioning properly in your body, you feel satisfied. You're not going nuts with cravings, you're not having weird cravings.

But if there are some issues with leptin, that can start to kind of fuel the fire.

Now on the other side, there's ghrelin, and this is more of the glorified hunger hormone in your body, and both of these communicate directly with the ARN, your appetite regulating network.

And this establishes this kind of moment-to-moment regulation of energy homeostasis in your body. Alright so homeostasis being balance.

So again, this system is regulating energy signals. This is very important to understand that.

So it's regulating what your body needs. And so cravings are actually in a strange way a call to reach balance, a call to reach homeostasis, and better said your cravings are a drive to bring balance to your body.

So the question is what caused the imbalance? Right? That's what we'll be covering today.

Now cravings- again regulated by the hypothalamus, which regulates homeostasis in the body, we've got leptin, we've got ghrelin.

And by the way, so leptin, this is actually produced (funny enough) by your adipose tissue, alright? So fat releases leptin, and it's a regulator to tell your body when you've had enough essentially.

Okay I'm just giving a very rudimentary understanding of how it works, but leptin is coming from your adipose tissue.

Whereas ghrelin, this is something that is secreted predominantly in your stomach, alright? So this is letting your body know, 'Hey we need some fuel down here. We need some building blocks.' And ghrelin is going to be doing its job to make you hungry to get the resources that it needs to basically get you back in balance.

Now to take this a step further, let's look at some neurotransmitters.

One of them that is involved in cravings is dopamine, alright? Dopamine.

You've probably heard about dopamine, it's getting a lot of press lately. This is this big rewards based neurotransmitter. Alright it drives us to take action.

Dopamine is very important for evolution of humanity because it makes us want to do stuff. It makes us want to go out there and seek to get the reward, alright?

So it really is a driver of motion, of action, of doing something, right? And we want that reward, and dopamine is all about reward.

So we've got dopamine that's tied into this whole equation with cravings, and then we have serotonin.

Now serotonin is regarded as a chemical that is largely responsible for maintaining mood and balance in your body. Again going back to that word 'balance' in homeostasis.

So serotonin has a big role in that, and actually a lot of anti-depressants- so serotonin is often referred to as this kind of feel good neurotransmitter, and so many anti-depressant medications are focused on the action and function of serotonin.

So serotonin reuptake inhibitors for example, or these SSRIs, really look to kind of play around with serotonin and making sure that it's kind of sticking around in your body a bit longer.

Now what we do is- with *The Model Health Show*, we're looking at what's really going on behind the scenes, and what do we really need to do to encourage the function of serotonin naturally?

Well first we have to look at where is it made? Right? If we're having cravings and we're looking for the serotonin hit, we want to feel good, right? The craving is so that we can feel good.

We have to understand where serotonin is being produced, and funny enough- and we've talked about this several times on the show, but a lot of people still are unaware of this, is that upwards of 80% to even 90% of your body's serotonin is produced in your gut.

It's produced in your belly. Alright? So crazy, right? This neurotransmitter, this brain chemical- what we think is a brain chemical, most of it is produced in your gut.

And so the environment in your gastrointestinal tract is very important because it can in fact influence the production and function of serotonin.

It automatically does that just by the nature of this is where it's produced, and also this is where a lot of action in your body is taking place.

This is where you're taking stuff from outside of your body, and you're putting it inside, to become potentially what you see in the mirror. It's to become potentially a part of you.

So it's where the whole show is happening, you know? It's very, very powerful.

So it's thought that serotonin can affect mood, social behavior, appetite, cravings and digestion, sleep (which we're going to talk about), memory as well- it has a big role here in our memory and memory processing, and also sexual desire and function.

And so these are some of the- again behind the scenes when we're having cravings, some of the neurotransmitter hormones that are involved.

But something else fascinating that I wanted to share with you is that there is a genetic component to cravings, and there's also an apparent prenatal component as well.

And this was research published in 'The Federation of American Societies for Experimental Biology,' and they found that increased maternal nutrition, IE overeating, alters the development of the appetite regulating network in the brain. Alright? So overeating.

Now what does that look like? Because obviously there's going to be a greater intake through the trimesters of pregnancy. This is natural and normal, but today we have faulty signals because we have McDonalds, alright? We have faulty signals because we have Junior Whoppers, alright? We have Dairy Queen.

So it can really gum up the system and cause us to overfeed.

And so it actually influences the ARN in the brains of our babies. What? It's crazy stuff. Crazy stuff.

And so what they did was they actually in this particular study, they were looking at what's happening in the brains of animals, and so they looked at lambs for example, and they found that when the mother is overfed then there's the appearance of more subcutaneous fat for the baby. Alright so more subcutaneous fat, and also lowered leptin expression.

So the ability of the body to feel more balanced and satisfied is inhibited.

This is powerful stuff because this can partially explain- again this is just a percentage because the way that we live our life trumps all of this, because as we

talked about with Dr. Bruce Lipton who's the author of 'The Biology of Belief,' the four most expert in epigenetic cell biologists.

When we get here, 99% of the time our illnesses are not via a genetic default. These are due to our lifestyle practices, our environment, and our thoughts.

And so if you happened to miss that episode, make sure to check it out because it's pretty mind-blowing. And again he's the four most expert in this field, and to tell us that number one, when we're looking at genes, we understand now after hearing from him, our genes don't control anything.

Our genes are just a blueprint. What changes is the reader, or the out expression of that blueprint, which on average a given gene has 3,000 different potential expressions that it can show.

That is incredible, and that is due to our thoughts, which as he shared our thoughts create chemistry in our body. And what we're talking about today with cravings is just really a focus point. Taking a microscopic look at what's happening with our cravings has a lot to do with our internal chemistry.

Alright so I wanted to share that little fascinating fact, but again even if you came from a situation where maybe your mother didn't eat the best diet, and I'm probably in this camp. Alright, hand up.

There is still so much that we can do to transform our system to change the way that our genes are being expressed, to change our ARN, and to set us up for a better balance with our food.

Alright now, I've got a question for you. When you have cravings, where are the cravings experienced? Maybe it's a craving for chocolate, right? Maybe you have a craving for chocolate, right? Or maybe it's a craving for a cigarette, right? Where is the craving experienced?

So this leads us to the conversation looking at hunger and cravings are not quite the same thing. So this is really important to be able to see this. Hunger and cravings are not quite the same thing.

Hunger is experienced more involving the stomach, alright? And many of us today, because of just the wide range of opportunity to eat food at every single corner, we rarely experience true hunger, you know?

It's just kind of there's a habitual eating of food. Breakfast pushing lunch pushing dinner pushing breakfast pushing lunch pushing snack pushing dinner. You know and so that's that kind of process, whether we're hungry or not a lot of times.

So hunger though is experienced involving the stomach. And your stomach can also be trained to look for food, you know on a certain cyclical pattern.

And so but we'll feel it like, 'I'm hungry.' Your stomach might even talk to you. It might be, 'Grrr.' It might growl a little bit.

Now so hunger is more involved with the stomach, but cravings are experienced completely in the brain. Cravings are experienced completely in the brain.

This is where you experience it- it's an idea, it's a seduction that's happening in your mind.

So hunger will compel you to eat, but cravings will hit your mind with a note that's pretty specific. The craving will hit your mind and say, 'Honey Bun.' Right? It'll hit your mind and say, 'Two for \$0.99 Honey Bun. Go get it.'

But hunger is just like, 'I should eat something,' right? But the craving is something very specific. It's hitting a very specific key on your body's internal piano, alright?

Now from that kind of breakdown, hunger and cravings, but they do integrate. They do integrate but they're not exactly the same thing.

So my next question for you is are cravings normal? Are cravings normal? Have you ever thought about that?

Well I'm here to tell- also, are they a bad thing? Are cravings normal, and are they a bad thing?

And I'd like to stress the fact that number one, cravings are normal because it's a drive from our body to get us back to homeostasis, to meet an imbalance.

And how we go about that, or how the craving is created could be unhealthy, and how we go about satisfying the craving can be unhealthy, but they are normal. They're a normal process of the body, and it's not that cravings are bad, alright?

Cravings are just a response, it's a training of your system, and it's not that they're good or bad, it's just- it is. You know and so whether we indulge in the craving or not, it's not bad. So we have to get rid of the label that cravings or indulging in a specific craving is something that is bad, or something to be looked down upon.

It's just understanding what's happening behind the scenes, being more educated about our bodies, and being more able to interpret our signals and our communication from our amazing body that's always looking out to move us forward.

So with that said, what actually causes these abnormal cravings? And that's where we're going to go today, and we're going to look at four key areas that we'll be covering in depth on this episode.

But before we do that, I want to share one other small nugget because I mentioned this a little bit, but cravings are also a matter of habit. Alright? I want to reiterate this and talk about this, cravings are also a matter of habit.

And my friend and recent guest on *The Model Health Show*, Dr. Michael Roizen, who's a New York Times bestselling author, multiple books, co-authoring books with Dr. Oz, 'You On a Diet,' 'You: The Owner's Manual,' and many others.

But we were on the episode together talking about fiscal fitness, right? We were talking about financial wellbeing, and how that relates to our health and wellness.

If you missed that episode, you absolutely, absolutely need to check that one out right after this. It's going to be in the show notes, or just head over to www.TheModelHealthShow.com and check out that episode with Dr. Michael Roizen.

But he's also the Chief Wellness Officer at the Cleveland Clinic, world-renowned Cleveland Clinic, and he says, 'A craving is essentially just a habit that you've ensconced in the brain pathway.'

So what he's really saying with this is that if you eat when you're stressed for example, or you eat at a certain time of night, that behavior continues to become more and more a part of your lifestyle.

So if you get stressed- if you have the tendency to get stressed and then you eat something, it's just going to create a biochemical feedback loop, and you're body's going to come to crave food when you get stressed, or maybe when you get angry, right?

Some people are angry eaters. I've seen that happen before. I'm not going to say any names, but sometimes maybe my wife is mad at me and she's just like- looking at me with the side eye. Maybe that's happened before. Maybe not. Maybe not.

But bottom line is this. If you're tying in eating behavior to certain things, you can create this habit, you can create this feedback loop that we can consider to be a craving as well.

Alright so I wanted to share those points with you, but now I want to dive in and talk about these four key areas that are really responsible for our abnormal cravings.

And sometimes, again this can be something that's considered normal as well, but for the most part these are where the imbalances can be found that drive us to have these cravings, and then drive us to have resulting behaviors.

So the first area we're going to look at, number one is nutrition and cravings. Alright? Nutrition and cravings.

So our nutrition, there's this primal drive within our bodies, a powerful force within us that's governing us, and driving us to meet our macro and micronutrient needs.

Alright this is programmed within the system, so trying to use willpower to battle a craving when our whole biology is driving us to meet these certain needs that might be lacking, we're getting into this battle of our willpower versus our biology, and guess what? The biology is going to win out eventually because it's a very primal force that's compelling us to take action so that we can bring things in that we need to make us as healthy, and as happy, and as successful as a species as we can possibly be.

So this is where one of the underlying pieces of the craving equation takes place, and it's something called nutrient deficiency, alright? Nutrient deficiency.

So what does this look like? This looks like your body might be in a severe need of a bioavailable form of calcium.

And so why did I just say 'bioavailable form of calcium'? Because there are different forms of calcium. If you look at the Mendel's Table of Elements, that's measuring the ash of calcium.

Have you ever eaten calcium ash before? I never ate calcium ash. Well maybe you have. Maybe we both have. Maybe that's what we're finding in Centrum Silver, or Centrum whatever multivitamin.

But in nature, calcium is not that. You know, it's alive. It has different phytonutrient properties, it has different interaction with other minerals, and trace minerals, and vitamins.

And so if we're not getting the right form of calcium in for our bodies that it's really looking for- and by the way, so just to give an example.

Something like B-12 for example. There are different forms of B-12. The most bioavailable form we found is something called methylcobalamin, this methylated form.

And so with calcium it's the same thing, so a lot of people, we don't consider that in the field of nutrition, and as this is growing. So we have to keep that in mind that what we've been taught in conventional school, and in conventional universities, conventional health coaching courses, you need to get a certain amount of calcium.

How? From where? Is this the calcium that we need? Is my body actually going to do something with it?

So there can be a compelling drive from your body, it's deficient in calcium, that it might need to clot your blood which is kind of important. Also to regenerate your tissues maybe of your bones, of your spine.

And so the bottom line is that your body is really just doing what it's been programmed and has evolved to do, which is to compel you to try to get those things into your system, to meet those needs, to rebuild those tissues, to bring you back better.

But a deficiency can lead to some underlying cravings, as well as potential overeating.

And I like to share this statement as much as I possibly can, is that chronic nutrient deficiency leads to chronic overeating. Chronic nutrient deficiency leads to chronic overeating because your body is drawn to continue to compel you to keep pulling in nutrients so it can try and meet those needs.

But if you're not bringing in the foods that your body needs to find those compounds- and your body is very, very crafty at building things out of other things.

So it has an innate ability to do that, however some things you need to get specifically from your diet.

That's why there's this category of essential fatty acids, or essential amino acids. These are things that your body cannot make on its own, it needs to get from your diet, alright?

So if you're deficient in those things, this can cause some very strange abnormal cravings, so we want to meet those needs.

And so I wanted to share an example, and I talked about this on the 'If It Fits Your Macros,' and 'Glute-Free Reloaded' episode, which we'll put in the show notes if you happened to miss that one. And we've already got a couple hundred thousand people who have checked that episode out. So make sure you check that one out. It's very, very powerful.

Now this was a study that was published in 'The International Journal of Obesity,' and this was looking at a breakfast choice of having eggs or a bagel, alright? This was the eggs versus bagels study, published again in 'The International Journal of Obesity.'

And they took otherwise healthy but overweight or obese subjects, and they assigned them either an egg breakfast or a bagel breakfast along with restricted calorie intake.

Then after eight weeks, in comparison, they looked at the bagel breakfast and they found that the egg breakfast group showed 61% greater reduction in body mass index, 65% greater weight loss, 34% greater reduction in waist circumference, and a 16% greater reduction in body fat.

What? How? How is that possible by simply going eggs instead of a bagel for breakfast?

We're looking at one of the things that, again this is potentially something satisfying a nutritional need, right? Getting in some high quality proteins, or some high quality fats, or choline, or whatever your body is looking for, versus something that is largely devoid of nutrients.

As a matter of fact, many anti-nutrients that actually pull more resources from your body to try to process in the bagel. Alright?

So it's just something to consider because the resulting thing could be cravings for food later when you eat the bagel, and you're not activating the proper response with leptin, ghrelin is not going to be doing its job properly, you're not getting the nutrients that you're needing, so it's going to compel you to eat more later in the day.

And that's simply what was seen in this study. It's not that the people didn't want to follow the calorie restricted diet, it's just harder because their biology is compelling them to bring in more food because it didn't get what it wanted to start the day.

And that can actually create a cascade effect and stimulate the appetite more, stimulate cravings more when you're eating the wrong thing for you to start the day.

Now some people, they might be able to do that. They might be able to 'get away' with eating cake for breakfast. Now you might think, 'Nobody eats cake for breakfast.'

Have you ever had a muffin? Cake. It's just cake with a fancy name.

When I see a muffin I see flour, I see sugar, I see milk, I see some butter or oil, but I get it. It's the blueberries, right? A lot of muffins, they have the blueberries, that makes it breakfast. It's cake, it's just a cake for breakfast.

I did it, I know you've probably done it as well, but with that said as we become more educated in what's happening behind the scenes with our bodies, it makes it a lot easier, more graceful to have the experience we want to experience as far as how we feel, and to really love our bodies, and to be able to have the body and the health that we truly desire.

So that's what this is all about.

Now I want to shift gears and talk a little bit more about something under this hub of nutrition and cravings, and it's something called vanishing calorie density. And so with vanishing calorie density, these are specific foods created- alright these are created by food scientists that have this ability to get you to eat a lot of the food, alright?

So with vanishing calorie density we have foods that rapidly vanish or 'melt in your mouth,' that signal your brain that you're not eating as much as you actually are. Right?

So have you ever had a Cheeto? Alright have you ever had the orange fingers? The orange fingertips? If you've ever had a Cheeto, that's a perfect example of something that is fitted with vanishing calorie density where you can continue to eat those, those little Cheetos.

And by the way, the marketing, right? Who's the mascot? Chester the Cheetah. I don't know if he's still around now, but he was around for a long time. Is this cartoon marketing to adults? No, absolutely not. It's marketing to kids. Getting you in early, creating that habit loop that we talked about earlier, and literally changing the wiring of your brain, thus making it much more difficult to really take control of your health, and make food decisions that are advantageous to your health.

Right so again, just stepping back and just being aware of this stuff, and seeing how much power we have and how much power we've given away.

So now with vanishing calorie density, we're looking at foods that tend to disappear very quickly in your mouth, and that experience, and so your brain is tricked into thinking that you're not consuming very many calories, if any at all. So you can just keep eating, and eating, and eating. Marketing you can't eat just one. Absolutely.

Absolutely unless you're like Yoda. Like Jedi level twenty, right? It's very difficult to take care of that response, and to eat just one, because it seems like you didn't eat any.

Now vanishing calorie density can be one of those things behind the scenes with our nutrition that's causing our cravings.

So what about some solutions here? Right? What about some solutions?

When we think of cravings we tend to think about cravings for specific foods, right? Maybe cravings for salty foods, for example.

So this could mean- this is according to Dr. Scott Isaacs, and he's the medical director of Atlanta Endocrine Associates, that cravings for salty foods can be a sign of dehydration or a mineral or electrolyte imbalance. Crazy.

That is something that we probably don't think about, that when we're having a strange craving we might just be thirsty. But guess where all of this really resides; again this response, this experience of a craving?

This goes back to the hypothalamus, which also is responsible for regulating your thirst as well as your hunger signals, alright?

So a lot of times when we get compelled to eat something, we're really just thirsty, and those signals are very similar, especially if you're not really experienced at listening to your body.

That might sound weird because it's like, 'I live in here, I live in this body all the time.' But because of our environment today, because of the abnormal foods that is a part of our culture, we can get disconnected in a way.

You're never really disconnected, but we start to misinterpret signals, and we start to suppress them. We start to become numb to them. We start to not be able to speak the same language.

And so as we're addressing these things today, we become more adept at hearing the messages that our bodies are giving.

So with that said, you might just need some water. And we recommend as a minimum- and this is just something to shoot for, this is an average thing. You might need less, you might need more, but just something to give as a parameter is take your bodyweight and divide that in half. Whatever number that is, that is the amount of ounces that you need to target drinking.

So 150-pound person, 75 ounces would be idea as kind of your barometer of hydration for the day.

So also I'd mentioned electrolyte imbalance, minerals. Salt is rich in various trace minerals, right? Minerals and trace minerals are there, especially if we get higher quality salt.

So the Himalayan rock salt, sea salt, that kind of thing. And even at the most random airport restaurant, they're starting to use sea salt now instead of the bleached whatever- the girl with the umbrella, right? That stuff.

Which again, not the best, but it could be a result and your body is looking for certain minerals, electrolytes, things like that.

And so another piece is with that salty craving, instead of going for the potato chips, maybe we go for some salted nuts or seeds that are also maybe processed correctly. Like some dehydrated, kind of soaked and dehydrated pumpkin seeds, or pistachios, and something like that with some really nice seasoning on them.

There's great companies that do that kind of thing that you can buy online, and a lot of different stores as well today. We might not necessarily want to eat the roasted toasted nuts that are cooked in like terrible canola oil or things like that, but maybe just go for something like that.

And plus you've got some fats in there as well that can help to maybe meet that need a little bit better than going ham on a bag of Frito Lays.

And so another thing to acknowledge with that electrolyte balance is it's not just sodium but the potassium as well. And some of the best sources of potassium, a lot of people go for- they hear potassium and they think banana, right? They think bananas.

And the reality is with bananas we can get into a little bit of trouble because it is a very dense fructose laced food. Again it's not that it's bad, everything is an option, but it might be the thing that we really want as far as an ideal source of potassium because- and again, we've talked about this many times but it can't really be stressed enough that human intervention- like we've changed many of the foods that we consider normal today.

So when you see even an organic banana, that's not how they developed in nature. That's not natural. We've bred out all of the reproductive bits of the banana.

You even used to see a lot more of those little brown or black seeds in the banana, and sometimes you don't see any at all today, but they also used to be a lot bigger as far as how bananas- true indigenous bananas actually are.

We wanted something that is just very palatable, very easy to eat, and very dense in energy, right? AKA calories.

And there's not really anything to slow us down as far as eating around seeds, and we just get this big hit of fructose which hits your liver pretty hard as well. Even if it's a fruit. So- and the timing of those things.

So if you're having a banana along with a smoothie with a bunch of greens like some kale, and some spinach, and maybe some cashew butter, and some protein powder, it's going to help to modulate and balance that intake of sugar that you're getting from that banana.

So something like that is all good, but just walking around hammering down bananas, if you're not doing marathons every day, it might not be the best idea.

And also if we're looking at something that is going to help with that potassium need, avocados. Great source of potassium, alright? Much, much better choice in my opinion.

And there's a sea veggie called dulse which also hits you with- so many of these minerals and trace minerals that can cause that salty craving, we can find in dulse. A great source of potassium, and also minerals and trace minerals. Alright?

So it's a sea veggie, dulse, and you can get it even in little shakers where you can sprinkle it on your food, that kind of thing. Or you can get like the whole leaf which is kind of like a jerky in a way. Like some kind of like seaweed jerky, and a lot of people think it's tasty.

So just other options. We're all about options here with *The Model Health Show*. So those are just a couple of things to check out and to consider.

And lastly with this note of salty craving, or something where we're looking at a potential craving for maybe red meat or something like that, it could be a potential iron deficiency as well.

And protein actually solves a lot of these problems as far as cravings because it is the most active macronutrient as far as activating our body's leptin response, and that satiety experience.

It's very difficult to eat a lot of protein, you know? If you can line up Twinkies- right, Chocodiles, let me make it clear. Chocodiles, alright? That's the chocolate Twinkies if you don't know about this. I don't know if they're illegal now or what, I don't know, but I used to eat a lot of them.

But if you can line up Chocodiles, I can knock those down. But if you try and line up chicken breasts, it's very difficult to eat them because of the satiety factor, alright?

Your brain starts to tell you like, 'I've had enough' a whole lot quicker than Chocodiles or Krispy Kremes, and those kinds of things, or Doritos.

So protein solves a lot of problems. We need to make sure we're getting adequate amounts of protein that work for us- that work for us. Not on some doctrine, some food construct doctrine that you have to follow this thing.

You have to listen to your body more so that you're getting the protein that really meets your needs and makes you feel good and makes you feel satiated within your own body, and not having these cravings.

Again, protein solves a lot of problems. I'm not talking about a high protein diet, I'm talking about adequate protein to rebuild your tissues. Adequate protein to help you to feel satisfied within your own body, and that's what it's really about.

Now one other thing that I wanted to cover here in this particular area with nutrition and cravings was the craving for sweet foods.

Now this is probably the thing that most people identify with, and researchers admit that this is a lot more complicated because sugar is so much more addictive. This can create an addictive construct in your body where that craving is very pervasive and just continues to hover around.

And we did a whole entire episode called, 'The History of Sugar,' which we'll put that in the show notes, so definitely go back and look at that episode, check it out, take good notes. It breaks the whole thing down from A to Z. It's going to provide a lot of insights there, so I don't want to spend too much time on that one.

But it's important to understand that even with that experience, like if we have a sweet craving, it's not necessarily that we're addicted. We can also indulge, right?

You want to allow yourself to have some of the sweet things in life, and this could be a sign of something else that we'll talk about later, but what good is it to be able to eat food and not enjoy it?

This is the reason that food tastes good, is so that you can enjoy it. And so there are so-called experts out there who say that food is for fuel. Food is not about taste, it's not about pleasure.

That is insanity. Alright? This is the reason, again, that food tastes good. This is a part of life, you know? We all love going to amazing restaurants, we all love having great experiences with food, and 'breaking bread' with our friends and family.

You know, this is something that is a huge part of our culture and our evolution is food, and that's not going to stop anytime soon. So we want to acknowledge that, and to give ourselves permission to actually enjoy the experience of eating food.

Does this mean, again that we go ham on Chocodiles? Absolutely not, that's crazy pants. What I'm talking about is upgrading the quality of the sweet sensations, or the sweet treats that we give ourselves.

You know, we had a good friend of mine, Michael Morelli on the show who wrote 'The Sweet Potato Diet.' He's got a recipe for these sweet potato brownies. Sweet potato brownies? That sounds like it's probably illegal in like five states, alright?

But they are perfectly legal, I promise you that.

The reason that this is a better option to go to is that you're going to get some more of the phytonutrients, vitamins, minerals, even some of the macronutrients that we're looking for in something that's based using in its ingredients a sweet potato versus a processed flour. Right?

So you get more nutrition and you satisfy that craving, but it's going to be a deeper satisfaction so that you're not eating a tray of brownies. Maybe you eat one or two and you're like, 'I am good!'

And I've had many of these desserts over the years. My wife was really, really into making desserts for awhile, but I just couldn't eat a lot because they were much more nutrient dense.

And so have much better higher quality foundational pieces to make our sweet treats so that we can enjoy them and also feel good after having them.

Alright so one other quick piece here is- and this is oftentimes considered a sweet treat, is chocolate. Chocolate.

This is probably- and according to the experts, this is the number one craving that people have is for chocolate.

And a few years back I did a TedX Sin City, it was in Las Vegas, talking about chocolate. And today it's pretty well-known, the benefits, but this craving involved here could be your body- again if your body is ever- if you've ever eaten something, your body knows what's in it.

Like it remembers, 'I get this, this, and this, and this when I eat that.'

And so a big part of our drive and attraction to chocolate could be the fact that it's such a rich source of magnesium, right? Magnesium.

And funny enough, this is the number one mineral deficiency- I'm talking about chronic deficiency in the Western world. Upwards of 80% of the population is deficient in magnesium. This is one of the best sources, and it's tasty, so that might be one of the reasons why we're so drawn to chocolate.

Also it's an incredible source of iron, and we talked about iron deficiency a little bit earlier, but this is important for building our blood, alright? So iron is another great thing that you're going to find when you're eating chocolate.

Now with that said, we want to get higher quality stuff. We want to get upwards of 75% ideally cacao which is the real chocolate when we get our chocolate bars and things like that. Or using high quality chocolate powders that are cacao powder for desserts, and things like that. The little cacao Nibs.

There's a lot of different things that you can do and use high quality stuff, and plus, antioxidants. There are very few things on the planet that have more antioxidants than chocolate, and this is another driving force for your body to try to meet a need is to protect you from the oxidation. To protect you from all the various things that we're exposed to in our environment today, which is very abnormal.

So there are compelling reasons why we go for chocolate, and actually I found a study that quantified this by giving participants 100 gram serving of either milk or dark chocolate two hours before being served an all-you-can-eat lunch, and they found that ingestion of the dark chocolate was correlated with the 17% lower calorie intake at that lunch compared to people who were guzzling the milk.

Alright it actually does have some satiation factors, right? It is meeting some needs, and funny enough good chocolate- and they said dark chocolate specifically in this study can be one of those things that we allow ourselves to have this treat, a little bit of chocolate, so that we can meet that sweet craving but in a higher quality healthier fashion.

And so I hope that this section really gives you some viable insights and options into what's happening behind the scenes with nutrition and with our resulting cravings.

So I want to bulletpoint a couple of key takeaways.

So number one, we want to make sure that your nutritional bases are covered. This is very important.

We want to make sure your nutritional bases are covered so that your body is not having these weird cravings, or what you might define as weird.

And so what does that mean? This means to be proactive with your nutrition, not reactive, alright? So be more proactive. Make sure that we're getting in some of the good stuff. We're getting in the good stuff so that our bodies are getting what they actually need, and then we leave some space for the random things- the treats out there in the world.

But we're doing this from more of a place of decision and choice rather than a compelling draw and craving that we must have this thing or the world shall end.

Alright so also make sure that you have yourself some superhero level snacks to go to. You know, so instead of the conventional brownies, we go to the sweet potato brownies.

Instead of conventional Hershey's, hersh, hearse. Instead of that kind of chocolate bar, we go for something that's organic, 70% plus cacao, and we go that route instead of the other stuff. Alright?

So those are some kind of takeaways from that section, and with that said let's move on to section number two with what's happening behind the scenes, and now we're going to talk about sleep and cravings.

So little did we know that our sleep quality is probably one of the biggest triggers that are controlling our cravings. One of the biggest triggers that's controlling our food choices.

And this was highlighted by a study that was done by Stanford University, and they found that even a short sleep debt, just 24 hours was enough to suppress leptin production.

And leptin again, this is your body's satiety hormone, so being sleep-deprived suppresses your body's ability to feel satisfied, so guess what you're going to do? You're going to be more compelled to eat.

And I know this has happened to you. If you're sleep-deprived, just say you've been up all day, you went to work, you got stuff done, you're taking care of the kids, and then you're sitting up, it's 1:00 in the morning, you've got two episodes of *Game of Thrones* banked because you were too busy before.

You're going to watch these two bad boys, it's 1:00 in the morning, you've gotten through one, you're going to get a mid-game snack. I promise you're not going to eat broccoli.

1:00 AM, nobody does that. You're not going to be like, 'Honey, can you grab me a handful of spinach? I want to get my rabbit on right now. I'm going to sit here and I'm going to eat a piece of carrot. I'm going to eat a carrot while I watch *Game of Thrones*.'

Nobody does that. You're going to want the sugary sweet, or snacky salty, creamy ice cream. These are the things that we go for when we're tired and when we're sleep-deprived.

Even if we don't know it, we'll just have a tendency to do that.

But this is a good- and not to say that you can't do that, because there's only two kinds of people in the world. Those who watch *Game of Thrones*, and those who don't.

And so for those who do who are in the know, you're going to have that experience and it's amazing, sometimes you're going to be up late, but let's make sure we've got some higher quality snacks to go to. Kind of going back to that other point.

But what I really wanted to share was the fact that when you are sleep-deprived you will have less control over your cravings. This just goes hand in hand.

Also to just kind of piggyback on that, like what's happening behind the scenes when we're sleep-deprived is an elevation of cortisol. This is intrinsic. This is automatic, is that we have this increased production of cortisol, the stress hormone.

Sleep-deprivation is one of the biggest stressors on your body, and you've probably heard of something called stress eating, but being sleep-deprived, this is a survival mechanism that's kicking in.

Because of the fact that- and this was UC Berkeley researchers. They actually did brain imaging scans and found that when an individual- again just a short sleep debt, so we're talking 24 hours.

When they looked at their brains, just 24 hours of sleep-deprivation led to a heightened increase in activity in the amygdala. This is the more primitive part of your brain that's really concerned mainly about survival of self.

And also with that heightened expression or activity in the amygdala, they found decreased activity in the prefrontal cortex.

This is the part of your brain that's responsible for your 'willpower,' for your decision making, for distinguishing between right and wrong, for social control.

That part of your brain goes cold, alright? And they actually looked at people's brains, what's happened who are sleep-deprived. Alright?

So your ability to say no to the Rice Krispy Treat is going to be dramatically reduced when you're sleep-deprived. Alright?

Now let's take this back to something that is much more primal.

And so what they also found, researchers discovered that just 24 hours of sleep-deprivation leads to about a 6% reduction in glucose even reaching your brain.

So in essence, your brain starts to starve, which is a very, very powerful sign. A survival mechanism kicks in to compel you to eat, to get more nutrition to your brain.

And so they found- this was also about 14% of that was your prefrontal cortex. Again, the part of your brain responsible for problem solving, and if we look at evolutionary biology, this is not okay because a couple thousand years ago, which your wiring is the same, a reduction in activity or fuel to that part of your brain could mean your death.

You might not be able to defend yourself from an animal, or be able to procure your shelter. This is very dangerous, and so your survival mechanism, your very primal programming is going to kick in and compel you to get more glucose to your brain.

Specifically it's going to want more glucose laden food, glucose potential food.

So if you've ever had a Krispy Kreme, if you've ever had ice cream, if you've ever had cookies, your brain knows, 'I can get quick sugar up to my brain and this can hopefully help me to survive this short-term starvation of my brain that's happening right now.'

So I hope that makes sense.

So with that said, this point here, making sure that we're optimizing our sleep is of the utmost importance.

And so I highlight all of these studies and so much more in my bestselling book, 'Sleep Smarter.' And I know that this is why currently it's translated in I believe it's thirteen, maybe upwards of fifteen different languages now, and still going because this is cross-cultural, this is something that we as humanity has been experiencing as our change in our natural light and dark cycle is showing up so heavily on our health.

But there are small, simple, clinically proven things that we can do to help to reverse these issues, and still be able to enjoy our lives, and not be a Luddite, you know and throw our phone out the window, right?

We don't want to do that. We want to be able to still be in and evolved in the world, but still have amazing sleep and wake up feeling great and make sure that our metabolism is on point.

Make sure that our cravings, and our hunger and satiety hormones are all regulated and working normally.

And so if you happen to have not read 'Sleep Smarter,' make sure to head over there and grab your copy. It's available at bookstores everywhere, of course Amazon, Barnes & Noble, all that good stuff.

But also, you might not be an avid reader. Maybe you're more into audiobooks, or maybe you haven't tried audiobooks yet, and that's going to be the thing that really lights your fire.

And I'm so, so, so grateful to be able to say that 'Sleep Smarter' was a number one bestseller in the country on Audible for like six months. It was amazing. Amazing.

It's still up there in the top books on Audible, but if you're not taking advantage of this, it's just another great way to learn. I love audiobooks.

You know, we've got this movement that's happening now with there's so much going on in our lives, but we can be able to get educated while we're not stopping living our lives.

You know we can still clean the house, we can still commute, we can still exercise and be able to get this information in as well.

And I want to help you to be able to do that better, and so I have partnered up with Audible, and you can actually get a free audiobook- you can get 'Sleep Smarter' for free, or any audiobook of your choice with a free thirty day trial if you go to www.Audible.com/model. That's www.Audible.com/model.

Again a free audiobook, free thirty day trial. And Audible- I use Audible because it has an unmatched selection of audiobooks. It also has original shows, news, comedy, and a lot more. And I love it because you can listen on your favorite devices whether it's your iPhone, or your Android, your tablet, iPod, iPad, et cetera.

And actually I used to listen to audiobooks back when I just had my little iPod, and it was just one of the ways that I was able to educate myself, and stay connected, and continue to learn, and check out some of the best books, and even little known books to garner a level of education and understanding about the things that I was really passionate about.

So again, widest selection, best books on audio. Check it out now at www.Audible.com/model. Free audiobook, free thirty day trial, alright?

And I was just listening to an audiobook this morning. It's part of my morning routine a lot of times. So head over there and check them out. www.Audible.com/model.

And so just to share a couple of quick tips, and these are all found in 'Sleep Smarter,' to help to improve our sleep quality.

I want to point to how important it is to do something that we're going to talk about next, which is exercise, and how exercise timing can improve your sleep quality.

And so Appalachian State University did a study, and I've shared this before, but I really want you to understand this because it's very powerful.

There's a key to this that might have gotten glanced over that can change the game for you.

And so Appalachian State did this study where they were looking at how does our exercise timing affect our sleep quality?

And they had individuals to train exclusively at 7:00 AM in the morning for one part of the study, then they had them train exclusively at 1:00 PM in the afternoon for another part of the study, then they had them train exclusively at 7:00 PM at night as another part of the study.

Now at the end of the study, they compiled all the data, and they found that when individuals were working out in the morning, the 7:00 AM time, they found that they had more efficient sleep cycles.

That means the quality of sleep they got was better.

They tended to sleep longer, so when they exercised in the morning they tended to sleep longer at night. They found that they spent more time in the deepest more anabolic stages of sleep. Alright so this is when you're producing the vast majority of things like human growth hormone.

And this is what I really wanted to point out, and really to pinpoint here, is the morning exercise time, they found that they had about a 25% greater drop in blood pressure at night.

Okay so this is important, so let's unpack that a little bit.

That activation of your parasympathetic nervous system- because that's what it's correlated with. That drop in blood pressure is correlated with the parasympathetic nervous system, also known as the 'rest and digest' system.

And it's correlated with the deactivation of your sympathetic nervous system, AKA your fight or flight nervous system. Alright?

The residual effects of fight or flight is a substantial drop in glucose. And guess what? Your body is going to compel you, i.e. cravings for strange things, to get a lot more glucose in your body.

Alright and we're going to talk a little bit more about that later. So get some morning exercise in. What you do in the morning is going to help you to sleep better at night.

And so this could just be five minutes. Or four minutes of Tabata, which is twenty minutes of exercise, ten seconds of rest, twenty seconds of exercise, ten seconds of rest, and repeat that for a total of just four minutes.

And this is doing what we call clinically a cortisol reset. That's why it works so well.

And we talked about this on past episodes, and of course it's detailed in 'Sleep Smarter,' but bottom line is whether you work out in the afternoon, or in the early evening.

I don't recommend working out later in the evening if you plan on getting great sleep because I've received so many- like countless messages of folks who they get off a little bit later, and they might hit the gym at 9:00 at night, or 8:00 at night, and they're trying to get to bed at 11:00 right after, and they just can't sleep.

They have a hard time getting to sleep. And they change that one thing with their exercise timing, and immediately their sleep quality improved.

And this is because exercising close to bedtime is going to elevate your core body temperature, which depresses the release of certain sleep related hormones and neurotransmitters, and also it elevates cortisol.

When you're working out, you're not producing like relaxation compounds. You're producing- it's a stress. You know?

And so cortisol elevates, melatonin drops because you're probably not exercising in the dark. Well there might be one kind of exercise you do in the dark before bed.

That's also something that's in 'Sleep Smarter.' We talk about the relationship between sleep and sex, and how sleep impacts your sex life, and how your sex life impacts your sleep.

And so we also did an entire episode dedicated to that topic, which we'll put in the show notes, so make sure to check that out.

So again, that's just one of the tips. There are so many others.

One other quick one I want to point out is making sure that we're getting plenty of what I call good sleep nutrients, and these are nutrients that are precursors to neurotransmitters and sleep related hormones.

Alright so we want to make sure that we're getting plenty of those in by eating high quality real food, and again being proactive with our nutrition, and not reactive.

So that's number two on what's happening behind the scenes with our cravings.

We're going to jump into number three which talks about exercise and cravings. Exercise and cravings.

Now something that was commonly believed that actually might not be the case was that there's something called 'working up an appetite.' Right? When we're exercising.

Or something called 'cardio compensation.' Cardio compensation. So this is the idea that doing a lot of exercise is going to cause us to have a ramped up appetite.

And if you look at the research, this actually isn't the case. And so this study was published in the journal 'Appetite,' and they were looking at what happens with moderate to intense exercise on our regulation of our appetite, and circulating concentrations of ghrelin, right? This hunger hormone.

And so at the end of the study, and I'll just go ahead and summarize this for you because it's a pretty detailed study, they found that when individuals were accumulating large energy deficits by doing exercise, that did not lead to an acute compensation mechanism or compensation response in appetite, energy intake, or secreted ghrelin.

Alright, none of those things happened. In fact they were less turned on by food, so overall they were even- this was another study that looked at what's happening in our brains after intense exercise?

They found that people had less stimulation in the parts of the brain that have desire or a draw towards craving and towards eating. That part of the brain was not hyperactive. As a matter of fact, it was a little bit reduced in function after exercise.

And so with that said, it depends on the kind of exercise, too.

If you're like going to the gym, and you go in, and you go jump on the ab chair, right you're doing that ab chair or the little twisty one, and then you go and maybe you're lifting a couple of two-pounders doing your lat raises and chest presses, that kind of thing.

Or even just sitting on a machine and maybe spending more time scrolling on your phone than actually using the machine.

That kind of workout, you're probably going to want to go to IHOP, alright? It just doesn't really- that's not doing the trick.

And for a lot of us, we see that kind of behavior at the gym, and if we happen to be caught up in it ourselves, it's okay. We'll just forgive ourselves, but let's actually go and do what we're there to do.

Alright I'm not saying don't socialize, say hi to people and that kind of thing, but get in there and put in your work to get the results that you want, you know instead of canoodling and using machines that don't really have much value.

If you're not like already pretty chiseled, then we don't need to get onto the ab chair, alright? We're just building harder abs under belly fat. Let's do the things that can actually encourage the heightened activity of our metabolism.

You know, working our major muscle groups. So doing the deadlifts, and the squats, and the lateral pulldowns, and pullups, and bench press, and those kinds of things that work a lot of muscles at once.

Because as we've shared, and I think my wife even shared this on the episode she was on most recently, she sees my son and I, and we rarely if ever do ab work. You know?

It's something we very sparingly do, but we still have that whole six-pack thing, but it's not because of doing a bunch of ab chair exercises.

So that's a whole other conversation for another day, and we've talked about some of the things that don't work particularly well on past episodes.

But the bottom line is if you just get in there and messing around, and not doing things that are efficient and effective, you're probably not going to activate this effect of being actually less attracted to eating after you exercise. So you'll make better decisions.

And so I also wanted to share a counterpoint, or seemingly counterpoint, and this was done by Brigham Young University, and the research looked at high intensity exercise such as running in hot conditions, they found that it suppresses the ghrelin hormone, and that kind of goes in line with what we just said.

But they also found that appetite can be stimulated with other high intensity exercise, specifically swimming in cold water. Now this is very interesting because this actually increases the ghrelin activity, this hunger hormone.

And what they deciphered was that it's because of the cold exposure, alright? Because it radically increases the calorie burn as your body is trying to insulate itself, and it's moving its circulation closer to your internal organs, whereas the high intensity interval training, or the running in the warmer weather, or in heat, it's moving outward from your gastrointestinal system.

Alright so it's just kind of making things less attractive, taking some of the function, turning it down a notch.

So I just wanted to share that because some people might be- like your thing is swimming, you're like, 'Well I'm always hungry after I swim.'

And you might even know about Michael Phelps and his whole legendary eating- I don't know, 12,000 calories, or whatever the case might be. But he is in fact a merman, and I don't know how much time he's spending in the pool, but that just might be something to consider and a little counterpoint to look at.

So the type of exercise, the environment, all these things matter. But the bottom line is exercise- when we exercise we're actually reducing our drive to want to eat lower quality foods.

Now with that said, we still go back to our point of you can create a habit, right? You can create a habit of, 'After I work out, I go to IHOP.' Or, 'After I work out, I eat-' fill in the blank.

And your body will come to recognize and expect that process, alright? But that doesn't necessarily mean that it is a true desire and craving, that it was created in and of itself.

And so if that's healthy and that's what you enjoy doing- and actually post-workout, especially post lifting weights is probably the best time ever to indulge and to have some protein pancakes with maybe some gluten-free mix and like a high quality protein powder, and that kind of thing.

But this is because muscle- the insulin receptors for your muscle tissue is heightened, and instead of this insulin getting turned on and potentially storing the glucose you're taking in as fat, it's just a much better window of opportunity.

And we've talked about carb cycling with the episode with Michael Morelli, author of 'The Sweet Potato Diet.' Again so we'll put that in the show notes too.

So I just wanted to share that point with you, and also a little closing piece here.

Exercise also increases the release of dopamine, right? This reward. Your body is craving something, right? It's a drive looking for this reward, and this elicits that same reward response.

Also endorphins, these kind of natural pain killers, and enkephalins, and also epinephrine.

And so all of these things really help us to feel good, to feel better, to feel more alive. And sometimes we're looking for that in a craving, in a food, and so this is one of those things we can have in our toolkit to be able to modulate and support our body's natural function.

And so that brings us to our final component here, number four in this conversation about what's happening behind the scenes with our cravings.

And number four is stress and cravings. Stress and cravings.

We've already talked about this today throughout each of the other sections really, you know because even exercise is a stress on the body. That's why there's even a blood flow change.

You know your body is kicking in other programs to really help to make sure that you adapt to the stress.

And it's something called a hormetic stress, so it's a positive stress if you allow your body to recover, i.e. food, real nutrition which we talked about in number one, and i.e. rest and recovery which is number two that we talked about.

Now with stress, this is one of the things that's most tied to in our lexicon with cravings, with eating, because there is that thing 'emotional eating,' 'stress eating.'

Why are these two things put together? It's because they dance very nicely together.

And stress is- one of the things that's correlated with that is an increase in stress-related hormones, and we've talked about cortisol already, but also like adrenaline.

When you have a spike or an uptick in adrenaline for a random occurrence, it's a positive thing from your body to help you to adapt to the stress.

Hopefully you perceive the stress appropriately though, but the resulting thing that happens after that is a glucose drop. There's a drop in your blood sugar, and you're going to have a resulting desire to help to re-fuel and get your body back up to balance, and it's just a natural thing.

But if we're stressing out over things that aren't actually a threat to us, which we tend to do because our minds are so expansive, and we're hard-wired for a different reality.

Whereas for a lot of us the big stress can be getting your kid into the best kindergarten- which that's a real thing, you know we talked about this with Bo Eason when he was on the show as well, which we'll put that in the show notes. We'll put that in the show notes, one of my favorite episodes with Bo Eason, former NFL defensive back, and one of the top stage performers in the world today.

But also a bill, maybe it's a phone bill that you got charged too much for, and it can create that same response as if you're being attacked by a bear, alright?

Your body doesn't recognize necessarily- and it can't necessarily modulate the volume very well when we kick into that fight or flight, or anger, or frustration, or fear response that we might get.

And so that's why today it's important to have stress management practices where we're being able to really be more centered in our response until we're more in response and not in reaction.

So we're responding more appropriately to stress and events in our lives, and not just reacting from a place of fear, doubt, worry. And when we do that, we're already taking a more empowered stance.

So one of the things that funny enough is a stressor is rigorous deprivation, and I wanted to talk about this specifically.

So on the topic of cravings, and not allowing ourselves to actually have some delights, some enjoyment in our life and in our food, that is a crazy stressor. This is why diets suck.

This is why diets are so stressful and so difficult, is oftentimes they pull out a lot of that enjoyment, and they pull out so many things that you put yourself in this mental state of deprivation, restriction, not enough, and the response by your body is going to be to battle that stress, right? Because it's something abnormal.

Like humans, we don't like to be told we can't do something. If you tell a kid not to do something, they might not do it when you're there, but they're going to want to do that same thing even more.

And we're just big adult babies when it boils down to it, you know? Nobody likes to be told what to do. Nobody's waking up each day like, 'You know what? I hope everybody tells me what to do today.'

Nobody does that. We want to be free. We want to be able to make our own choices and decisions. If not even a veil of freedom, or an idea construct that we have freedom. Even if it's not real, we just are driven and desire to be able to make our own choices.

And so that can be a stressor in and of itself when we put a lot of restriction and deprivation rigorous on ourselves. So I just want you to be mindful of that because that can create- this is why a lot of people have those bounce-back effects.

You know they have that rebound effect when they try to diet, and then they just go ham on whatever it is that they 'shouldn't be eating.'

So also, a lot of mental work uses a lot of brain glucose. So this whole function, one of the main things that drives us to- like the terrible lunch decisions from the workday, right? We hit up the Subway. Right? They say, 'Eat Fresh.' So they say.

You remember- I remember going to Subway and they'd pull out that- and I'm just saying 'you remember' because some people probably do.

They pulled the chicken- it looked like a little baseball bat out of some murky water. What? And they put it on- I don't know. I don't know what to say about that. I don't know if that's right, or- but it's a conversation for another day.

But we make that kind of decision instead of making a decision for eating real, whole foods, healthy foods from a place that has a little bit more credibility than the baseball bat shaped chicken from the sea creatures of the black lagoon, or whatever that is in there.

I don't know what's in that water. What's in that water?

So we want to be on top of that and be mindful of that, and to give yourself some energy for your brain to function at its optimal level.

And some people are doing a ketogenic approach for example, and they've shifted over, and their body is doing some gluconeogenesis. Because your brain does require a certain amount of glucose, so there's different approaches to this, but you have to do what works best for you.

But again, I ideally would recommend not putting yourself in a state of deprivation to put you in a position where you're having abnormal cravings.

And by the way, one of the reasons we tend to crave carbohydrates, and if we're stressed, is that we get an instant kick of serotonin. Carbs trigger a serotonin release, that feel good hormone.

This is why they're yummy, this is why we like them, it's one of the big reasons why, is we get a little bit of a serotonin hit.

So you can do this in a more conscious way now, right? You can still take advantage of that channel in your body, and not have it controlling you.

And so to summarize this point, when it comes to cravings and stress, we want to start to meet our cravings with more understanding instead of more guilt and shame, because those two experiences really can put you into a vicious circle, and they're not fair to yourself.

You know so we want to be able to meet these with more understanding, and today's episode really is giving you the tools to be able to do that, and to not judge yourself, and to not label yourself as, 'I've just got these problems, I can't control myself.'

Or making yourself do all of these things in deprivation and restriction when you don't really have to. And also just being able to listen more to your body, and have a better relationship with that amazing body that you live in. So that's one of the big points to take away.

Also for stress and cravings, we want to just also look at the other things of life that adds value, that helps to address that stress. Which dopamine is one of those things we get from exercise, for example.

So make your life more interesting. That right there, in and of itself helps to produce a lot of those same neurotransmitters and hormones that we get from indulging in cravings that are resulting in stress.

So do more things that you love, and try new things. Novelty, right? So try new things, having fun, experimenting, all of those things elicit some of that reward, some

of that dopamine response that we've been talking about, and do more things that you love.

Why else are you here if you don't have the opportunity to open up, and to do the things that bring more light and more joy and more fulfillment and happiness to your life?

Please use this as permission to do more of the things that you love.

Also, meditation. When we're talking about stress, this is really the hot topic today, and we recently had on Dr. Daniel Goleman who really shared with us some of the clinical data behind meditation, and why it's so valuable.

I mean everything from managing heart disease, to improving sleep quality, to improving our sense of compassion, right? Our sense of connectedness.

All of these things happen, and what do those things do? It reduces your stress.

And lastly for addressing stress and cravings, when we're craving something sweet, we might just be craving sweetness in our lives. So this is a call to action to proactively experience and engage in more connection, more love.

Spending more time with the people that you care about, and taking the opportunity to also connect more with yourself, and to give yourself the love and attention and self-care that you really deserve, alright?

Because love is one of those powerful entities and powerful forces that is a solution for so many of the things that ail us.

And there's a science behind love, because as we've talked about, our thoughts, our chemistry, our emotions, our feelings; these are all a beautiful hormonal soup that's taking place in our bodies, and we have the opportunity to engage in more of the things that make us feel good, and give us real fulfillment, and not a temporary solution to a craving by loving more.

So thank you so much for tuning in to this episode today. I hope you got a lot of value out of this.

If you did, please make sure to share this out to your friends and family on social media. You can share it on Twitter, Facebook, Instagram, all that good stuff.

And I'd love if you tag me and check me out, especially on Instagram, I'm there pretty active and if you tag me on your InstaStory or on your Instagram post, I would love to see that.

So I appreciate you so much, we've got so many amazing show topics coming up, some powerhouse guests, so make sure to stay tuned.

I appreciate you so much. Take care, have an amazing day, and I'll talk with you soon.

And for more after the show, make sure to head over to www.TheModelHealthShow.com. That's where you can find all of the show notes, you can find transcriptions, videos for each episode, and if you've got a comment you can leave me a comment there as well.

And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome, and I appreciate that so much.

And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.