

## EPISODE 274

## Recover from Sleep Deprivation

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**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.

I'm just getting back from an amazing trip out to the west coast, hanging out in Los Angeles, and wow, what an incredible time. I'm there on a super secret mission taking care of some things, and it's going to be coming soon, I'll be able to share that with you, but also recording a couple of incredible podcasts which we've already published for you guys with Steve Weatherford and Christine Hassler.

We had an awesome time. And also just hanging out with- first of all, Steve Weatherford. Guys listen, if you haven't checked out that episode make sure to do so. We'll put it in the show notes.

Absolutely epic, and this is an epic human being. He was literally voted the fittest man in the NFL, alright? And he's a punter, you know? Typically, you don't think about that when it comes to the punter. They're probably like the guys who are like barely an athlete, but wow, really come on.

Absolutely incredible what they're able to do with their own bodies, but also his dedication to his personal physical fitness, and also his family, and also his mission is just remarkable.

And we shared a little bit on the show about our time in the gym. You know, this was our first time really hanging out and really connecting, and it's such a great bonding experience of course to work out with somebody.

And when he first stepped into the gym I was on the basketball court, I had just gotten there, and you know, he's a very- he has a very strong presence, you know?

He walked in the building, you know, we said what's up, and some guys were just asking me to play a pickup game. And I'm just there shooting around, and Steve's like, 'Great minds think alike, Shawn. This is how I like to warm up.'

So I'm like, 'This is just a warm-up. I'm not trying to play a game,' you know? But you know, I got roped in and I said okay.

And so they had nine guys now because Steve wanted to jump in, and they needed one more player, and Steve said, 'My son can play.'

And he had brought his son, Ace, along who's just ten years old, and Ace was like, 'Dad I don't-' because this is grown men, alright? This is a court full of grown men, we're about to play full court basketball out of the blue for me, alright?

And so let alone, I haven't played in probably two years, full court basketball, but Ace is just like, 'You know, Dad? I don't know.'

And he instills in his son, like he reached into his soul. He was like, 'If you believe you can or believe you can't, either way you're right.' Like he really meant it, and he said a couple of other encouraging words to his son and his son was like, 'Okay, cool.'

And let me tell you, little Ace broke a grown man's ankles out there, alright? He put the move on this guy and almost made him fall flat on his face. It was incredible but also terrible at the same time because the kid is ten years old and it's a grown man.

But you know, it was just a great time, great opportunity. We shared a little bit of the experience in the show, but I want to share a little bit more with because I'm coming down the court, everything is looking good, circling around under the basket, and I'm jumping for just maybe a five foot little easy jump shot.

And Steve is there towering over me, jumping forty feet into the air, right? He looks like a shadow of a shadow of a statue of a shadow. Alright? And blocks my shot, alright?

And I barely jumped so you can tell yourself it doesn't count that much, but it kind of does. And he went- not only because he was so high, he didn't just block it, it took the ball out of the air and darted down the other way.

I ran him down out of pure irritation and competition that's in my veins, and I stole the ball back from him. And so I go the other direction, it's a beautiful play.

Like I steal the ball, I'm at half court, there's two guys with me, one guy to my right, another guy to my left. The guy to the left signals for the ball to get an easy layup, and I pass it to him. It was pretty much a no-look pass, alright?

I was on my Magic Johnson, and I pass the ball, and then he took the other direction, alright? Because he wasn't on my team, alright? This is a true story. He faked me out, because he looked just like another guy who was on my team, you know? Like too close, and he knew it. He knew he looked like this other guy. It wasn't right.

So anyways, long story short, I finally got into the groove, scored a couple of great baskets. My team kept feeding me the ball, and of course by the way, Steve was the only person to dunk of course during the game.

And you know, one other little beautiful incident that took place that I had- and I'm going to share this with you guys, I'm going to confess this, because I don't

remember if we talked about this on that episode with Steve, but I've got to share this. I've got to put the confession out there.

But his son, Ace, was coming around- the whole defense, and his team was off on the other side of the court, alright? And it's just me and Ace, and I've already done seen him break somebody's ankle, alright? A grown man.

And so I'm like, 'He is not about to score on me. Especially his dad blocked my shot and he's out here dunking, it's not going to happen.'

So Ace is coming right at me, I'm almost under the basket, I come forward, and I know he's a good player so he's going to try to loop it, shoot it high, an arching shot over me. And that's what he attempted to do, but I did a good 45-inch box jump height and fingertip blocked that ball as hard as I could and hit it out of bounds.

And I didn't feel- well, I felt 1% bad about it. Alright? I felt 1% and 99% good, and Steve was just like, 'I'm going to tell everybody about this, Shawn.' I was like, 'Hey it's your DNA, you know? Number one. Number two, he's out here with grown men, he's got to learn. He's got to take those bumps and bruises.'

But man, what a player. This kid is already got something special about him, and to even have the courage to come out there and compete with grown men, and also the amazing relationship with his father, and his father consciously assuring him that it's going to be okay.

As a matter of fact, it's going to be good. As a matter of fact, you can do this. You can perform, you can compete. It's what it's really all about, and we all need that support. And at the end of the day, it's such a wonderful thing to instill in our kids, and I just thought it was just a great example of the human that he is and the good time that we had. You know?

And by the way, I had the game winning shot, right in Steve's face a little bit. Steve, I know you're listening. Love you, man.

But then we lifted weight afterwards and he just kind of left me in the dust. Alright? I'm still recovering, true story, from that lifting session. And again, make sure to check out that episode with Steve.

He is truly an incredible human being, so we'll put that in the show notes. And guys, listen, I also had the opportunity to go to a Superbowl party. You know a little bit of time has passed since then, best Superbowl party ever.

Bedros Keuilian was in the house, Craig Ballantyne. It was at Jay Ferruggia's place, and also Christine Hassler came through. It was just an amazing time.

My brother Luca was there, and just to be able to hang out with incredible people. It's not just about the game, you know? It's the ability to fellowship and to come together and to have great conversations. And you know, that's what it's really about at the end of the day.

You know, a lot of the great things and deals get done outside of the typical work situation, you know? And it was just a great opportunity to hang out with my friends.

And so now I am back and fired. I'm ready to execute, and we've got an incredible show topic for you today. We're talking about something that is very top of mind for me, and this is recovering from sleep deprivation.

Alright? How do we quickly and effectively recover from sleep deprivation? Because it's going to happen, you know? For all of us from time to time, it's going to happen, especially if you're traveling, changing time zones.

So I'm changing time zones with this particular trip a couple hours' difference, and how do I adjust? How do I maintain my health, my level of fitness, my energy, my immune system?

We're going to cover all of that today so that you have those strategies in your superhero utility belt for whenever you need them.

And this episode is pretty rich, so we're going to dive right in, but first really quickly I want to give a shout-out to the iTunes review of the week.

**iTunes Review:** Another five-star review titled, 'Life is Better With *The Model Health Show*,' by JDContreras23.

'Working in law enforcement can be extremely stressful, but I find myself stress-free and motivated to learn when I am on my way to and from work. I have found myself to be full of energy and knowledge, and just want to share the information with my peers.

Thank you, Shawn, for what you do. Because of you, I thrive to be a beacon of information for others.'

**Shawn Stevenson:** Wow, thank you so much for sharing that review with me. Absolutely incredible, and big shout-out to law enforcement doing their thing and getting educated like that and fueling yourself.

Let's give a shout-out to Automobile University, everybody who's listening right now on your drive. Big shout-out to you. And again, just coming from L.A. I spent a lot of time in traffic, and I get it. This is why podcasts- this is like the podcast hub of the entire universe, alright?

And it's just a great opportunity to reframe it and see this as a good chance to learn, and to absorb valuable life-changing information, and not just the fact that we're sitting in traffic. Alright? So a big shout-out to everybody listening in their cars right now.

Now let's go ahead and get to our topic of the day. So today we're talking about how to quickly and effectively recover from sleep deprivation, and this starts with the conversation of number one, what is sleep deprivation?

Now the definition is pretty simple, sleep deprivation is the condition of not having enough sleep, alright? Now this can be acute where it's a short-term small thing, or something that's more chronic, and the research clearly indicates that wherever you lie on that spectrum, you're going to see a tendency towards all kinds of abnormal functions of your body and your brain.

So another term that's being used a lot lately is something called 'sleep debt.' Alright? Sleep debt. It's a new concept, and sleep debt is the accumulative effect of not getting enough sleep.

And there are two kinds of sleep debt that I want you to be aware of. Alright? There's two kinds. There's one that's resulting from partial sleep deprivation, and another that's resulting from something called total sleep deprivation. So what's the difference?

Partial sleep deprivation occurs when someone sleeps too little each night for several days or even weeks. So that's what a partial sleep deprivation means. Consistently not getting enough sleep and accumulating this so-called sleep debt.

Total sleep deprivation means being kept awake for 24 hours or more, alright? And many of us have definitely found ourselves in both situations, and for example- let me give you some examples of these.

An example of total sleep debt would be when I was in college, and I was going out to the clubs, right? I'd be up early trying to go to class, and then there were actually times when I came out of the club and the sun was coming up, and I'm just like questioning my life like, 'What does this even- what's happening here?'

Plus when the sun's coming up, you can actually see people when they're coming out of the club and it was just like, 'What was I was thinking?' So you see the makeup just smearing down, and the bad decisions that people are making.

Anyways I know you don't know what I'm talking about. Yes you do, you know what I'm talking about.

And also, an example of the partial would be something that's more righteous, which would be the birth of my son. You know that issue, as you're adjusting with the new

life there and being present, you're going to have examples where you're going to have a tendency towards getting less sleep than what's optimal for a certain period of time until you kind of get that process established.

And by the way, we talked more about this particular subject in an episode- and this was episode 225, which is *Paying Off Sleep Debt, the Truth About Naps, and Sleep Tips for Parents*. Alright?

So there is hope for that partial sleep debt with the right strategy, alright? So make sure to check that one out. We'll put it in the show notes if you happened to have missed it.

And so with this said, what are some of the issues resulting from these different levels of sleep debt?

Well short-term sleep debt can lead to, number one, increased insulin resistance. That's one of the first things that we see, and this is one of the kind of tell-tale signs of being associated with diabetes and pre-diabetes.

Insulin resistance, one of the classic signs of insulin resistance, is carrying around more belly fat than we would have optimally.

Another thing we see intrinsically is higher blood pressure. A lot of people don't think about that. Your blood pressure is one of the first things that gets elevated when you're sleep deprived. Like your body is working harder to try to do basic functions.

Also we see an elevation in stress hormones. Obviously fatigue, that's kind of one of the obvious things that we see kind of classic signs. And also reduction in activity in your prefrontal cortex. This is super important.

With the short sleep debt, we immediately see a reduction in activity in the part of your brain- the more evolved 'human' part of your brain that's responsible for executive functions, for social control, for distinguishing between right and wrong, for decision making.

That part of your brain goes cold, so guess what? You're going to have a tendency towards struggle at work, relationships, performance, and whatever the case might be, whatever you're trying to work on for that day.

Also we see a reduction or abnormality in the production and function of your sex hormones as well. So none of that stuff is good. And this is just- again that's the short-term sleep debt. Those are just a few of the things we see.

Long-term sleep debt, we see an increased risk of heart attack, stroke, diabetes, cancer, obesity, mental illness, and all-cause mortality. Basically your risk of dying goes up significantly if we're having this accumulation of long-term sleep debt.

This is nothing to play with. But what we're talking about is the opportunity to adjust, to get better, to help ourselves to buffer whenever we do have the occasional sleep deprivation, because your body is actually very forgiving and capable of paying back that sleep debt very quickly, and maintaining health and wellbeing.

But that's what this episode is really all about.

Now the next thing I want to talk about is just general causes of occasional sleep deprivation so that we got clear on what these things could be. Alright?

So number one, it could be work. Work could be one of the reasons behind accumulating a short sleep debt. Obviously there's a project that's due, or you're just really intense on a deadline, or the creation of something that has really got you inspired, and your passion and your juices are flowing, and you just kind of want to burn the midnight oil. These things can happen, and that's okay.

Also another thing is festivities. This is my reason for even doing this episode, is because I was engaged in festivities, you know? Dinners with friends, conversations, also work. You know? Getting out, I had things that I had to get done, all the while doing all of these things in a different environment. You know?

Mind you, so festivities can be one of those things, but that's okay. You know, if you're going to a concert, comedy show or whatever, you don't want to be neurotic and like, 'I've got to get back. I've got to get to sleep.'

You want to have that in mind for sure if you're playing at a high level with this health and wellbeing thing, but some of these things actually make life worth living, and it's a big part in this equation of do you become neurotic about getting enough sleep, or do you get the benefits that come along with these experiences, and help yourself to recover from that sleep deprivation by utilizing strategies you're going to learn today?

Also another reason could be sex. You know? You could be up later getting your groove on, alright? This can happen, and again the benefits can outweigh the potential downside of you being up a little bit later. Alright? So again don't be like, 'Honey, it's 8:59, I'm going to need missionary right now because I've got to get to-'

You don't want to be that person, alright? Enjoy the experience, enjoy the moment. Alright?

And also by the way, chapter nine of 'Sleep Smarter' talks about the benefits that come along with sex, and sleep, and the relationship, and how sex influences sleep, and how your sleep influences your sex life, and it is profound. Alright?

We release a cocktail of chemicals with orgasm being- oxytocin, for example, which has a countereffect to cortisol, so reducing stress, and cortisol is a big player in



keeping people we call clinically tired and wired where their cortisol is too high at night, causing issues with falling asleep and staying asleep, and it's too low in the morning which causes issues with actually getting up and getting out of bed.

Oxytocin is a buffer for that, alright? Prolactin, norepinephrine, all of these things come in the package with having great sex. Alright? So keep that in mind. This could be another reason for general cause of occasional sleep deprivation. Alright?

Another reason could be just general travel. And again, that's another thing that I had kind of stacked on me. I might have had all of those four things, by the way.

I might have all four things stacked, and the adjustment is simply following these protocols and these insights that we're sharing today. Alright? So travel and getting your body adjusted is going to be key.

Now the very best way to recover from sleep deprivation, the very best way is to prevent it in the first place. Alright? Let's just be real, let's get this out of the way before we get to the tactics, and strategies, and insights.

The very best way is to prevent it in the first place, or minimize it even, you know? Just even minimizing it, and this can be simple planning, alright?

Just simple planning and having a schedule, knowing where you're going to be, what you're going to be doing to the best of your ability so that you are able to enjoy the process, enjoy the moments, but also you have some structure. Alright?

So we want to be more- like Bruce Lee says, 'Be water, my friend.' Alright? So you want to have structure, but also flexibility. That's what water is. It's immensely powerful, you know? And I know that just even staying at a beach house. Like the ocean is powerful.

It doesn't care, and it has this fluidity and flexibility, but also it can hit. Right? It can hit harder than anything. Alright? So you want to have structure, but also some flexibility within that structure, and I hope that makes sense.

Now one other thing that you can have in your superhero utility belt for having that structure and that planning is what I like to call, 'And I love you, but I'm out' standard. Alright? You can pull that card out when need be.

You don't have to stay until the club ends, you don't have to stay until the event is over. You can say, 'I love you, but I've got to go.' Alright? You can actually do that.

But again, many instances this is ideal, but sometimes it's just more healthy and life-affirming to actually stay up and enjoy the moment and to connect. You know?



So that's what we really want to understand, kind of get that neurosis out of our mind, but today now we're going to share some tools for you to utilize whenever you do find yourself sleep deprived, for whatever reason it might be, to quickly help you to recover, to get back on track, and to feel awesome.

Alright so this starts with, number one, resetting your circadian timing system. Alright? So your circadian timing system is this 'biological clock,' and it's as real as the clock on your smartphone or on your wristwatch.

It is one of the most amazing structures in all of nature that we have built into our genes. Our bodies are always trying to sync up with the planet, with nature, and look for these schedules.

Like everything about us is on a schedule. Everything about us is on these biological rhythms. How hormones are getting produced, it's a rhythm to it, alright? And especially when it comes to regulating our sleep.

So when we're sleep deprived, one of the first things that we want to do is to reset the circadian timing system because it's going to be a little bit off.

And so what can you do to actually make that happen? Well the first thing I want you to be mindful of and to utilize is to get yourself some natural light exposure. Alright? Sunlight exposure.

And so what can sunlight actually do for you? Well this is so powerful in that your interaction with sunlight triggers your body to produce certain hormones and neurotransmitters that helps to reset and recalibrate your circadian timing system.

So let me describe what I mean. Now we're all driven by our genes by this light and dark cycle, alright? Your body is looking for these daily and requires them daily in order to have optimal function of your genes.

So let me give you an example of this. Research published in the journal 'Innovations in Clinical Neuroscience' found that exposure to sunlight significantly decreases cortisol later in the day. Alright? As compared to exposure to dim light during the day.

So actually getting some sunlight in the day helps you to lower your cortisol at night. Now your cortisol is going to be out of rhythm, and it's going to have a tendency to be higher in the evening if you're sleep deprived. Alright?

So this can help to reset that rhythm, get cortisol elevated during the day, because sunlight actually encourages the production of cortisol, and that's not bad.

Listen, cortisol is a necessity for regulating your thyroid function, for example. So actually having- your thyroid is the master kind of regulator of your metabolism in many senses, and it doesn't work unless you have cortisol.

So cortisol being the bad guy, it's not the full story. Alright? Cortisol is not the bad guy, it's just misunderstood. It needs some love and attention, alright? Cortisol being produced at the wrong time and the wrong amount is where the problem really is.

Alright so we want it to be produced during the day, that's normal, and if we look at a normal kind of biological rhythm, cortisol is going to be spiked or peaked between the hours of somewhere around 8:00 AM to 10:00 AM and gradually decline as the day goes on.

And the decrease in cortisol allows for an increase in melatonin, but if cortisol is too high or at the wrong spot, cortisol and melatonin have an inverse relationship. So that means when cortisol is high, melatonin is going to have a tendency to be low, and vice versa. Alright? So be mindful of that.

Sleep deprived, you want to make sure that when you do get up, get yourself some natural light exposure.

Alright, now how does this play out in the actual research? There was a recent study conducted on office workers to look at the effects of folks who weren't getting access to sunlight exposure through windows. Right?

So they're in office settings where they don't even have windows, so they're not getting any natural light coming in that they are getting exposure to.

And so they looked at that data compared to office workers who were getting adequate exposure to natural light coming in via windows, and here's what they found, this is nuts.

They found that the office workers who didn't have access to natural light got an average of 46 minutes less sleep each night. Crazy, just that one parameter.

They also found that this sleep deprivation that resulted from this, resulted in more reported physical ailments, lower overall vitality reported, and poorer general sleep quality. So even the sleep that they were getting wasn't the best.

Compared with the office workers who got natural light exposure during the day, they tended to be more physically active, happier, and they had an overall higher quality of life. Alright?

So that's what it says in the research. Please understand, if you're going to help to buffer that short-term sleep debt, do your best to get yourself some exposure to natural light because number one, it's going to help your body produce more serotonin, which is kind of this feel good neurotransmitter.

But here's one of the big secrets, and something that's not really looked at, is sun exposure helps your body produce serotonin. Serotonin is a precursor for melatonin. Alright? So you're going to produce more of that good sleep hormone when you get sunlight during the day. Alright?

It helps with this whole cortisol reset that we've been talking about.

Another big part of the struggles that we see with sleep deprivation come as a result of a hit to your immune system, and so you're experiencing these not-the-best feelings because your immune system is down and your body is trying to fight to keep it bolstered, if that makes sense.

So please keep that in mind. That's one of the reasons that we don't feel the best when we're sleep deprived, is because our immune system is taking a hit and it's trying to get sorted out.

So researchers at Georgetown University Medical Center found that blue light from the sun's rays are capable of boosting the activity of infection fighting T-cells. Alright?

So sun exposure can help to fortify your immune system hit that you just took by being sleep deprived. Alright? Powerful stuff, and again, I want you to take that into account.

Now sometimes in some situations, and I know some people right now are like, 'I can't get that kind of access to sunlight.' Well the best thing that we can do, number one, we have to get rid of that story because where there's a will there's generally 10,000 ways.

But in an instance that you actually don't have adequate sun exposure or access to that, there are light therapy devices that I talk about in my book 'Sleep Smarter.'

And a couple of them are visors, there are panels, there are all kinds of different tools that you can use. There's light boxes that are clinically proven to be effective for things like seasonal affective disorder, right?

So there's different options, but the best thing is getting that natural sun exposure.

Now also, last thing here with the immune system, we can't ignore the benefits that come along with sunlight in regards to boosting vitamin D. Alright?

So cholesterol in your system is converted into this valuable hormone that we call vitamin D, but it's actually a hormone, that has an immense amount of incredible benefits in the human body, that sun exposure is the key to converting that cholesterol into the vitamin D that we all need.

Now in a randomized double blind placebo controlled study, this is the gold standard of studies, found that vitamin D supplementation lowered the risk of getting the flu by 58%. That's nuts. Please. 58% by supplementing with vitamin D. That's powerful, and again, your body produces it itself.

Vitamin D isn't something- again I'm not promoting that you go and start going ham on vitamin D supplements for these benefits. You want to give your body the opportunity to do it naturally, and then add in supplements as a supplement, alright? In cases where it's actually needed.

So 58% boost. You might be like, 'Well what's the comparison with the flu shot? Like what's the effectiveness of the flu shot? We've got 58% increased benefit here with vitamin D. What about the flu shot?'

Well early findings for the 2018 flu vaccine indicate 17% effectiveness. It doesn't even compare, but yet they've got the signs up, right?

'Get your flu shot! Come in, get your Pepsi, get your flu shot, get on your way.' No, that's not the way to go about it. Alright?

If we're getting- why does this generally come around during this time of year? We're generally not getting outside, and we're generally not getting exposure to sunlight. Alright?

And there are some key nuances with sun exposure coming through windows that we need to talk about as well, and there's UVA and UVB, and the type that actually converts your cholesterol into vitamin D does not penetrate through windows. So I want you to be mindful of that.

We do want to get sun directly on our skin if at all possible. And again, this might be a situation where we do supplement with vitamin D, but that natural light exposure.

We have photoreceptors in our optical receptors, in our skin that pick up that sunlight, even if it's just in the room, and send data to your brain, to your nervous system, to your internal organs to produce correlated daytime hormones, and set that circadian rhythm back on track.

Alright so valuable, valuable stuff right there. That one thing already just to kick off the show, to make sure we're resetting that circadian rhythm by getting some exposure to natural light, or supplementing that natural light with some phototherapy devices.

Alright second thing here with resetting our circadian timing system is exercise. Alright? This is one of the very best things you can do, and this might be a situation where you don't necessarily 'feel like' doing it, or you don't know if it's okay, but if you are partially sleep deprived- again this is just an acute situation, one of the best

things that you can do is when you do get up to do some exercise in that first maybe thirty minutes to an hour after getting up.

Now why does this matter? I've talked about this many times, and I think it's just super fascinating, and this was Appalachian State University, and I'm just going to consolidate the study because I've shared it many times, but I really want you to get this.

They took exercisers and tested to find out what time of day exercising has the greatest impact on our sleep at night. And so they had exercisers to train exclusively at 7:00 AM, they had them train exclusively at 1:00 PM in another phase, and exclusively at 7:00 PM in yet another phase.

And they found that the morning exercisers spent more time in the deepest most anabolic stages of sleep. They tend to get more efficient sleep cycles, they tend to sleep longer, and also there's a 25% greater drop on average in blood pressure at night when people exercise in the morning.

Alright? So get some exercise in in the morning. That's all correlated with- when we're talking about the blood pressure, I mentioned this in the beginning with sleep debt, this can help to buffer that and reset that.

And the correlation we see with drop in your blood pressure in the evening is an activation of what's called your parasympathetic nervous system.

This is also known as the relaxation response in the body, or the 'rest and digest' system versus the fight or flight system or sympathetic that's going to be more active when you're sleep deprived.

Alright so get in some exercise to encourage- and here's why this actually works. This goes back to cortisol. This helps to do that cortisol reset.

Your cortisol is going to be a little bit abnormal because of the sleep deprivation, you get up and exercise, it gets that cortisol elevated to get it back on track. Alright? So we get that elevation in cortisol to help to see that natural cortisol rhythm.

Alright also, another benefit here is you're going to produce more endorphins from the exercise, some more enkephalins. Now I'm not saying to go hard. I'm not saying to just exercise your face off, alright? That might not be the best idea.

If it's a small sleep deprivation, all good, like you could do your kind of normal thing. But if it's like a significant amount, chances are- just do maybe a four minute tabata, go for a power walk, something like that. But get up, get moving, get some exercise in because it can really do a lot of good.

Now I want to make an important point here in regards to our relationship with getting up in the morning and exercising. You know this is something I've seen over the years, and I still get a lot of questions about this, or just people are kind of glancing past it when they're telling me about an issue that they have.

And this is where we see a situation where folks are getting up an hour or two earlier in order for them to work out. Alright? An hour or two earlier than they would naturally be sleeping, so they can get to the gym or get this workout in, and is it really worth it?

So I can tell you unequivocally getting more sleep is your best bet. Alright? Now why am I saying this?

Well this is from the 'Canadian Medical Association Journal' that showed that continuous sleep debt is directly related to an inability to lose weight. What? Let me say that again.

Sleep debt is directly related to an inability to lose weight, even- with the test subjects, even with the exact same diet and exercise program. Test subjects who got less than six hours of sleep per night consistently lost less weight in body fat than those who were not accumulating this sleep debt.

Alright please, please hear this. If you're sacrificing your sleep in order to work out more, you might as well just go ahead right now and phone this in as a defeat, because of course we can see some short-term changes, but long-term we're really setting ourselves up for failure, and our best bet again is to make sure we're getting adequate sleep and structuring into our day more high quality movement, and also the most effective exercises.

If time is an issue- which listen, if you don't have like ten kids, and like two full-time jobs, and you also work at the circus part time, like whatever, unless you've got a schedule like that, you do have time. Alright? It's just again, having that structure and that flexibility within the structure.

Great example, Steve Weatherford. Man, he's got five kids. Count them, five. Four girls! Oh my goodness, four daughters and a son, and plus this guy is coming from an NFL career where he decided on his own accord to retire and to focus on service to other people and growing himself personally, but also growing a brand and a company- several companies, right?

I'm telling you. And guess what? He's built it into his day. He's built it into a part of his success practice, a part of his work, because it makes everything else work better. Alright?

So please do not sacrifice your sleep in order to exercise. That's not a good idea. You're setting yourself up for failure, alright? And I really want you to get that.

But again, if we've got a story that this is the only time that I can exercise is early in the morning, I've got to get up at the butt crack of dawn and get this in at 4:00 in the morning, make sure that you're getting to bed earlier then. Alright? Make sure that you're getting an adequate amount of sleep.

Now also I want you to be mindful of this, getting up too early if it's not necessary can also set an abnormal circadian timing system that could cause you problems later down the road. Because I said naturally we see that spike in the little bit later part of the morning, maybe we'll say 7:00 AM to maybe 10:00 AM, alright?

And it's okay to exercise within an hour or so of that, but once we start getting into like folks waking up super early- and you'll know this. These are the hacks from the greats who are doing it and it's sustainable.

You know, if you look at somebody like Eric Thomas, number one motivational speaker in the world, and he's getting up at like 3:00 or 3:30 every day, but he gets to bed early as well.

And he's getting what we call this money time anabolic window. You get a bigger anabolic window, more recovery, when you sleep earlier. And according to the research, this is between the hours of like 10:00 PM and 2:00 AM-ish depending on the time of year, and daylight savings we've got to take into account, and all these things, but generally in that sphere because of the production of melatonin is going to help you have more efficient sleep when you go to sleep within that timeframe.

You're going to have a tendency to produce more human growth hormone, also known as the youth hormone, and it's muscle sparing, and you're also going to produce just more anabolic reparative hormones and enzymes that keep you better longer. Recovers your brain and body faster.

Alright? So wherever you lie on this spectrum, just please understand we don't want to sacrifice our sleep in order to exercise if we're trying to get fit.

We really need to focus on getting optimal sleep, and doing smart exercise, because if time is an issue, you can get an incredible workout that changes your body within ten minutes if you're doing the right stuff.

And that's the stuff we talk about here on *The Model Health Show*. So I'll put a link to the episode we did on high intensity interval training in the show notes for this one, and it's a classic, and it will provide you with a lot of value and a lot of different options.

Alright so let's go ahead and move on. Now one other tactic that I want to share with you that is in the same vein of helping to kind of reset the circadian timing system is getting grounded, alright? Getting grounded.



So what does this actually mean? It's also known as earthing. And this is one of those things that was really difficult for me to wrap my mind around because I'm a very analytical, see it and I believe it, kind of person. You know?

Just generally, that's kind of how I operate. But when I saw the research, and also having some testing mechanisms myself to actually see the response when I'm grounded versus when I'm not, totally changed my belief system around it.

And so grounding really goes back to this basic understanding that the human body itself is- we're a bioelectric entity, alright? So just take a second, I want you to really think about this.

Our bodies are incredibly conductive, and there's a certain electricity that powers us, alright?

And to give you some examples, when you're- if you see somebody's in the hospital, and they're on the heart monitor, and you're seeing that movement, what is that measuring? That's measuring the electric currency from your heart, alright? The electricity it's putting out. That's powerful, right?

You know, same thing if we think about electrocution, right? We hear electrocution, you're very, very conductive. You can get electrocuted fairly easy, alright? Because your body has this bioelectric tendency and system built into it.

So that's the number one principle, your body is this bioelectric energy field.

Now here's the thing, there's this external thing just even on the surface of our skin, if we touch something that's accumulated the static electricity that we have, we get shocked.

So we are absorbing and giving off this electricity. The key here is that we absorb it as well. We absorb electrons.

And the greatest source when we're talking about antioxidants, and we're talking about electron transfers, and absorbing this energy from food, where does all the food come from? Where does all the real food come from? It comes from the earth, alright?

So when you're getting grounded, you're getting in contact, physical contact with the thing that's providing you all of those free electrons through the food you're eating, but you can get it through skin to earth contact, alright?

Because the earth surface itself is brimming with free electrons that we now know for a fact can get transferred to the human body and it has some really profound benefits.

The question is how often are you actually in contact with the earth? This is something that humans have evolved with, and many researchers who are experts in this field would say that this is a big correlation to the reason we have so many diseases today, is our inconsistency with getting exposure to getting grounded, alright?

Because it dissipates all of that static electric build-up and also draws in all of these free electrons to help to basically provide electrons to these free radical events happening in our bodies. Alright?

They're missing an electron, these 'free radicals,' this free radical activity. So when that electron is provided, it helps to reduce that inflammation that's resulting from the free radical activity. Alright?

So at some point we'll do a whole master class on this topic, but I want you to get the overview of what it looks like, and what grounding is, and how it works, but I also want to share some of the research.

So this was a study published in the 'Journal of Environmental and Public Health.' Researchers found that test subjects that were grounded 'had rapid activation of the parasympathetic nervous system and corresponding deactivation of the sympathetic nervous system.'

Come on, please understand, this is clinical data here. This isn't just like airy fairy, 'I think this works.'

By you getting yourself in contact with the surface of the earth, you actually have this intrinsic rapid activation of this relaxation response, you know? Your parasympathetic nervous system immediately. It's incredibly valuable, alright? And a deactivation of the fight or flight sympathetic nervous system.

But are you taking advantage of this? Because it's free, you know? That's one of the things that we generally can't wrap our minds around, especially if it's free or you have free access to.

And by the way, before we go any further I want to make sure you know what's conductive. Dirt. Dirt is conductive. It's one of those things.

Dirt, grass, mud, soil; those are conductive surfaces, alright? We've also got sand. This is why many people have the experience of like going to the beach and they're getting relaxed, very relaxed and sleepy. You think it's just the serene environment, but it's actually- this might be one of the rare times that somebody is getting grounded, and they're activating that sympathetic nervous system immediately.

Bodies of water, same thing. If you're getting into the ocean or you're getting into lakes. Concrete is semi-conductive, alright? It's semi-conductive. Asphalt is not conductive, wood is not conductive.

So just be mindful, you know? These are just some different things to be mindful of, but there's also this grounding technology, this earthing technology where you've got bed sheets, and mousepads, and things like that, that are connected to the grounding of the particular building that you're in. Alright?

So I'll put that in the show notes, some resources to look into that. Bottom line is this is one of the first things I do when I get off of a flight. I find a way to get grounded, you know? Get my feet on the ground if at all possible, and / or I used to always travel with my grounding utilities. I definitely do so a lot less because I like to get the natural experience.

So here's another study, I just wanted to share this one with you as well. This was a study published in 2004 that looked at the biological effects of grounding to the human body during sleep as measured by cortisol levels and subjective reporting of sleep pain and stress.

The study found that patients who were grounded during sleep had reduced nighttime levels of cortisol, it reduced cortisol at night, and overall normalization of cortisol secretion through the day.

So this is a cortisol reset. It's a reset of your circadian timing system. This is what helps you to recover faster from the acute sleep deprivation, alright? Get yourself grounded, it can do a lot of good.

Alright so now we're going to shift gears, I hope you got a lot of value out of that, and we're going to look at some other components, some other important factors of things that can help you to recover quickly from a short sleep deprivation.

And so another area you want to be mindful of is taking care of your gut health, and here's why. There was a study that looked at what happens in our intestinal flora due to irregular sleep patterns, and this was published in the journal 'Cell.'

And researchers discovered that your circadian timing system influences the bacteria balance in your gut. So common experience like jetlag were enough to create bacterial dysbiosis in the gut, which in turn this dysbiosis is linked with metabolic disorders.

And so the researchers analyzed fecal samples from people before, during, and after bouts of jetlag as they traveled via a ten hour flight spanning multiple time zones.

At the end of the study, they found that jetlag participants showed an increase in a type of bacteria that is known to be more prevalent in folks with obesity and diabetes.

Alright so literally saw this increase in this type of bacteria that's correlated with obesity and diabetes. But here's the good news, the levels then went back to normal as the travelers got back on a regular sleep cycle.

Alright? So again, your body is very forgiving short-term. Long-term this can be some serious problems.

Alright so with that said, we want to take care of our gut microbiome, we want to make sure that we're eating high quality foods. We have a tendency when we travel to go ham on whatever, right? Like you're traveling so it's just like an opportunity to try new foods, different places.

That's all good to a degree, alright? But especially that short-term when you're getting your body set, I encourage you to make sure you're getting some real high quality food in your body, especially that first day. Alright?

Then if it's like a special experience because you're in- if you're here in St. Louis, for example, right? And they've got the toasted raviolis, alright? They've got the thin crust pizza and you're like, 'I can't miss this, Shawn. I have to try the toasted ravioli, alright? I have to know what it's like.'

If that's the case, just don't do it the first day, alright? My recommendation would be don't do it at all, but I'm not that guy, you know? So if it's speaking to your soul, that toasted ravioli, put it on the menu, but get your body back in balance to the best of your ability at first. Alright?

Now also I want you to be mindful that when we are sleep deprived, there's going to be a greater tendency to want the toasted ravioli.

Your gut microbiome, the bacteria in your gut, and also your brain having suffered some of the effects of sleep debt, there's less glucose getting to your brain, especially your prefrontal cortex. We'll see about a 6% reduction in overall glucose reaching your brain, alright? And then we'll see about 14% of that being from your prefrontal cortex.

So your body is going to compel you to want to eat more sugary quick energy sources, starchy carbohydrate dense food that only feeds the problem. Alright?

So you've got to be mindful of this. If you've ever noticed this, whenever you're sleep deprived, you have a tendency to want to eat like stuff that you might not normally want, or you're going to have a tendency to want to eat more starchy kind of sugary foods.

And this happens to the best of us, alright? You're just going to even have a tendency to be more hungry period. Stanford University researchers found that just a

short sleep debt, if we're talking about a total sleep debt like we talked about at the very beginning of just 24 hours, leads to a dramatic suppression of leptin, which is your body's satiety hormone.

So you're going to have a tendency to want to eat more food, you're going to have a tendency to be hungrier after you're sleep deprived, alright? So you've got to be mindful, you've got to be ready for it, you know?

Like I'm sleep deprived, that's what this is, and get yourself a little bit more under control and understand that, 'I'm not actually dying here. I'm not deficient in ravioli. I'm going to be okay.'

Right? So just be mindful of that.

Also I want you to be aware- like this is one of the things that I like to do is when I get off the flight, I'll grab water, I'll grab a couple of foods, that kind of thing. Because we generally like to get a place where we can make a couple of meals on our own.

But I'll have a tendency towards getting me some fermented foods, right? Some fermented veggies, or maybe a fermented beverage, just to get a nice little dose of healthy friendly flora. Alright? So that's another tactic that you can add to the mix.

And so I want you to be mindful of these different components, the changes that's going on in our bodies, but you know the carbohydrate tendency is one thing.

What we want to gear ourselves towards is make sure we're getting more protein and healthy fats, because those are things that are providing key elemental building blocks. Not just 'energy' to actually regenerate our brain tissue, our muscles, whatever it might be spared or utilized improperly due to the sleep deprivation.

Alright those things are key, so be proactive in getting those high quality sources. And also I'd recommend getting yourself a concentration of high quality micronutrients as well.

Now one other tiny thing I'm going to add here as far as the nutrition is concerned is caffeine, alright?

This actually might be a good idea when you're sleep deprived to have some caffeine the first part of the morning, and here's why. This can help to support, what we've been talking about, this reset of the circadian timing system. Alright?

Because caffeine does elevate cortisol, alright? And that's okay because it can help to reset.

So the key is I just want you to be mindful of that, and I don't want you to lean on this every day as a crutch, rather than using it as something initially to help to recover from a short sleep debt. Alright?

And there are some great benefits that come along with that. The human body has a great resonance with caffeine, but just don't let it go too far, alright? Because it can turn into a situation, alright? You want to be careful about that.

Full disclosure, I'm a fan of caffeine. I think it's amazing, again it has a great resonance with the human body, but it can really have some issues when it comes to the quality of our sleep.

And this was published in the 'Journal of Clinical Sleep Medicine,' they did a wonderful study where they had test subjects to consume caffeine right before bed, three hours before bed, and even six hours before bed.

And at the end of the study, they accumulated all of the data, and they found that even having caffeine six hours before bed was enough to disrupt sleep cycles, and even cause an objective, so using a sleep monitor loss of one hour of sleep.

So the person might have thought because they were unconscious that they slept for seven hours, but their body got the equivalent of six because the caffeine was active in their system.

How is this possible? Caffeine has a half-life of about eight hours. So that means if you have 200 milligrams of caffeine, after eight hours, half of it, or 100 milligrams is still active in your system. And caffeine is a very powerful nervous system stimulant, so that can really gum up your sleep quality.

So what we want to do is make sure that we're getting our caffeine in the early part of the day. That's really the key.

It's not that we need to go on a caffeine exclusion, just make sure that we're respecting the power that it has so that it's not interrupting our sleep.

Because this can be the thing that is an absolute game changer for folks, is simply by changing the time and the amount that they're assuming their caffeine. Alright?

So I want you to be mindful of that. Caffeine is an option that's on the table for you, but just respect it.

And so now let's shift gears again, and we're going to move into some supplements, alright? This is something I definitely bring to the table in the occasion of a short-term sleep deprivation, alright?

And one of those, the first one that generally jumps to mind for people, is melatonin, alright? When we're talking about supplements regarding sleep, melatonin is hot on the streets, alright? It's hot, but is it a good idea?

I'm going to tell you unequivocally right off the bat absolutely not. It is not a good idea to just haphazardly take melatonin supplements.

Just because you can get it at CVS, or Walgreens, or Whole Foods does not mean that it's safe or even appropriate. It's a hormone.

It's a very powerful hormone that has some very intrinsic deep impacts on multiple systems in your body, alright? So please be mindful of that.

Now everything has its place as well, because I actually do use a melatonin supplement. And you're probably like, 'Shawn wait, you just said all this stuff. Wait a minute.'

Everything has its place. It's how you utilize it that matters the most. In a short-term situation, we're talking about again a short-term sleep deprivation, it can be wonderful, but the problem is when you use it in the wrong amounts and for too long.

So this was a study published in the 'Journal of Biological Rhythms' found that faulty timing or large doses of melatonin can cause a desensitization of your melatonin receptors. Alright?

So we're talking about a down-regulation in your body's receptors that use melatonin.

So what that means is you can take all the melatonin you want, your body can produce melatonin, but it won't use it. That's a problem. Melatonin is a key hormone in relationship to getting efficient sleep cycles.

You can still sleep if your body's not producing melatonin, but it won't be efficient and effective good sleep that actually recovers your brain and body to the degree that's possible. Alright?

So I want you to understand that, but again, in a short-term occasional usage, it can be incredibly valuable. So myself personally, when I'm changing time zones- especially when I'm changing time zones, or maybe it's a rough night or day before, I'm trying to make sure that I'm recovering from the sleep debt, I'll utilize the sprayable melatonin from Onnit.

Now I take it sublingually, so I spray it under my tongue, and that means it absorbs more efficiently, and also faster. Then it doesn't have to brave- like if people are taking melatonin pills, see what happens to make it to the receptors, or the ability for it to get pulled into your body.



Alright? Going through your gastrointestinal tract, especially your stomach, is just not that effective. Alright?

So number one- and I'll only do this short-term. So most times it's just one day, alright? Maybe two if I'm like going to a different country, for example.

But outside of that, just a short-term thing, give my body a little boost of melatonin to encourage that interaction in my body, and I love it. Like it's something that I keep in my travel pack that I'm always with if I ever need it, and you can go to [www.Onnit.com/model](http://www.Onnit.com/model). You get 10% off that and everything else that they carry.

And again it's high quality earth grown sources, so it's not synthetic, and it's sprayable so you actually absorb it so much better. Alright? It also has a cool mint flavor. There's different ones, but it'll give your breath a little freshness, alright?

So make sure to check that out, and again this is just something to have in your superhero utility belt. I do not recommend using it daily, but you know, if it's a short-term thing, even a couple of days, you're trying to get your sleep back on track, I think it could be helpful.

Alright but we want to be mindful that we don't want to use huge amounts and we don't want to use it over a long-term amount of time, because it will down-regulate your receptors. Alright?

So again, everything has its place, it's just how we use it. Just because it's available out there on the streets does not mean that it's safe to take in massive amounts and to take daily. Alright? So keep that in mind.

Now another thing that I love, and this is- number one, this is safe. Alright? This has been used for thousands of years, has a tremendous amount of clinically proven benefits.

First thing is, battling the sleep deprivation, we've talked about the effect with your immune system. And so one of the best things, if not the best thing in the world for fortifying your immune system, is medicinal mushrooms.

Specifically if we look at something like chaga or rishi is my favorite for this instance of recovering from sleep deprivation.

Here's why; rishi is clinically shown to have an increase of about 300% in the activity of your NK cells. So these are your natural killer cells. These are the cells, your immune cells, that are basically designing and creating weapons to defend your body against any kind of pathogen you might be exposed to.

This is the kind of stuff that you need if you're sleep deprived and you want to keep your immune system strong.

The reason I love rishi specifically, and this was in the journal 'Pharmacology, Biochemistry, and Behavior,' found that rishi when utilized- testing its impact on sleep quality, test subjects were seen to have significantly decreased sleep latency. So that means folks fall asleep faster by enjoying a cup of rishi.

Increased overall sleep time, alright? It increases your overall sleep time. Also they saw a statistical increase in their REM sleep and non-REM deep anabolic sleep by consuming rishi before bed. What more do you need to hear?

This is something definitely, especially again when I'm traveling, when I'm a little sleep deprived, or just generally this is something that you can use daily, what you get with rishi, is I'll have a cup, and I always bring it with me. Alright? Always bring my rishi along with me when I'm on the road.

And so I get it from Four Sigmatic, and I absolutely love these guys because they do it right. They're doing a dual extract so you're getting a hot water extract and an alcohol extract, so you're actually getting all the nutrients and cofactors in a way that your body can, number one absorb it, but also you're not missing on something.

Because most supplements out there are doing just one extract, either hot water or an alcohol, and you're getting both. So when you hear studies like this, it might not even be the extract that you're looking for when you're buying another supplement. You're getting it with Four Sigmatic.

Alright? So make sure to get yourself some Four Sigmatic rishi. It's one of my favorite things in the world. Go to [www.FourSigmatic.com/model](http://www.FourSigmatic.com/model). That's [www.FourSigmatic.com/model](http://www.FourSigmatic.com/model) and you get 15% off all of their incredible mushroom elixirs, mushroom coffees. It's just the best ever. Alright?

So make sure to check them out, so that's another thing. You can add things in like valerian, chamomile, kava-kava; all of those things have benefit.

But again, my unique go-to is definitely the rishi. So rishi and melatonin are my kind of proactive things that I might do after, right? And again the melatonin, [www.Onnit.com/model](http://www.Onnit.com/model), right? [www.Onnit.com/model](http://www.Onnit.com/model). Those are the two things for me personally that I use as the aftereffect.

And sometimes with preventative with rishi, for example, you know it's one of those things where you can again use daily. There's no toxicity level with that.

But the key here is prevention, right? The key here is prevention. If you know you're going into a situation where you're going to be sleep deprived, you can get some really magnificent effects by doing these couple of things I'm going to share with you now.

In the journal 'Brain Research Bulletin,' researchers found that collectively spatial memory impairment is induced by chronic sleep deprivation. It's something we know, our brain's not quite right when we're sleep deprived. We know this, but here's the thing.

The researchers found that vitamin C prevented such impairment. So utilizing vitamin C prevents this spatial memory impairment resulting from sleep deprivation.

Now the key here, this is the big misconception about vitamin C, is that it needs to be utilized as a preventative thing, not after. This is the key, because the research indicates that it actually has little to no effectiveness once you're already sick.

Because people- generally when we think about vitamin C, we think about the immune system, but little to no effect across the board when you look at meta-analysis, and you look at all these different experts, it just doesn't work that well.

But we're still buying these Emergen-C's, and all these different things. I'm not saying that it doesn't have some kind of effect, but clinically we can't really see that big of a difference. Alright?

Now here's the thing, it's a rockstar when it comes to prevention, alright? In preventing you from getting sick in the first place, supporting your health. Again, a big part of the sleep deprivation experience is due to the immune system.

So in five clinical trials, people who were exposed to extreme physical stress- and who isn't these days, by the way? Five clinical trials, people who were exposed to extreme physical stress were able to cut the number of illnesses they contracted in half. They cut the number in half.

Say if you get a certain amount of illnesses per year, you cut that number in half by supplementing with vitamin C. Alright? And the key here again is to be proactive with it.

Now you know, again when it's time to travel for me personally, this is a time when I take more vitamin C. Or I generally don't really take vitamin C unless it's in my food, but I'll utilize a high quality botanical source of vitamin C.

So I like camu camu berry, is something I've been using for years. Highest source of vitamin C of any food we know about. There's also amla berry, acerola cherry, super high vitamin C foods.

But these are superfood concentrates. So these are powders, make sure they're processed correctly, get them from a great source, preferably organic. All the kind of standard stuff.

But the key again is taking it proactively, right? Take it proactive. That's really the key here.

So I'll boost up my system with the vitamin C, and also do the medicinal mushrooms as well. So this might be some rishi or chaga, I do this proactively before I travel.

And finally, one more preventative measure here, and again this is something I do prior to the sleep deprivation of the travel, is I boost up my consumption of turmeric because of this active compound in it called curcumin.

And there was a study published in June, 2006 in an issue of 'Life Enhancement,' scientists found that the active compound in turmeric, curcumin, protected mice which were kept away for 72 hours. That's terrible.

It protected them against symptoms of sleep deprivation such as impaired locomotor activity, memory dysfunction, and depression.

So the group that received the turmeric extract treatment before- again before the sleep deprivation period, showed significant decrease in anxiety-like behavior and oxidative stress that's caused by lack of sleep. Alright?

So there it is again in black and white as something that's preventative, this is what I love to use. And I use a super critical extract, four to one extract called Daily Turmeric from Organifi. It's something like I keep with me all the time, it's over there in my bag right now.

And also the reason I love it is it has a biopotentiator in it as well, which is a compound called piperine, which is the active ingredient in black pepper.

And that biopotentiator basically makes your body absorb and utilize it ten, twenty times better because those two things have this kind of phytonutrient combining benefit.

And this is why cultures for years have combined these two things with the pepper and the turmeric. And you see like cultures in India for example that have extremely low rates of cancer, and this is because a lot of their meals include turmeric, and turmeric has been found to have anti-angiogenesis properties.

So this means it basically cuts off the blood supply to cancer cells, right? It cuts off- because cancer needs a supply, it needs energy to grow, and it cuts that pathway off. Alright? That's what anti-angiogenesis means, alright?

So for me, I use- again four to one super critical extract Daily Turmeric from Organifi. Head over to [www.Organifi.com/model](http://www.Organifi.com/model), they're giving you 20% off everything.

20% off the Daily Turmeric, 20% off their incredible Green Juice blend. Which this is one of the things too, like I have those go-packs, and especially when I'm traveling or if I find that situation where I'm sleep deprived, I give my body those micronutrients that it really needs. That's how I do it.

Not those crazy synthetic vitamins that really don't provide your body much good at all. These are from a concentration of real whole foods. It's low temperature processed, so you're actually retaining those nutrients.

Alright so we've got the Green Juice, the Red Juice which could be a great source for your vitamin C. So definitely head over there, check them out.

And again, these are just things to add to your superhero utility belt. And do the thing that really speaks to your soul, but you want to be prepared so you're not running around trying to figure this stuff out once it happens, alright? So I hope that makes sense.

The last thing that I want to cover with you guys in the mission to help your body quickly recover from sleep deprivation is to nap. Like take a nap if possible.

Napping- and this is a big statement from today. Napping is like a supplement. Your sleep at night is the real food. Alright? I'm going to say that again.

Taking a nap is like a supplement. Your sleep at night is the real food. I don't want you to mistake the two. You can't nap your way into great health, and oftentimes the need and draw to taking a nap is a result of the sleep quality at night being subpar.

And we did a whole episode talking about the science of napping, because I'm not against a good nap at all. There's times and places, and there's also a strategy to do it effectively to get the result you want, and we detail all of that in that episode, and we'll put it in the show notes.

So if possible, take a nap, getting that supplement can be really helpful, but you want to do this abiding by your chronotype because there's a certain time of day to nap so it doesn't influence the real food you're looking for at night, the sleep that you need to truly recover that next day.

Alright? So you don't want your nap to gum it up, alright? So make sure that you're being mindful of this. And for the chronotypes, we talked about that with Dr. Michael Bruce, and I'll put that episode in the show notes as well, because you're different from other folks.

There's four general chronotypes, and based on that it will tell you a good optimal time for you to take a nap during the day, if you do take a nap.

Alright so again, another supplement here is to take a nap to help to fortify your body, your brain, your immune system against a temporary sleep deprivation.

So again, at the end of the day, these are just tools and strategies, things that we can implement to ensure that we're able to recover from the thing that life throws at us occasionally, you know?

But I don't want to negate the fact that we need to have a strategy in our lives to make sure that we're on a regular basis getting the high quality rejuvenative sleep that our bodies really desire and deserve. Alright?

But at the end of the day, life happens, and I want to make sure that you're prepared for it, alright? So I hope you got a lot of value out of this episode today.

And again, at the end of the day, it doesn't work if you don't work it. This is really about implementation.

The things that really speak to you in being prepared, get those things in your possession so that you're ready for those curveballs when they come. Alright?

And by the way, simply getting back on schedule, at the end of the day that's really the goal. When we have a situation where we have a temporary sleep deprivation, just get back on schedule as soon as possible.

Don't draw it out, don't allow yourself to go have another night of sleep deprivation, and another night. Because when you start accumulating that sleep debt, you start to get into a place where you're owing a lot more than you can pay back, alright?

So your body is very forgiving for that temporary sleep debt. In fact just one night of temporary sleep debt, we see an increase in brain-derived neurotrophic factor, right? BDNF, which is protective over your brain and your neurons because your body is like, 'Hey I've got you.'

But if you stretch that out over a few more days, weeks, even months, many of us in our culture today are depriving ourselves of sleep, we start to see a dramatic decrease in brain cell activity, or even the growth and development. You know, neurogenesis of brain cells, alright?

So please be mindful of all of these things, and utilize these strategies to create the health, the well-being, and the life that you truly deserve.

Alright, if you got a lot of value out of this, make sure to share this out with your friends on social media, Facebook, Instagram, Twitter, and of course tag me. I love- absolutely love to see that, so make sure to tag me in the post.

And listen, this is just scratching the surface. We've got some incredibly episodes and incredible guests coming up for you, so make sure to stay tuned, alright? Stay locked in. 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](http://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.