



EPISODE 809

5 Surprising Things That Control Your Appetite

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SHAWN STEVENSON: On this episode, we're going to be diving into five surprising things that are controlling your appetite. First and foremost, let's take a quick look at where our body's appetite driving force exists in the first place. There's a specific area of the brain known as the Appetite Regulating Network or ARN. It consists of distinct circuitries in the hypothalamus to propagate and to relay the appetite and our drive to eat. The appetite regulating network is subject, and this is the key, to modulation by excitatory and inhibitory messages from other areas of the brain and body. So this is where our appetite is really centered, the kind of master control station, but it's being influenced by every other cell in our body, sending data back and forth.

And signals from leptin and ghrelin, these are our body's primary satiety and hunger hormones respectively, communicate with the appetite regulating network to establish the moment to moment regulation of energy homeostasis. And that's what our appetite is really about. That's what cravings are really about is driving us to find balance, to find homeostasis. And there are many different reasons, biological and psychological and environmental that can drive us to want to eat stuff. But again, just to reiterate, our appetite is largely influenced by a variety of hormones and neurotransmitters produced throughout our bodies from our gut, to our muscles, to our skin, and more.

Which leads us to number one on this list of five surprising things that control your appetite. Number one is sunlight. Have you ever noticed that being out in the summer sun can alter your food cravings and even reduce your desire to eat altogether? Part of sunlight's ability to influence your appetite has to do with the boost it gives you in vitamin D. It's well established that optimal levels of vitamin D support weight loss. For instance, a randomized double blind placebo controlled trial cited in the International Journal of Preventative Medicine split 50 overweight and obese test subjects into two groups, with one group receiving six weeks of vitamin D supplementation and the other group receiving a placebo.

At the end of the study, the group who received the vitamin D lost significantly more weight, had a greater reduction in waist circumference, and had a greater drop in their body mass index. Now, there's a whole host of reasons why vitamin D influences metabolism. It's been shown to inhibit excess body fat storage, support healthy testosterone levels, and even help reduce appetite and cravings. The mechanism appears to be its interaction with serotonin. Vitamin D helps regulate serotonin synthesis. So this is often left out of the equation in conversations around this dual hormone and neurotransmitter that we call serotonin. Vitamin D needs to be on the scene to help make the magic happen.

SHAWN STEVENSON: And not only does serotonin support good mental health and sleep quality, but a 2012 study found that it can actually reduce caloric intake, reduce hunger, and increase satiety. Now, sunlight exposure supports serotonin production as well. And that's kind of, again, it's hitting on multiple notes. It isn't a one trick pony trying to take a supplement or a drug to get some of these benefits. Simply getting access to sunlight on our skin. It causes an uptick in the production of vitamin D and serotonin. But the key is they work synergistically. All right, so it isn't just about the production. It's being able to synthesize these things and to utilize them throughout the cells in our bodies that can actually find benefit.

Now another way that sunlight helps to alter our appetite is through the overall influence on our circadian rhythms. Our circadian timing system is defined as the network of interconnected cellular structures that regulate the timing of physiological processes and behaviors. So, looking for something to eat. These circadian clocks exist within all the cells of our body. And according to scientists at the Salk Institute for Biological Studies, these circadian clocks are actually functional genes and proteins that influence and control all of our other genes and proteins. And here's the most important part. Researchers affirm that light exposure or lack thereof is the primary regulating force for our entire circadian system.

Now, here are just a few of the processes that these circadian clocks are regulating within our bodies. The release of our hormones and neurotransmitters. Our cardiovascular function. Thermoregulation. Sleep efficiency. Our cognitive function, things like mental alertness, reaction time, and more are influenced by what time of day it is and our exposure to light or lack thereof. Our circadian clocks also regulate our digestive function, including our rate of nutrient absorption, the speed of food transit throughout our GI tract, elimination, and so much more. And on top of that, so not just a kind of superficial look at digestive function. But what's existing in our gut, our circadian clocks are also influencing the behavior of our microbiome.

Our trillions of bacteria also have circadian clocks, too. All right, so it isn't just our human cells, but our bacteria cells have these circadian clocks and all of these cells, these trillions and trillions of cells, are influenced by light exposure. And it's well established that our microbiome is influencing what we eat, what our cravings are, our assimilation of nutrients, and so much more. And again, researchers affirm, there are mountains of studies on this now, that light is a primary regulating force. Of our circadian timing system. So this is why sun exposure can influence our appetite so much. It is one of the most obvious And yet it is only recently coming to the forefront in conventional health conversations in this new field of medicine called circadian medicine. And understanding how powerful light exposure is and in particular, the light source that has enabled us to have a life here on planet earth.

SHAWN STEVENSON: Thank you, sun. Thank you. Without the sun, this would be possible. You damn sure would be listening to a podcast right now, but sunlight truly is so powerful for every single creature on planet earth. And us as human beings, we are part of all of this and sunlight has a deep, deep impact on our health. And it's one of those things where in the last few decades, sunlight has been so demonized. Like the sun is out here trying to kill you. The sun is out here like candy man, trying to kill you. If you go outside and say sunlight three times, it's going to take you out. All right, he's showing up with, you know, it's going to make you look like Freddy Krueger. Um, but nothing could be further from the truth.

Of course, we want to be careful not to experience sunburn, burn our skin, but we need sun exposure for literally every cell in our body is influenced by this and it elicits. It triggers so many different important factors, including what we're talking about today. Our digestive health and our appetite, our drive to want to eat stuff. So what are some tips here? How do we utilize this to have more homeostasis with our appetite? Now, I'm not saying for you to be a breatharian or a suntarian, all right? People that apparently, they're just consuming the light and that's all they need, all right? They're just, we're not saying that that's a thing, all right?

But what I am saying is that sun exposure is crucial in helping our bodies to establish homeostasis. It really helps to suppress the sun. Excessive cravings and things like that. And so ensuring that you're getting sun exposure every single day, even on an overcast day, the sun is still shining. It's getting through certain rays. Certain spectrums of that light are getting through the clouds. Even if you can't tell, even if you can't see this, why you can get sunburned on overcast days. Even on overcast days, do your best to get at least 20 minutes of sun exposure. Now there's a spectrum here. Some people need more, some people need less.

If you got more melanin in your skin, You're gonna need more sun exposure. All right, it's really built in sunblock in many ways. But also it's this incredible aspect of human health that has remarkable anti cancer benefits has remarkable anti aging benefits, but this is really driven by an adaptation to sun exposure. And, so working your way up if you haven't been in the Sun. Again, this is becoming more and more common. We're just indoors all day. Only time we're "outdoors" is when we're walking from our home and to our car and from our car into the buildings. And then all of a sudden you're going out on a bright, sunny day at noon for 20 minutes. And you have, you know, pale skin, you might not want to do that. All right. You want to build up your sun exposure. But the key here if you can is getting some sunlight exposure in the early part of the day. Within the first hour 90 minutes of the sun rising and that is helping to entrain, helping to set that circadian timing system, helping to sync it up with all of life with the 24 hour solar day.

SHAWN STEVENSON: You are getting synced up with life itself. And also, you know, we make adjustments during the times of year when the weather might not be as accommodating, right? So if it is, you know, very complicated weather outside, just letting the sun come in through the window. Now, just to be clear, you don't want to sit by a window and tan or anything like that, because certain aspects of that UV radiation make it through the window. Others don't, and it's just not a good idea, but letting the light shine into the room. And all of those bio photons dancing around and being able to be absorbed by our vision, by our skin, just this kind of massive ricochet effect that takes place with light when we're just allowing light to get into the rooms.

So that's what we could do on those. Days that are not as accommodating, but especially during the warmer months, wherever you live, this is an opportunity to get outside, to get some more sun exposure, to get some direct exposure. Again, at least 20 minutes. Ideally this for the average person, again, it's a spectrum. At least 20 minutes a day, direct to skin. As much of your skin as you can.

All right. Now, even with that, there's a spectrum there too. So once you ensure that you're getting that 20 minutes minimum, again, it's a spectrum. And you want to spend some more time out in the sunshine. It's a great opportunity to when the weather is permitting and you could have on your respective sun protection, sit in the shade, whatever suits your fancy. But we have to reframe this indoctrination of fear of the sun because we've talked about this many times on the Model Health Show. We've looked at the data. We've looked at some of the most comprehensive meta analyses of things like sunscreen use, for example, and seeing the popular narrative just really not matching up with what the science is saying.

All right. And this is not to negate the benefit of higher quality, cleaner versions of sunscreen, because that's another problem. Many of them are laden with toxic, newly invented chemicals containing things like parabens and phthalates and these quote forever chemicals and you add to that, you know radiation from the sun and the fact that our skin is so remarkable at absorbing things and you got a recipe a Concerning recipe for some real trouble.

And so part of this mission is for us to reframe and enjoy life again. Enjoy getting outside and having fun. And thinking about things logically like is part of the reason why we might have an increased incidence of things like melanoma. Is it because we're spending more time indoors? Making our skin, literally what we eat, is determining what our skin is made of. Making our skin out of very low quality food like products and highly refined Ultra processed oils that are literally frying us when we go out in the sun. Are these some of the reasons why our skin is no longer able to adapt as it has evolved to do?

SHAWN STEVENSON: And it's not because the sun is trying to kill us. All right. And we need to avoid the sun at all costs. Again, nothing could be further from the truth. We've got to find some balance here. We've got to be pro sunlight intelligent. Sunlight, sun exposure, because it's only going to add to our overall health and wellness. And this is going to lead us to number two on our list of these five surprising things that control your appetite. And number two is significant changes in temperature. Another aspect of that summertime sun is the heat and warmer weather itself. Scientists have been studying why humans tend to have reductions in their appetite during a heat wave.

For instance, a 2021 study cited in the journal weather, climate, and society knows that human eating behaviors are sensitive to changes in weather and temperature. The 1 million data points and found that for every 1.8 degree increase in temperature, it led to an additional 0.11 percent decrease in food intake. Essentially, the hotter it gets in our environment, the less food people eat. The question is why? Well, the researchers deduced that it's rooted in the fact that digesting food produces more body heat. So humans may have evolved to have less of an appetite and eat fewer calories on a hot day in order to stay cooler.

All right, so, again this just makes sense when we eat food our body's producing more heat. It is creating more energy and expelling more energy. Now a question might arise about our current environment because I know it did for me looking at. So our bodies want to eat less during the summertime, but some people are out here going ham. I know that I was during summertime. I was eating more a lot of the time And why that is we have some new innovations Where we can again, stay indoors, regulate the climate, right? Climate control. We can keep, keep the AC on, sit back and eat our Doritos. All right. Sit back, eat a bowl of golden grams. All right. We can sit in the house and snack.

We can go to, to restaurants and, and to different, you know, businesses. And we can go indoors and our appetite isn't going to be as influenced. But it's when we're outside, and experiencing the heat, or if we're indoors and experiencing heat as well. It's going to have a tendency to reduce our desire to want to eat stuff, especially more protein dense And dietary fat dense foods All right. So and this is because in particular with protein there's an even higher thermogenic effect, right? For our bodies it is very expensive for our bodies to process protein. In my belief my theory because this isn't one of those things that's very clear in the science why this is. That our bodies are so proficient at digesting and breaking down protein to the nth degree because protein is so valuable. So our bodies are going to work to extract every single amino acid that it can in order to rebuild tissues. In order to build hormones and neurotransmitters and enzymes and all these other processes in the body. are literally built on protein.

SHAWN STEVENSON: So when we talk about hormones, for example, and our cells being able to communicate. Hormones are built from proteins. The same thing holds true with the cells of our bodies, right? We're really a protein machine. And because it's so valuable I feel that our body really goes into high gear to get everything that it can from the protein that we eat. Now that's just a theory, but we do know that protein has a much stronger thermogenic effect. Burning, all right, burning heat, burning more calories when digesting protein than any other type of food.

But you'll notice that when I mentioned what we tend to want to eat less of when we're experiencing, you know, warm weather, being hot, proteins and fats. I didn't say we want less carbohydrates though. In particular, we might tend to find ourselves more attracted to high water content foods like juicy fruits. Things like watermelon, peaches, strawberries, blackberries, cantaloupe, mangoes, and cucumber. Yes, cucumber is a fruit. Alright, if you didn't know, now you know. But these are things that, and for example, even with cucumber, it's a natural refreshing quality when adding cucumber to water. We just have this kind of natural inclination to do something like that.

And, for example, adding cucumber to salad or having a cucumber salad itself is super attractive to many folks during the warmer months. Right now, again, we're in the midst of it right now, and my wife has been having this cucumber salad that she loves. All the time, like two or three times a week. She's been having it and it's actually one of the beautiful and simple recipes in the eat smarter family cookbook. So definitely check that one out. It's on page 166. If you don't have a copy of the eat smarter family cookbook. You're missing out got to add this to your collection. So many amazing recipes. And also, you know Summertime, cold treats, alright, things that have a cooling sensation.

So cold and frozen treats are a big time summer favorite. I know growing up where I grew up. South City, St. Louis, East St. Louis, eventually moving to Ferguson, Missouri. Quintessential, was the Bomb Pop Man. On a hot summer day, you hear the bell, ding, ding, ding, ding, ding. The Bomb Pop Man is coming! We all run into our house, we run to, you know, get a dollar if we can from our mom, whatever we can get. Find some quarters, so we can get something from the Bomb Pop Man.

Alright, so that's what we called it in St. Louis. Some people call it the Ice Cream Man, alright, but the Bomb Pop Man was coming. The bomb pops were low key super cheap. That's the ones with the three different colors, right the american colors, right the red white and blue. But nobody really want that from the Bomb Pop truck. You want the elite stuff. You want that new stuff. You want to get, you know, the Ninja Turtle ice cream pop. You know, you want to get the Cookie Monster.

SHAWN STEVENSON: And, you know, this is just one of those things we're attracted to. It was so fun. Next thing you know, all the kids are just lined up swarming around the Bomb Pop Man. Before we knew it, the Bomb Pop Man upgraded. He didn't just had a bell. That we, and we were basically like Pavlov's dogs. All right. We hear the bell, we go running. All right. We started running crazy. We're like running in circles. Ah, you know, like little Tasmanian devils. All right. But then eventually got the, got the speaker on the bomb pop truck. And now they're just playing, you know, classics. They playing those songs and getting us running. So with that being said, this is another thing that we're attracted to. Why not? Enjoy that. Why not upgrade that experience and provide some real nutrient dense nutrition along with the summertime treats. And one of our favorites is the cherry frozen yogurt pops.

All right. All you need is a Popsicle mold, which you can grab off Amazon and this incredible recipe that we have in the Eat Smarter family cookbook. It's on page 269, and this is true story. My son, when I picked him up from school recently, he was like, dad, this kid came up to me at my school and they said, hey, we made your dad's cherry frozen yogurt pops last night. They were amazing. And he was like, dad, these kids, he's always talking like he's older, than the rest of the kids, but he's like, these kids love this cookbook. Like he was like, I know that they were happy to get a cookbook because I came and spoke to the students at his school, third through eighth grade, and everybody left with a copy of the cookbook.

But he's like, I didn't know that they would actually make these recipes and that they would love them so much. And so that really did my heart a lot of good. So with that being said, let's intelligently lean into those things that are more attractive when it's hotter outside, when we're getting hot, right? We might not be inclined to want to go after something that's really heavy or Protein dense and that's okay. We can get that in especially when our bodies cool down. But let's eat some really juicy nutrient dense fruits, water dense fruits and enjoy Incredible frozen treats. And by the way, there's a lemonade slushie in the book as well because slushies were another, Oh my gosh. Let's not even let me get me started on that. Now, keep in mind, it's not just significant changes in warmer weather that can impact our appetite.

Significant changes to colder temperatures have some remarkable impact on our appetite as well. Scientists are studying why humans tend to eat more when the temperatures are colder than they are now. in our environment. On the surface level, when exposed to cold temperatures, mammals instinctively burn more energy to keep their body temperature stable. And this surge in energy usage triggers an increase in appetite and feeding. But a recent study published in the journal nature is revealing what's actually controlling this increase in appetite. The researchers assert that. There's a specific cluster of neurons called the xiphoid nucleus of the midline thalamus that boosts food seeking behavior when the environment gets colder.

SHAWN STEVENSON: The researchers show that these xiphoid nucleus neurons transmit to a brain region called the nucleus accumbens. And we've talked about the nucleus accumbens here on the model health show with Dr. Daniel Amen. And this is an area long known for its role in integrating reward and aversion in guiding our behavior, including our feeding behavior. Now, of course, these scientists are looking for ways to tinker with this part of the brain in order to reduce the desire to eat. And as you'd expect, looking through conventional channels of using a drug device or more invasive means, but there's already one science back way. To subdue appetite in the face of cold temperatures.

And that's through short stints of proactive cold exposure. A recent meta analysis titled health effects of voluntary exposure to cold water demonstrated remarkable improvements in metabolic health with short periods of cold water exposure, including increased insulin sensitivity and decreased insulin concentrations. Plus the analysis revealed that cold water immersion can boost satiety and reduce appetite through metabolism supportive hormones like adiponectin. Researchers at the University of Pennsylvania recently discovered that optimal levels of adiponectin can potentially support fat loss without increasing appetite.

Now, a variety of cold exposure practices have been studied from cold showers to fancy cryotherapy chambers and more. But the most effective science backed method is cold water immersion via open bodies of water or cold plunge tubs. And countless people all over the world are making a cold plunge a part of their weekly health practice. Actually today. This is true story. I was watching and I don't you know how youtube can be just present stuff to you, but I was watching comedian sebastian maniscalco being interviewed by men's health magazine. They came to his house. They got this series where they check out your fridge and your gym all right. And so they check out his fridge, you know, he's got a couple of funny quips that he's sharing and then they go to the gym. He's it's also like listen.

I'm not some of these other guys. I'm not mark walberg. All right. I'm not kevin hart. I don't even know why you guys want to interview me. He's like this is hard for me, right this whole fitness thing. But you could see he has these conditions around him that makes it easier. And I was surprised to see towards the end of the video after checking out his gym. There was a cold plunge tub there, all right. And he's like this is a big part of his health routine and how it makes him feel amazing after his cold plunge. And so that literally happened today and I was checking that out It's just like wow, this is really spreading very quickly. And the most recent published data shows reduction in inflammation. Improvements in sleep quality reduction in sick days, increased mental resilience and so much more. And it's pretty astonishing to see all the things that this health practice can improve. There really isn't a supplement or medication that can match it.

SHAWN STEVENSON: And the only challenge really is for a lot of us is having a place to do a cold plunge that doesn't require us to constantly find bags of ice, to constantly clean it, to constantly have to set up and find a space to do it. But all of that changed for me and my family and countless people all over are getting hooked up with the tubs from Plunge. My cold plunge tub is always set up and ready to use. It's clean and ready to use whenever I want. It has a continuous water flow and a 20 micron filter that pulls out debris. It's also self-contained. There's no need for additional plumbing. It's easy for indoor or outdoor use. We have ours outdoors and it's just incredibly durable. We've had it now for about two years and it's as if I just bought this as good as the day that I bought it. And after utilizing the plunge tub for a while I reached out to Plunge and asked if I can get a special discount for my friends and family and my community and they approved. They hooked us up and it's pretty amazing. So right now you can get a hundred and fifty dollars off the plunge tub of your choice by using the code model 150 at checkout.

All right, so go to Plunge.com/model. That's PLUNGE.com/model and use the code. This is important at checkout. You're going to see a place to put in a code, use the code model150, and you're going to get \$150 off. Now I'm going to let you in on a little secret. All right. Now, my mom in law is just days away. She's going to hear this after the fact. All right. But she's about to be here. We're flying her in. I can't wait to see her. She's going to be here next week. She absolutely loves to use the plunge tub. She's the one when she's staying with us, she actually uses it more than anybody, but she has no idea.

We have a special surprise for her. We got a new sauna. It's been years and years that I've been wanting to have my own sauna. I've been utilizing saunas going to different places and yada, yada. But, it was because of the folks at Plunge. They have an amazing sauna as well. And my Finnish friend, alright, The Finns are about their life when it comes to sauna. They've been doing this for centuries. Tero Isakopoulou, alright, he's the founder of Four Sigmatic. I reached out to him about a sauna years ago. And asked him, like, should I get the infrared? Should I get the stone sauna? He was like, Sean, the Finnish, we use the stone sauna. All right, this is the one to get it. It gets hotter. All right, and Thankfully the folks at Plunge have this incredible, the design is fire. You've got to see it You've got to just pop over there, all right. Open up a new tab and check it out plunge.com/model and look at their saunas. The design is amazing. In a small space you can actually sit multiple people because of the way that they designed it.

I've never seen this before and so My mother in law doesn't know this But we got the sauna Set up today. All right. I did everything that I could to make sure that it was done today So that when she gets here, she'll be able to use the sauna as well and do some contrast therapy. So I'm pumped for that. So my whole family's gonna do it, even my youngest son before I left out. He's like dad. I can't wait.

SHAWN STEVENSON: I'm gonna do the plunge and sauna with you guys, too. So yeah, they've got some incredible things over there and highly recommend checking them out. That's plunge.com/model. Use the code model150 at checkout. Keep in mind because this is an investment into your health and longevity. Plunge even has no interest financing options, protection plans, free delivery and other perks. But the most important benefit is what you'll get for your metabolic health and your mental health.

There really isn't anything quite like it by the way Dr. Susanna Soberg, who's the world leading authority on cold immersion. She actually has a PhD in brown adipose tissue. So this is a mitochondria dense fat tissue that actually burns fat for energy. And we see this transformation in Brown fat production and mobilization when utilizing cold water therapy. Her data affirms 11 minutes a week is the sweet spot to do some cold immersion. So just put that in your back pocket. And by the way, if you want more on this science, check out the episode that I did with Dr. Susanna Solberg. We'll put that for you in the show notes. And now we've covered how hot and cold temperatures influence our appetite. We're going to move on to number three on our list of these five surprising things that control your appetite.

And number three is your sleep quality. A randomized crossover study published in the Annals of Internal Medicine had healthy young adult test subjects go just two days with restricted sleep where they took a few hours away. And two other days where they were allowed to get adequate sleep. After compiling the data, when the participants were sleep deprived, their levels of leptin, this is our body's major satiety hormone, their levels of leptin dropped by an average of 18%. Their levels of the hormone ghrelin, our primary hunger hormone, increased by 28 percent. Feelings of hunger increased by 24 percent, and appetite increased by 23 percent. In particular, and by the way, they were monitoring what food choices they were giving them options. In particular, their appetite for calorie dense, high carbohydrate foods went up.

Their desire for these types of foods went up by upwards of 45%. So not only did they want to eat more, but they wanted to eat more of the stuff that, you know, is higher in sugar. So that's really a phenomenal study. Those changes happened in just two days. Having a couple hours less sleep than normal. So please keep this in mind. Your sleep quality is deeply, deeply impacting your appetite. So what do we do in a very practical way to help support our sleep quality, to improve our sleep quality. Not just the amount of sleep that we're getting, but the quality of those minutes. Well, one tip ties back to one of the other things that influences our appetite, which is exposure to sunlight. Recent studies have revealed that exposure to sunlight, during the earlier part of the day, can significantly reduce cortisol levels at night when compared to being exposed to dim light during the day. All right. So sun exposure really helps.

SHAWN STEVENSON: Helps to set the template, set the rhythm, set the pace, for good quality sleep at night for reducing cortisol. Cortisol, in many ways, is an antithesis of melatonin, right. So cortisol and melatonin can get into a little bit of a battle at night, all right. So we want our cortisol levels to go down so melatonin can rise and do his thing All right So getting in some sunlight exposure in the early part of the day is critical for improving our sleep quality But couple that with if you're doing that, but then at night you're blasting yourself with all manner of light. Then obviously those benefits are going to be negated. And so let's do our best to give ourselves some screen free time in the evening, at least 30 minutes. For the love of at least 30 minutes, all right, an hour would be better than 90 minutes.

You're killing it. Now. I don't do that all the time Just keep it a thou Keep it a thou while but At least 30 minutes screen free time, this is just time you can decompress, you can put on an audio book, you can read a physical book, you can journal, you can hang out with your significant other, you can try and get a significant other, alright? You know, this could be a call, who are people calling still? Are people hanging out on the phone? You know, talking to their, to their boo, their potential boo, you hang up, no, no, you hang up. You hang up first. People still doing that or is it just all apps? All right, because I don't know All right. I'm not here. I'm not here on the streets.

So many other things that we could do to give ourselves a little bit of downtime. We all know about the screen and blue light protection through, you know, different apps for our phones, and our devices, our screens and also blue light blocking glasses. Those things are awesome But let's just get a little bit of screen free time to allow that circadian system to sync up. And one more tip and by the way, there's 21, 21 clinically proven strategies science backed strategies in The book sleep smarter. Alright, so if you've not read Sleep Smarter, it is power packed. But one of the most important chapters and one of the most important tips is based on the fact that you can have all of these great light practices. You can have the most incredible bedroom environment. If you're not providing your body with the building blocks. The raw nutrients to build your sleep related hormones and neurotransmitters. You're not going to get great sleep anyways.

You have to provide your body with those building blocks, those raw materials to make all the stuff happen. So that speaks to this final tip with this one, which is to ensure that you're getting plenty of good sleep nutrients. For example, and by the way, there's a ton of them in the Eat Smarter Family Cookbook matter of fact. I talk about the good sleep nutrients. Now, keep in mind, there are multiple good sleep nutrients that we cover in sleep smarter, but I'm just going to give you some of the hard hitters right here. A study cited in the journal Sleep found that potassium, all right, potassium, this remarkable electrolyte mineral can actually help improve sleep efficiency.

SHAWN STEVENSON: Meaning that you go through your sleep cycles. more efficiently, more correctly, and reduce wake after sleep onset. All right, so after you fall asleep, you're less likely to wake up when your potassium levels are on point. Where do we get potassium? All right, well, one of the sources that jumps out whenever I think about it, especially from my childhood potassium, I think about bananas. And yes, got a good source of potassium there, but you might want to be, you know, a little bit careful with the sugar content that you find in the average banana today, or as my mother called it, nanas. So you can look to other foods like avocados, green leafy vegetables, sweet potatoes, a great source of potassium. Sea veggies, especially dulse. Gram for gram, the highest source of potassium that you're going to find. Coconut water, black beans, yogurt. These are some of the most dense sources of food based potassium.

Another key nutrient, another good sleep nutrient is an amino acid called tryptophan. Now you've probably heard of this one before. It's one of the nine essential amino acids that we have to obtain from our diet. Tryptophan stands out as a key building block for better sleep. because a tryptophan deficiency has been found to create disruptions in our REM sleep. So this is when a lot of healing, a lot of processing takes place in particular with our memory. So memory processing largely takes place during REM sleep. So tryptophan deficiency has been found to create disruptions in our REM sleep while improving tryptophan levels has been shown to reduce wakefulness at night and increase mental alertness after waking up the next morning.

And all of this is according to research cited in the journal nutrients. Now tryptophan when we hear that one tend to think about thanksgiving. The tryptophan the turkey hangover all right we think about the turkey. We think about the it is all right. In reality that's not that's not what's making tryptophan doesn't work like that it doesn't come in as like A sedative, you know, it doesn't come in as a blunt instrument hitting you over the head like a pharmaceutical like Ambien, for example. One of the ways that tryptophan has its remarkable influence on sleep. And it's a process that tryptophan is a building block for making serotonin, and serotonin is a key building block of making melatonin.

Where are we going to get some tryptophan? Yes! Turkey, you could find some tryptophan there. Chicken, lobster, eggs, cheese, tofu, chocolate, spinach, pumpkin seeds, peanuts, spirulina. Many great sources of tryptophan that you could find in foods. I'll share one more good sleep nutrient with you. And this is another electrolyte mineral. This one is magnesium. Magnesium is one of the most remarkable minerals. Of all, a double blind placebo controlled study published in 2012 found that improving magnesium levels appears to improve sleep efficiency, improve melatonin function, reduce cortisol, reduce wake after sleep onset, and it will even file your taxes for you.

SHAWN STEVENSON: All right, the last one's not real, but Magnesium does a lot. It's responsible for over 650 biochemical processes as noted in peer reviewed data. It does a lot for the human body. If we're deficient in magnesium, that's hundreds of processes that simply can't happen in the body or can't happen efficiently. Good food sources of magnesium include avocados, pumpkin seeds, almonds, dark chocolate, leafy greens, black beans, fatty fish. and many others. So, these are just a few of the good sleep nutrients to target because our sleep is definitely impacting our appetite. Now, this is a good transition to number four on our list of the five surprising things that control our appetite. And number four are the key nutrients that our body is looking for when seeking out food in the first place. And those nutrients are minerals. A huge aspect of our appetite is a primal drive to capture nutrients that the body needs to survive and run metabolic processes. Sodium and potassium deficiency in particular can significantly increase food cravings and food seeking behavior.

In fact, a study site in the journal nutrients uncovered that Increasing dietary potassium has one of the strongest correlations of decreasing body mass index of all nutrients studied. And it has a lot to do with its satiating effects. While an analysis published in the Journal of Nutrition and Internal Medicine demonstrates that magnesium, another key mineral, another key electrolyte, suppresses hunger, lowers food intake, and reduces body weight when at optimal levels. The most probable mechanism, according to these researchers, is through magnesium stimulating a satiety hormone called CCK, which plays an important inhibitory role in the control of our feeding behavior. Now this is one of the reasons why people who are utilizing a good electrolyte source find that their appetite is reduced or even suppressed.

And this is also a reason why the very best electrolyte supplement in the world honed in on those optimal ratios of those three key electrolytes, potassium, sodium, and magnesium. And it's one of the things that many people notice when they drink, The electrolytes are from LMNT is that they're just not as hungry. Now, this also ties to this whole summer heat equation with sweating and the body working to cool itself and the loss of minerals, i. e. salts as well. And just this desire to replenish those things and helping to keep us balanced. And again, this is the number one science based electrolyte company in the world.

And yes, they have their classic drink mix. I always travel with my electrolytes from LMNT for sure. I have them here at the studio for guests and they've got something new. I love it. They've got a brand new incredible sparkling electrolyte water. Have you tried this yet? You've got to try their new electrolyte waters. Now, this isn't a mere sparkling water. It's a performance drink and you can get yours right now when you go to drinkLMNT.com/model. That's drinkLMNT.com/model and LMNT is spelled L M N T. You're going to get hooked up. Even now, this just started as of this recording, whenever you get any of their classic drink mix of electrolytes, or even when you get their new sparkling electrolyte water, you're going to get hooked up with a free sample pack of their classic drink mixes for you to try out.

SHAWN STEVENSON: All right. So with any purchase, you're going to get hooked up with a free gift. And by the way, if you're going to check out their news electrolyzed sparkling water. They've got a new flavor. That's exclusively with the sparkling waters black cherry lime Yeah, it's like that. It's like that, but you've got to find out what your favorite flavor is for me. Yeah, the citrus is cool. Like the drink mix of the citrus is is is cool. It's cool. It's very like yeah, I like it. Love the watermelon drink mix. Love the grapefruit drink mix But with the sparkling the citrus is fire. It's just my favorite. It really just jumped out, but they've got the other classic flavors as well.

Watermelon, grapefruit, and others but definitely pop over there. Check them out drinkLMNT.com/model. Now either way, especially during the summer months. Make sure that we're eating water rich, electrolyte rich, mineral rich foods because these are things that our body is craving. A lot of our appetite is about seeking out foods that have minerals in it. A lot of the reason that we have certain abnormal cravings is that we are craving, we just give it a general thing, Oh, we're craving some salty. There's certain minerals in those salts. There isn't one type of salt. Unfortunately, we've been indoctrinated with this belief that we just got sodium chloride and that's it. There's so many different types of salt and so many minerals found in a variety of salts. And so a lot of times our hunger is driven by a deficiency in nutrients. So for example, we might be deficient in magnesium that our body is just screaming for that we need for so many processes.

We might be deficient in key amino acids to rebuild tissues. We might be deficient in chromium and in vitamin C. And so our bodies drive us to seek out foods so that we can get those nutrients into our bodies. Now, today in this day and age when we're living in a new food culture. This culture has not existed very long, only a few decades where we have all these ultra processed fake foods. Our bodies might drive us to go and seek out foods, but what's in our cabinets, for example, you know a bag of chips and a crappy sandwich, right?

And so we eat these things, but we didn't get the magnesium that our body was crying out for. We didn't get the chromium. We didn't get the vitamin C. And so what happens is yes, we get some sensors in our gut to be like, Hey, you're full, but that goes away very quickly. And we're hungry again shortly thereafter. All right, so that constant drive to eat more food is a drive from our bodies telling us we need to get these nutrients into our bodies to help us to survive. And so these pathways, we evolved having something called post ingestive feedback, which is whenever we would eat a food, our bodies would take Biological notes of what came from that food. All right, so if we ate some peaches. All right, the peaches and cream just popped into my mind. Shout out to 112 All right, if we ate some peaches, georgia peaches, shout out to everybody in atlanta. If we ate some peaches, well that just got a little freaky. If we ate some peaches.

SHAWN STEVENSON: If we ate some cherries, whoa, wait a minute. This is getting more freaky. If we ate some water rich foods and our bodies were able to note that it got this manganese it got this vitamin c. It got some b vitamins from this food and we became deficient in those foods. We would have a craving to go and seek out more cherries, more peaches, more whatever the case might be, more apples. Whatever it was that provided those nutrients our bodies would drive us to seek out those flavors. The flavors were the key. Because we have a craving the craving comes in a signal of like I want this taste.

It's what we say to each other I have a taste for, or what do you have a taste for? Because the cravings would come in the form of taste. Taste is really a label denoting that there are certain nutrients that come along with this flavor. We've done messed it up though. Today, we've messed it up. We don't have that natural inclination to know what we want, what our bodies want because of inventions and scientific innovations where you can isolate the flavors from those foods and then put them into other things that are not those things. So we can put the flavor of cheese onto a chip, onto a corn chip. We can put the flavor of cherry into a soda. We could put the flavor of cherry into an ice cream. No cherries necessary. And so it starts to muddy up those signals. That deeply intelligent system that we evolve with, this post ingestive feedback, gets all kinds of screwed up.

And so, we want to reclaim that intelligence by eating more real foods. It will come back online. And also, just be proactive at seeking out foods that are nutrient dense, that have a plethora of these nutrients that our bodies need to thrive. Alright, we're going to move on to our final one in this list of five surprising things that control your appetite, number five is exercise. There's substantial evidence demonstrating that exercise helps us to better regulate our appetite. New research out of Brigham Young University shows that 45 minutes of moderate to vigorous exercise in the morning actually reduces a person's motivation for food throughout the day.

The scientists measured the neural activity of 35 test subjects while they viewed food images, both following a morning of exercise and following a morning without exercise. They found their attentional response to the food pictures decreased after the brisk workout. The 45 minute exercise session not only produced lower brain responses to the food images, but also resulted in an increase in total physical activity that day. I.e. the participants ended up being more active during the day after exercising. It was a strange side effect they found. The researchers also noted that exercise has a supportive effect on the hunger hormone ghrelin. So this hunger hormone isn't running around all willy nilly. Getting you to act like a cookie monster. Getting you to act like Cody Chestnut. If you wonder like, who the hell is Cody Chestnut?

SHAWN STEVENSON: He's a world champion eater. All right. Competitive eater. All right. He's won the wiener competition. He's won the hot dog, the glizzy eating contest and many other contests as well, but actually not so fun fact. He was banned this year from the world famous hot dog eating contest because he got an alignment. He got a sponsor for fake hot dogs. Right? So the impossible meats and stuff like that. So he got down with the vegetarian versions of the classics. And they're like, you know what? You can't even come. We ain't gonna let you do that. All right. We want real wieners around here. Not doing the fake wieners. All right. That's them talking. It's not me talking. All right. So with all that said. Exercise, Make sure that we're getting in some exercise in the early part of the day. This does not mean that you need to get 45 minutes in. This can be simply going for a brisk 20 minute walk. This could be doing some body weight exercises.

This could be doing some yoga. This could be jumping on a rebounder. This can be so many different things, but just getting that physical activity in. To start the day is one of the things that we're really designed to do. You know, we're day walkers. We're daytime creatures So it really does help to support that circadian rhythm, help to regulate our appetite and many other health benefits. But do something active in the early part of the day. And it's gonna help to better modulate and manage your appetite throughout the rest of the day. All right, so I hope that you enjoyed these five surprising things that control your appetite. And if you got a lot of value out of this, I'd love it. If you shared it with a friend or family member, or of course you can share this out with your community. All right, you can share this out with the people following you on social media.

You can take a screenshot of the episode, share it out, share the love, or you can send this directly from the podcast app that you're listening on. And of course, pop over to YouTube, get to hang out in the studio with me. If you're not subscribed to the model health show YouTube channel, and we're doing these episodes, you actually get to see the studies that come up. We got some cool graphics that come along with things and different images. And also you just get to hang out with me. All right. And I, again, truly do appreciate you hanging out with me today. We've got some incredible masterclasses and world class guests coming your way very, very soon. So make sure to stay tuned, take care, have an amazing day, and I'll talk with you soon.

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