THE MODEL HEALTH SHOW

EPISODE 537

# 5 Strange Things That Will Help You Sleep Better At Night

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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. On this episode, we're going to be diving into five strange things that can actually help you to sleep better at night. We all know what it's like subjectively, to have a poor night's sleep. We're just walking around in a fog, we're not feeling our best, maybe our cognition isn't on point. But what about objectively? How does our sleep impact some of the biggest issues that we're facing today, some of our greatest killers in our society, like heart disease and obesity? Well, a study cited in the journal Sleep followed almost 100,000 people for 14 years and discovered that women who sleep less than four hours per night were twice as likely to die prematurely from heart disease, the number one killer in the United States. Also, what about men? A study reported by the World Health Organization, tracked the results of almost 700 men over a 14-year period. They found that men with poor sleep quality also were twice as likely to have a heart attack and up to four times more likely to have a stroke during the study period. There's something going on with our sleep that is helping our bodies to manage and actually prevent, protect us from issues like heart disease, again, the number one killer in the United States.

Now, what about the impact on obesity? On body fat? Well, a study published by the American Academy of Sleep Medicine shared some remarkable findings as they tracked visceral fat accumulation with study participants using CT scans over a five-year period. Now, visceral fat is that deep abdominal fat, also known as omentum fat, highly correlated with things like diabetes, cancer, and heart disease. So again, they're tracking folks over a five-year period using CT scans tracking their visceral fat. And here's what they found. The results found that over the course of this five-year study period, test subjects who slept less than six hours per night had a 32% gain in visceral fat over the study period. Compared to folks who slept more than six hours per night having a 13% increase in visceral fat over the study period. In essence, the sleep-deprived individuals had more than twice as much visceral fat accumulation over this five-year period, more than twice as much belly fat, depending upon how much sleep they got. What's going on behind the scenes? We know that sleep has a major influence in regulating our fat loss-related hormones and neurotransmitters. We know that sleep has a major impact on human growth hormone that is incredibly protective of our muscle tissue.

And major impacts on cortisol and regulating cortisol. With cortisol being elevated and in this kind of deranged state, this can lead to the rapid breakdown of our muscle in a process called gluconeogenesis, where a muscle tissue is getting broken down and utilized for fuel. And this can all be triggered when we are chronically sleep deprived. Habitually, really making this disadvantaged switch or this disadvantaged alteration take place in our body fat ratio. So, decreasing our lean mass and increasing our fat mass. Again, this regulatory force is our sleep

quality. What about cognition? Well, the study that was published in The Lancet tracked the results, the cognitive performance of physicians. They had them to come in and complete a task. They tracked their performance and they sleep-deprived them for 24 hours, which is not uncommon in the healthcare sphere. And they had them to come back and do the same exact procedure. The same exact task again. And here's what happened. When the physicians were sleep-deprived, they made 20% more mistakes doing the same exact thing, and they lost efficiency. It took them 14% longer to do the same exact thing. This is what often happens. We're grinding, we're burning the candle at both ends to try to get stuff done, but we're losing effectiveness, and also making mistakes that cause us to come back and have to do stuff over and over and to fix problems that we create.

So, it's really making a shift in our thinking to understand like, let's bring the best of myself to this equation and execute things at a high level because I'm well rested. Now, what about susceptibility to infectious diseases? Well, research published by the Mayo Clinic demonstrated that people who don't get quality sleep or get enough sleep are far more likely to get sick after being exposed to a virus. The bottom line is, there isn't an area of our lives that our sleep quality does not impact. We've got mountains of clinical evidence now on our sleep quality and our sleep duration impacting and regulating and preventing issues ranging from cancer to Alzheimer's, and obviously cognitive decline as well, and neuro-degenerative diseases. The list goes on and on and on. Now, I mention this multiple times. It's not just sleep duration. This is what people get caught up in. And we have this cookie-cutter thing, of you need to get eight hours of sleep. But that amount of sleep is putting a very simplistic blanket over a very diverse human population. A massive diversity in metabolic uniqueness, and the uniqueness of our microbiome, of the uniqueness of our genetic expressions. There's so much diversity to behold within the human genome.

And not taking this into consideration, the same amount of sleep for one person isn't going to be equal to the next person. The same amount of sleep that you might require right now is going to be different based on your level of stress, based on, maybe you're training for some kind of an Iron Man or something of the like, and it's requiring you to have more sleep, or maybe you're under intense stress with a deadline or there's a change going on with the family. All of these things are going to denote and influence how much sleep we need. So, getting into this cookie cutter box of, you need blank amount of sleep. And as far as hours is concerned, is a huge mistake. What we really need is efficient sleep cycles. We need the sleep that we do get to count. And this is also bringing to light that we can get eight hours of sleep, but the quality of that sleep can be dramatically degraded. If you're not efficiently going through your sleep cycles, you can get that eight hour of sleep and wake up feeling terrible and sleepy throughout the day. So, what we really need is to employ lifestyle strategies that ensure that we're going through our sleep cycles efficiently and effectively. Now, what do I mean by these sleep cycles,

where there are multiple stages of sleep, this is how you actually know that someone is sleeping.

In clinical trials, for example, is being able to measure what's happening with their brain waves. So, we have certain brain activity that's associated with the different stages of sleep. So right now, we're all in a beta state, a beta kind of waking state, maybe a little bit of gamma as well, but this is a normal waking state. And as we transition into focus, calm or even transitioning into sleep, we start to dip our toes in the alpha, we start to get a little bit more alpha going. From there, we're jumping into theta. Now theta, again, this can be a state we achieve during meditation, during deep calm, deep focus relaxation, but also, we know that this is signifying that we are changing what's happening in our brain with sleep, and then we've got the deep delta state, that slow wave state where we're in deep anabolic sleep. This is the most anabolic stage that you can be in. Just being awake is catabolic period, alright? And it's during sleep that we have all these anabolic activities take place that help to regenerate us and bring us back to help us to heal faster than anything else can.

The truth is, if sleep wasn't so important as far as our human development and functionality, we would have evolved out of it a long time ago, but there's something about sleep that just cannot be replaced with anything else. And in our world today, it's become an obstacle because of the way that our society is structured. Now, there are some popular methods for improving sleep quality that we talked about on multiple episodes of The Model Health Show, but on this episode, we're going to dive into five strange kind of weird things that are clinically proven to improve your sleep quality, that you can utilize starting tonight. So, the first one we're going to jump into, number one on this list of these five weird things that can help to improve your sleep quality, number one is to have a food curfew. A recent study published in the Journal of Clinical Sleep Medicine explored how eating late affects sleep patterns and sleep apnea severity in individuals with sleep apnea. The study revealed that compared to early eaters, people who finished their last meal closer to bedtime ended up spending less time in REM sleep, rapid eye movement sleep.

This is a lot of our memory processing is taking place during REM sleep, so converting even what you're learning right now into your short-term memory, filing it away, making it more accessible so that we can retrieve it if we want to. That's just one of the important aspects of REM sleep, and so their REM sleep is getting degraded. And also, they noted that folks who were eating closer to bedtime had higher sleep latency, meaning it took them longer to fall into notable stages of sleep in the first place, alright? In addition, they were noted to have a higher risk of poor sleep quality overall and higher rates of daytime sleepiness by eating closer to when they went to bed. The study conclusion stated, "late meal timing was associated with worse sleep pattern and quality and apnea severity than early meal timing." Now, in recent decades, we've seen a skyrocketing rate of folks experiencing sleep apnea, this is another

chronic issue, and who knew or who's talking about the fact that if we just make a shift in the time that we're finishing our last meal of the day, you can have a notable improvement on sleep apnea symptoms.

So, this is another tool to add to that tool belt, but this is something that we can all extract benefit from, because another way that eating too close to bedtime might have a disruptive effect on our sleep quality is the impact that it has on cortisol. Here's a segment from chapter 13 in my international best-selling book, Sleep Smarter. "Let's take a look at the impact that being overweight has on cortisol, for example. Research presented by Deakin University in Australia showed that after consuming a meal, overweight individuals secreted radically higher levels of the stress hormone cortisol. People with a healthy weight showed a 5% increase in cortisol levels after consuming a meal, while overweight and obese individuals' cortisol levels increased by a whopping 51%. These high cortisol levels translate to higher blood sugar, lower insulin sensitivity, and increased levels of inflammation. The biggest issue is that cortisol is as close to an anti-sleep hormone as you can get. Having higher levels of these stress hormones in your body will inherently damage normal function, no matter what time of day the meal is eaten. To know that each time you eat a meal that your stress hormones are shooting through the roof is scary. This is one of the most important reasons to get the weight off because it's killing you softly like that old Fugees song.

The adage of not eating late at night if you want to lose weight actually has merit in this regard. IBut it's not that eating late at night is problematic in and of itself. It's when we are already overweight that it becomes a real concern. I should know... I've been on both sides of the spectrum." Again, this is a segment from my international best-selling book, Sleep Smarter, and there's 21 clinically proven strategies to optimize and improve your sleep quality featured in the book. Now, in this context, if you're wondering a little bit more on why is cortisol kicking off. Why are we having this higher experience of cortisol being secreted when we eat a meal, when we venture into a state of obesity or being overweight? Well, the process of eating is going to inherently bring about stress to the body. This is a natural normal thing. It isn't that all stress is bad, but your body has to be sharp. It has to be absolutely on point because you're taking in things from the external world that could potentially hurt you.

So, the immune system, your body has to be on guard, making sure that what you're bringing in isn't nefarious in the first place, and then the stressful event of taking this food and breaking it down into all of its parts, its digestible parts, moving it throughout your gastrointestinal tract, moving things through the intestinal wall, getting everything into your bloodstream, sending it where it needs to go. We're literally taking food and making it into you. It's such a miraculous process. It's really hard to describe how incredible it is. So, this food is becoming you, is becoming human tissue, so again, it's going to evoke some stress. Now, if we're in a state of obesity, that stress is even higher for a myriad of reasons, but we know that if we're

doing this late in the evening, eating a meal is going to shoot up that cortisol level, and cortisol is really like the antithesis to melatonin. Cortisol is a bonafide, get-up-and-go stress hormone, whereas melatonin is that kind of relax optimizing our sleep cycle hormone, and they have this kind of inverse relationship where if cortisol is pushing too hard, it is pressing melatonin down. If melatonin is high, it's inherently going to require cortisol levels to be a little bit lower.

So, this is yet another reason why if we proactively take this step, this kind of strange step to have a curfew on the time that we're finished eating. Now, none of this is written in stone, there isn't some stone tablet of sleep or any particular thing for the human body that you have to do or else. If you want to eat something late in the evening, so be it. Alright, this isn't like everything just goes out the window, but what we're doing habitually, if we just look at the out-picturing of the results we're seeing in our life, how is our sleep quality? How is our performance the next day? How is our cognition, our level of body fat, our disease prevention? If we have some issues in these things, these are some simple things, strange as they might be, that can start to nudge us in the direction of improvement in a myriad of ways. So now being that these things are nuance, I want to give an alternate perspective on this as well. Now the majority of peer-reviewed evidence does show that having a curfew on the time that we finish eating does dramatically improve our sleep quality, but there's always going to be anomalies, like this weird study.

In a four-week study of adults who were night snackers, participants eating one bowl of cereal and milk 90 minutes after dinner, they actually ended up eating an average of 397 fewer calories per day. Ultimately, participants lost an average of 1.85 pounds from this one change alone from having this practice of eating a bowl of cereal 90 minutes after finishing dinner. This study suggests that adding a small after dinner snack may help night snackers feel satisfied enough to eat less than they would otherwise, and over time, it may also possibly benefit weight loss. So again, it just depends. All of this stuff always depends on us, and we can look at the logical nature of this and say, hey, maybe it's because they have the structure thing, where they know that they're going to get some sweet a little bit later after they have dinner, and maybe a lot of people have that experience. You know, they finish dinner and they're just like, "Hey, you want something sweet? I've got a taste for some sweet. Right now, something sweet, some sweet.

And knowing I have this specific amount of whatever, fill in the blank, that I'm going to have and it's a part of my program. Maybe that's really what it is, it's the part of the program and the psychological structure it creates and the parameters to operate within, and also giving us something to possibly look forward to. There are many different reasons why this might bear out in this particular study, but again, the majority of peer-reviewed evidence does not say to eat a bowl of cereal late in the evening, right close to bedtime. So again, this is a strange but powerful implement potentially for improving our sleep quality is having a food curfew. Now,

how do we get into this place where there's this thing in our culture, there's this phenomenon of the midnight snack, right? There's movies where you catch somebody in the refrigerator late at night, and part of it, they say that they put the light in the refrigerator for that purpose, that's why the light exists there, alright?

Now, the question is, why would we be driven to get up and get something to eat or eat late at night? It's probably a deficiency taking place in the first place where we're not getting enough protein or essential fatty acids or whatever the case might be, at dinner or throughout the day, leading us to having stronger cravings. So, our cravings are heavily regulated by specific nutrients, and also our cravings are heavily influenced by our sleep quality. Researchers at Stanford University have affirmed that sleep-deprived individuals do in fact secrete less leptin. They're leptin sensitivity, that whole connection with leptin, our glorified satiety hormone starts to go down leading to higher levels of cravings. Ghrelin levels, which is our kind of glorified hunger-related hormone, those levels are noted to go up when we're sleep deprived, so we could start to get into this vicious circle. So how do we break this? One of those things we can implement, again, a strange thing is, Number one of five, that we're going to cover is having a food curfew. Now, the question might be, "Well, what about non-caloric things that we might have in evening?" Maybe a relaxing tea or something of that nature, or something that has fasting mimicking nutrients or stress mimicking nutrients that can add to our sleep quality and also give a little bit of satiety as well.

Well, this is something that I regularly do myself, at least a few times a week, before bed, maybe about an hour before bed, I have a cup of Reishi tea. And this is because of a study published in the journal of Pharmacology Biochemistry and Behavior found that Reishi is able to significantly decrease sleep latency, meaning you fall asleep faster, increase overall sleep time and was found to increase sleep efficiency by improving non-REM sleep, deep sleep, and REM sleep time. It's pretty freaking amazing. And having this tea is, again, it's a non-caloric intervention. It's a non-caloric thing that you can add into the mix. And even having it with a little bit of MCT oil, I like to have it with a little bit of Emulsified MCT Oil. MCTs generate, trigger the body to secrete ketones, and what's in this category of fasting mimicking nutrients. So, it's not going to cause a notable disruption, especially in the context of, "eating a meal close to bedtime." So definitely something to employ at the mix, highly recommend drinking some dual extracted Reishi tea. This means that it's a hot water and alcohol extract.

You're only going to find that in one place, and that's with Four Sigmatic. Their Reishi elixir is one of my favorite things. I always have some in my cabinet. Go to FourSigmatic.com/Model, that's F-O-U-R S-I-G-M-A-T-I-C.com/Model. You're going to get 10% off all of their incredible elixirs, their mushroom elixirs, medicinal mushroom, like cortisol, Lion's Mane, Reishi and also their incredible mushroom coffee blends, and hot cocos. All organic. All done the right way. One of my favorite things. I've been utilizing Four Sigmatic for years, every day. One of my all-

time favourite things. FourSigmatic.com/Model for a special discount. Now we're going to move on to number two on our list of these five strange things that can help you to sleep better at night. Number two is to improve your air quality. In our modern bedrooms, we tend to close ourselves off tightly from nature, under the guise of privacy and shutting out possible disturbances, we can box ourselves in by closing all of the windows and doors. We essentially are sealing ourselves into this closed off space. It's kind of like laying down in a nice Tupperware container and then pulling the lid on top of us. Without adequate airflow, the carbon dioxide levels in your bedroom will inherently raise much higher.

And as research conducted by scientists at the Technical University of Denmark demonstrate, this rise in CO2 diminishes sleep quality and reduces cognitive performance the next day. Their randomized, blinded, crossover study published in 2015 had students experience different airflow conditions in their dorm rooms. In one segment of the multi-week study, the students slept with an open window, or a closed window, and tracked their outcomes. In another phase of the study, the students slept in conditions with windows closed but at ventilation switched on or off, using an inaudible outdoor air supply fan that was turned on automatically whenever the CO concentrations in the room increased above 900 parts per million. The results from this were measured against another condition in which the students slept with the ventilation fan off all night. This was dubbed the low-ventilation condition. The scientists found that the average carbon dioxide concentration in the room was 2585 parts per million in the closed window condition, and just 660 parts per million in the open window condition.

The air exchange rate was 10 times greater with the window open. In the fan ventilation experiment, the average CO2 concentration in each room, while the participants were asleep was 2460 parts per million without ventilation, and just 865 parts per million with ventilation. The study utilized objective sleep tracking devices, subjective questionnaires, and cognitive performance tests to gather all of the data. In the initial close window versus open window experiment, sleep latency improved significantly when the window was open, meaning, study participants fell asleep faster with the window open. Sleep efficiency was also improved with the window open, though the difference was not statistically significant. In the ventilation fan on versus off study, sleep efficiency was significantly better when the fan was in operation. Specifically, the researchers reported that test subjects spent a greater percentage of their time actually sleeping when they were in bed. Both conditions supplying outdoor ventilation improved sleep efficiency, though using the outdoor air ventilation fan to do it led to a higher statistical improvement versus the open window.

The researchers postulate that this could be due to outside noise or other psychological disturbances having the window open. Though, still the window opens definitely improve sleep and performance regardless, versus having the window closed and no outside airflow at all. The researchers noted that when bedroom air quality was improved in these experiments,

"Subjects felt better the next day, less sleepy, and more able to concentrate, and subjects' performance on a test of logical thinking improved." This is pretty remarkable. And it's talking about improving the air quality in the room that we are spending about a third of our life! We spend about one-third of our life in our bedroom, at least. If we're talking about the amount of time that we're probably getting sleep and all the associated things that go down in the bedroom, right? But just think about that for a moment. How much time we spend in this space? Wouldn't this be an area for us to put some intention into? Especially with the air that we're breathing, because it's not just, you are what you eat. It's, you are what you eat. You are what you drink. You are what you breathe! This is the number one nutrient. If we're talking about external nutrition that we're bringing in for our cells and for cellular function, this matters a lot.

Now, in talking about this context, what if you live in the city, what about air pollution and things of the like? And this is one of the common misconceptions. When we're creating a culture where we're relying on basically processed air, we might take on this dedication to eating less processed food, but we're not taking into consideration the processed air environment that we're existing in. And according to a report published by the EPA, it states, "EPA studies of human exposure to air pollutants indicate that, indoor levels of pollutants may be 2-5 times, and occasionally more than 100 times higher than outdoor levels. These levels of indoor air pollutants are of particular concern, because most people spend about 90% of their time indoors." So, the EPA, the Environmental Protection Agency, noting that indoor levels of pollutants are usually in the range of 2-5 times higher than outside, and occasionally upwards of 100 times more pollutants indoors than outdoors.

Alright. So, you need to put that belief to the side that, leaving a window open or whatever the case might be, that the air out there is going to be sub-par or substandard to the synthetic air, or the processed air that's existing within our bedrooms. Specifically, we're talking about our bedroom, but, again, they're noting that, most folks spent about 90% of their time indoors, and it's just weird that we have indoors and outdoors, right? No other species does this, right? It's just a part of nature. Now, they can build stuff, like, a bear is going to hibernate. It's going to go do what a bear is got to do, and might have a bear cave, right? But, still, it's still a part of nature, right? Whereas humans, we can literally box ourselves in and create these, like a fortress around and kind of boxing us off and seemingly creating this phenomenon of indoors versus outdoors, or I'm not "out in nature." But the interesting aspect, if we think about this from a meta-perspective, when the bear is creating their little environment and the beaver is doing beaver things in building a dam, and when a bird is building a nest, whatever it might be, it's still nature making something. Humans are a part of nature. We might psychologically try to distance the two or separate the two. But we are part of nature making stuff. So, it's still a part of nature even if we're indoors.

So, this is simply for the dictation of communication, understanding, this indoors versus outdoors phenomenon, it's still nuanced. But you know what I mean. At the heart of the situation, we're cutting ourselves off from nature. And in this instance, cutting ourselves off from adequate airflow, this can be one of the things that's depriving us of high-quality sleep. So, what are some of the things that we can do? What's the practical application to improve our air flow and our air quality in our bedrooms? Number one, Captain Free, open a window! Just open up the window and let some fresh air get into the room. Now, this doesn't have to be necessarily while you're sleeping, just give yourself a head-start. A lot of folks keep the things sealed all day, every day, and then they'd go to sleep in that sealed off container. And it's leading to an even more magnified effect of this carbon dioxide concentration being in the area. And the research, the study that we covered actually even noted that. That, having the windows open, having some circulation, even prior to sleep can definitely help. So, get some good fresh air circulating in your environment. And if you decide to close the window before you go to bed, so be it.

So, that's Captain Free, that's the freemium. Another modality here, and what we actually have here in the studio, because we don't have windows. We are up on a high place, and we don't get the windows that can open and let the fresh summer breeze in. So, we've got the AirDoctor in here, this is my all-time favorite air purifier. There's nothing even close to this. And the AirDoctor has an Ultra-HEPA filter that captures the ultra-fine contaminants that you can't see, like, dust, pollen, mold spores, smoke, pet hair, dander, bacteria and viruses. Their HEPA filter has 99.97% of particles at 0.3 microns are captured. And it's independently tested and proven to remove at least 99.99% of particles as small as 0.003 microns. That's 100 times smaller than the HEPA standard. They also have dual action carbon/gas, trap versus VOC filter that removes dangerous ozone gases, odors, volatile organic chemicals like formaldehyde, for example, and the air-ionizing feature that we turn on also before we get the show started. It doesn't just use negative ions to render allergens and bacteria harmless, which is part of the reason that ions work, but it actually revitalizes the air itself. If you were in nature, for example, next to a beautiful waterfall, the air would be teaming with negative ions.

Now, you don't have to, again, run it while you're sleeping. For example, we don't have it running while the show is going, for example. They do have a very quiet mode, but just setting the tone, getting the air quality improved in your environment is going to be a huge help. So, if you want to check out the air purifier that we use here at the Model Health Show, go to TheModelHealthShow.com/AirDoctor. There's nothing else even close. It's the best of the best. Now, in addition to that, another practical application, something that's more of a low-cost implement is to get some house plants. This can significantly improve your air quality in your bedroom, decrease CO2 levels. And certain house plants, for example, are noted in multiple studies to improve air quality and CO2 levels. Take the English ivy, for example. NASA listed it as the number one air-filtering house plant. This is rocket scientists. Alright, they're saying,

hey, this simple house plan can improve your air quality. It has unmatched ability to absorb formaldehyde, which is a known neurotoxin, which most of us are exposed to in our highly industrialized world today. And it's also incredibly easy to grow and it's adaptable. You can have it as a hanging or a floor plant. And it requires moderate temperatures and medium sunlight.

Now, another great plant for your sleep sanctuary, this is something that is my personal favorite, is the perennial snake plant. It doesn't require much light or water to thrive. As a matter of fact, I've been a little negligent with my snake plant, alright, to be honest. And it is just robust! It just keeps on trucking. But what's most impressive about it is that the snake plant actually absorbs carbon dioxide and releases oxygen efficiently during both the day, and at night! While most notable plans do this more efficiently just during the day. So, at night, it's doing its thing, it's making the shift take place, improving the air quality and it's stepping its game up. It's like this nighttime plant. It's like it's about that night life. And also, multiple studies, including one published in the International Journal of Plant Biology & Research in 2017 found that, the resilient low-maintenance snake plant outperforms other house plants in its oxygen-releasing potential. Alright. So, these are a couple of simple and effective ways to improve the air quality.

Now, this is a strange thing, it's not really talked about. In improving our sleep quality, is improving our air quality in that bedroom. As soon as you hear it, it just is like, "Of course, that makes logical sense. Why didn't I think about that before?" Well, now that we know, what are you going to do about it? And I also want to throw this in here as well, because circulation just in general, is going to improve the air flow and the air quality. Researchers at UC Berkeley found that a simple desk fan could reduce the CO2 concentration levels in the air in a small but notable way. Alright. So that's number two on our list of the five strange things that can help you sleep better at night. We're going to move on to number three on our list, which is to get some early morning sunlight. Our circadian rhythms are deeply tied to light exposure. Our circadian medicine might be the fastest growing field of science right now, looking at how the different times of day and night, these diurnal and nocturnal patterns, how they're deeply influencing human hormone secretion, neurotransmitters, cellular function, detoxification, digestion. All of these things that the body does are synced up with nature. As crazy as it might sound, because again, we tend to separate ourselves, human versus nature. But we are innately a part of nature.

And what's happening in the world, the world around us, the rotation of the planet around the sun, these things are deeply affecting our cycles. We see this more notably, we might think about this in terms of a menstrual cycle, but this is happening in a much broader way as well for men and women all over the world, all the time. And so, light exposure is a huge influence on our circadian clocks within each of our cells. These circadian clocks are within each of our cells. Our biological clocks are themselves functional genes and proteins, that also influence

and control our other genes and proteins. And our circadian clock controls many things, including how we break down energy from the food that we eat, how strong our immune systems are, and the vast array of brain chemicals and other substances that contribute to our mood. And the list goes on and on and on. And in the conversation that we had with Stanford neuroscientist, Dr. Andrew Huberman here on episode 523 of The Model Health Show, he shared how early morning sunlight exposure is now proven to help synchronize your body's circadian system. So, the circadian system is determining when we're producing melatonin, and how much? When we are producing HGH, how much? When we're producing cortisol, how much?

If again, we're taking a meta-perspective, we're zooming out and looking at what's actually controlling the minutia that we tend to look at, like what's going on with this cortisol? Why is this cortisol abnormal? Or why is this insulin functioning abnormally? We zoom out and we start to see that our circadian rhythms have a deep, powerful impact on all of these hormones and their performance. Now, in addition to this, human skin has an inherent serotonergic system that appears capable of generating serotonin. Now, why does this matter? Well, because serotonin is a precursor to making melatonin. Serotonin, which is really notable as far as being this mood-driven, this kind of happy or calm, relaxed neurotransmitter/hormone having all of these functions that are associated with mood, and also is the opening act for melatonin being able to do its thing in the nighttime. Alright, so that sun exposure during the day, that interaction with our skin increases our body's production of serotonin, this feel-good neurotransmitter and sets the tone optimizing that circadian rhythm for producing optimal melatonin in the evening.

This is what we're designed to do, this isn't anything new, the data, the dictation of it, the education around it is new, but our ancestors have known this forever, forever. Shout out to the sandlot. Now, scientists at the Baker Research Institute in Melbourne, Australia found that regardless of the season, the turnover of serotonin in the brain was affected by the amount of sunlight on any given day. The levels of serotonin were higher on bright days than on overcast or cloudy ones. In fact, the rate of serotonin production in the brain was directly related to the duration of bright sunlight. Now, just to be clear, even on an overcast day, getting sun exposure increases our serotonin, it just boosts even more when there is adequate sunlight on brighter days. Now, serotonin release during the day appears to help build up what we refer to as something called sleep pressure, and this is what helps to nudge us to relax and to go to sleep later in the evening, and this is according to researchers at Caltech. Again, serotonin is a precursor for making melatonin. This is very important for us to put that in our mental Rolodex. Now, typical artificial light is well noted to disrupt our circadian timing system if we're exposed to it in the evening because of this system, and also, it's notably not sufficient as far as triggering that serotonin production in the morning.

Now, there are some therapeutic light boxes and things of the like that can get some serotonin effect or benefit, but there's nothing that matches that great ball of fire out there that we're spinning around. We've evolved with the sun, there's a deep, intimate romance taking place that our cells need, so we've got to dabble, we got to make sure that we're dabbling in that sun exposure. Research published in the journal Innovations in Clinical Neuroscience reveal that exposure to sunlight during the earlier part of the day can significantly reduce cortisol levels at the end of the day when compared to being exposed to dim light during the day. So again, that sun exposure helps to reduce cortisol levels at night, why? Because it's resetting, optimizing that circadian timing system. So how do we take advantage of this? The data is very simple, very clear, within that first 60 minutes of the sun rising, if at all possible, get yourself some exposure to that early morning sunlight. If you can get on your skin, even better, but just having it in the ambient light, that's just in the environment. If you can get outside and just see that ambient light from the sun.

I'm not saying to stare at the sun, but just in that direction, because the sun is just kind of sprinkling out, it's kind of spraying out its particles all around itself, it's kind of freaky, but is just like it's got all of these biophotons are emitting in that direction, so maybe this is a place where you go out, listen to a podcast, have your coffee, whatever the case might be, and just get that natural light exposure. But at the lower rung, even if it's getting into the room that you're in, that ambient natural light is going to be more helpful. So, top tier, light, look in that direction, getting some on your skin, lower tier, just being able to look in that direction, and then the lower tier below that is just getting it in the room and then you're not even playing this game is when you don't get none of that stuff and you're just boxed off from nature in that early morning part of the day. So, that's the number one way to utilize this, but caveat, no matter what time you can get some healthy natural sun exposure, it's going to help your body to sync up with what's happening on le earth. So, we don't have to be neurotic about that first hour, it is according to the data, it's going to be optimal, it's going to be best, but just getting some natural sun exposure whenever we can, it's going to be helpful to keep us synced up with life itself.

Now, one of the things that I mentioned here was this cortisol rhythm, being able to optimize that with sun exposure, with serotonin and with melatonin. And melatonin is noted to be this glorified sleep hormone. But what melatonin really is, it's a master regulator of your circadian timing system, it does not get enough credit, is just considered this sleep hormone, but it is a powerful regulator of everything that happens in your body. Now, with that said, what the tendency is in our culture today is to like, just let me take some of that. Just let me take some melatonin if it does all these things and it's good for sleep, and we start to look at it again through this very isolated tunnel vision on what it does. If we get into a place where we're taking melatonin, especially at abnormal amounts for us, we can start to throw this whole system off. Melatonin is a hormone, it's not a multi-vitamin, so we've got to understand that

very clearly. Now, there was talk with researchers, and again, this is something that I've had a lot of clinical experience with as well, and that thrust me into writing Sleep Smarter.

What if we're taking supplemental melatonin, is just going to decrease your body's production of its own natural melatonin? Well, that's not what the data showed actually, but a study that was published in the journal of Biological Rhythms discovered that faulty timing or large doses of melatonin can cause the de-sensitization of your melatonin receptors. This can down-regulate your melatonin receptors. Your body is still making it, but essentially, you can start shutting down your body's ability to even use melatonin at all. Again, I mentioned faulty timing, even they noted the timing of taking it because it influences so much. So, we want to be intelligent, judicious about how we're utilizing melatonin, if we're ever using it. The context that I would say melatonin is most appropriate is when you are traveling and changing time zones. We've got some good data on that, very helpful. Maybe you're having a stressful time, you're on a deadline and you're going hard for a bit and now you're just wanting to reset, get everything back on rhythm. I think melatonin is great in those spot conditions like that. Or we've got data on micro-dosing of the melatonin. But I'm a big advocate and I'm a big proponent and lover of encouraging people to create the conditions where you can produce melatonin in adequate amounts naturally, right?

Because your system knows itself. That external melatonin, yes, it can be helpful, but it's not produced by you and designed for you. So, in that context, if we are going to utilize melatonin, which I travel with, the sprayable melatonin. Now, also it matters the container that it's in. There can be low quality oils, binders, fillers, all these other things that are disruptive to our circadian rhythm, that are disruptive to our hormones. And so, the one that I use is a spray. It's a sublingual spray, because it's shown that it is absorbed faster through the tissues in the mouth rather than merely picking up what makes it through the digestive process. And there's no binders, no fillers, no nefarious ingredients. The only melatonin that I ever use, and I bring it with me when I travel, specifically, that's pretty much the time personally when I utilize it. But again, if you were somebody who are interested in micro-dosing or again, helping to optimize, reset things when your sleep patterns has been off for a while, this is something to have in your cabinet. And it's the sprayable melatonin from Onnit. Go to onnit.com/model, that's O-N-N-I-T.com/model, and you can get this instant melatonin spray. And I would not suggest going out to the random CVS or Walgreens, whatever, and getting that just haphazardly. Alright.

If you're going to utilize melatonin, get it from a good, viable, reliable source. And also use it judiciously, intelligently. Now, with that said, Onnit is also well established as a world leader in supplement quality, so their protein supplements, their antiviral supplements, the list goes on and on. Their MCT oil. Amazing. Amazing. I have that on a daily basis. Pop over there. Check them out onnit.com/model. So again, number three on our list here of these five strange

things that can help us to sleep better at night. Number three is getting early morning sunlight. Now, let's move on to number four. Now, number four might be the strangest. It might be the 11 of all of these. Shout out to people who watch Stranger Things, you get that reference. Alright. Now, number four on this list is earthing, or also known as grounding. The human body is literally a vast compilation of electrical energy. We're going to talk about the science on this now. An electrocardiogram, for example. An EKG is a device that measures the electrical activity of the human heart. Alright. We're just kicking off. We're just spurting out electrical energy all the time. Our cells are operating and communicating and existing because of this electrical energy. And so, the EKG is able to read the electrical energy emanating from the human heart.

It's beautiful. An electroencephalograph, for example, that's an EEG is a device that measures the electrical activity of the brain. Now that we've established the electrical activity of the human body, the electrical potential, also electromagnetic potential, this leads into this conversation around getting our body grounded. Getting our body in contact with the surface of the Earth that is teeming with electrons. It's teeming with free electrons. But what does the data actually show when the human body is in contact with the Earth, the electrical potential of the Earth and ourselves what happens? Well, in a study that was published in the Journal of Environmental and Public Health, researchers found that when test subjects were grounded, I.e. Their bodies were in direct contact with the Earth, there was a "rapid activation of the parasympathetic nervous system, and corresponding de-activation of the sympathetic nervous system,". Getting the human body in contact with the Earth, literally decelerated that sympathetic fight or flight nervous system and activated the parasympathetic, AKA, rest and digest aspect of the nervous system. That sounds like good sleep to me. Alright. This is setting the tone for a better sleep. But we're going to talk about sleep specifically, in just a moment.

But I want to lean in a little bit more here, because again, this could sound very strange and wonky, this is something even on the surface I just couldn't get down with, because I'm a very much seeing is believing type of person. So, I've had to work on being more open and understanding, or receptive of understanding the things that I can't see and leaning into the data on this subject and having an open mind and then being able to experiment with these things myself. So, what this is really in regards to? How is this activity happening? Well, as we experience life, as we're going throughout the day, we've got free radical activity taking place. Alright. So, it's in regards to these "reactive oxygen species." Reactive oxygen species. These are the contributing agents to oxidation. Now, oxidation inherently, it isn't bad, it's a part of Cellular growth development, cleansing, healing, we're going to have this pre-radical activity. We're going to have oxidation, but when the oxidation process is accelerated due to the things that we're exposed to in this abnormal condition we now live in, eating abnormal things, not getting exposure to the things that our genes expect from us, we can accelerate oxidation. And if you want to know what that looks like visually, we can think about the oxidation of metal.

We can think about iron rusting. We can think about steel rusting and degrading because of that oxidation.

So, when it comes into terms with the human body, what oxidation looks like is accelerated aging, accelerated breakdown. So, oxidation at its core, what we're looking at here with these reactive oxygen species is that they're unstable because they're missing electrons. This unstable, reactive oxygen species is unstable and disrupting things. They're missing an electron, and by picking up these free electrons from the earth, it instantaneously begins to neutralize these free radicals. That's also seen in multiple peer-reviewed studies right now. Again, sounds super weird, but if we can come with the basis of the human body is teeming with electrical currency, static electricity, whatever the case might be, if we want to think about another tangible aspect of this and the range of light and energy that we simply can't see. We see a certain spectrum of things with our human vision. There's so much more that we can't see. But the earth's surface is teeming with these free electrons, and when you re-touch, when we get in contact with a charged surface of the earth, so this can be logical surfaces like grass, dirt, sand, bodies of water, even certain types of cement or asphalt, depending on the composition of the minerals in them, by the way, so this is not a reliable source for conductivity, by the way. It's not.

But I'm just saying based on what's actually in their chemical makeup, can make them conductive, but best bets are always the natural surfaces. If you see some grass growing, you know there's going to be some conductivity there. There's going to be this electrical potential. There's going to be free electrons, and again, how does this play out? Now we're going to actually look at how does this play out in affecting our sleep. Well, the study published in 2004 looked at the biological effects of grounding the human body during sleep as measured by cortisol levels and subjective reporting of sleep, pain, and stress. The study found that patients who are grounded during sleep had reduced nighttime levels of cortisol and an overall normalization of cortisol secretion during the day. This is remarkable. Again, it doesn't make logical sense if we're putting today's conventional logic to the test, but getting the body, getting the human body grounded according to this study, actually reduced their nighttime cortisol, which is associated with the deactivation of their fight or flight nervous system and associated with a noted increase in melatonin secretion when cortisol is able to behave.

So again, to add another layer on how does this work rationally, when we're seeking out antioxidants to help to reduce this oxidation process from our food, we're absorbing that through our body. We just think about it differently because it's getting absorbed through our intestinal wall, but in a sense, we can look at this as a tube that's not necessarily our body per se, this tube from the mouth to the anus, but these antioxidants are getting absorbed into our body. Why would we not think that it can get absorbed through another part of our body, through our skin? We know that hormones can get absorbed through our skin. We know that

toxins can get absorbed through our skin. Why not the thing that all of those things are based on, an even more dynamic expression of energy is this electrical energy. And also, the foods that we're trying to get those antioxidants from. Where do those foods come from? They come from mother earth. They come from the earth. So, we can get it through food, or we can get it directly from Le Mother. I've said le earth today, le mother is because there's actually something called le car, and that was just kicking around in my mind, was check out this show, and that is just probably the most lazy name for a car ever, le car. But hey, it works.

Alright, now we're going to move on here to number five on our list of these strange things that can help you to sleep better at night. We've gone through four really interesting things already, and even putting into play this technology or this insight, this practice of getting ourselves grounded just whenever you can, five minutes, 10 minutes a day, if you can, or just a few times a week, just get your body in contact with where all of life on this planet comes from. Everything comes from the earth. Here on this planet, there's nothing that exists that didn't come from this planet. It's that powerful. So, if we honor that more it's just going to lead to a better expression of health. But here we are at number five. And number five on our list of these five strange things that can help you to sleep better at night. Number five is meditation and breath work. A meta-analysis published in Frontiers in Neurology details how a consistent meditation practice improves overall sleep quality by creating more efficient sleep cycles.

One of the study references noted that aging is known to reduce sleep efficiency, but their data suggests that the older meditators could actually retain the sleep patterns of younger non-meditating controls. Alright, so the older folks who were meditating, their sleep cycles were equivalent to people who are younger that weren't meditators. Alright, it's leveling the playing field. Alright, so very, very powerful stuff. In addition, a randomized controlled trial published in a peer-reviewed journal of Alternative and Complementary Medicine found that practicing daily yoga postures and meditation increased plasma melatonin levels over the course of the three-month study. Additionally, the study participants demonstrated improved cardiorespiratory performance and improved psychological wellness. Yet another study, and this one was cited in the journal Biological Psychology, mirrors this exact data detailing how experienced meditators showed significantly higher plasma melatonin levels at night when they meditate compared to when they did not meditate.

A paper titled Self-Regulation of Breathing as an Adjunctive Treatment of Insomnia published in Frontiers in Psychiatry affirm how breathing exercises help synchronize the cardiorespiratory system, reduces stress, and improves overall sleep quality. And finally, one other study to put the stamp on this one, the affirmative stamp, is a study published by the prestigious American Academy of Sleep Medicine that asserts that meditation is an effective treatment for insomnia. The study showed that over a two-month period, sleep latency, total sleep time, total wake time, wake after sleep onset, sleep efficiency, and overall sleep quality

improved in participants who used meditation as treatment. The lead author of the study stated, "Results of the study show that deep relaxation techniques during the daytime can help improve sleep at night." That's really interesting. So, we're not talking about meditating in bed or right before bed, which we want our bed environment to be a place of relaxation, for sure, but we want to create a neuro-association of sleep in our bedroom. We don't want to do too much in the... Well, you know other things too. But we don't want to bring work into our bed, we don't want to create an environment in our bedroom, if possible, where there's a neuro-association. We're creating neural pathways for brain activities related to things other than sleep and knocking the boots, alright?

So, the bottom line is that humans with our very evolved, very powerful brains, we're constantly creating neuro-associations with activities, with our beliefs and our feelings, with our environment. And we can consciously create, according to this research, a neural pathway to relaxation and a buffer against stress at any time. We can consciously create this by employing a meditation practice, say first thing in the morning, that we can then open up that pathway, utilize that neuro-association, that neural pathway to help us to sleep better in the evening. Again, so the researcher stated that meditation practice during the day, helps folks to sleep better at night, why is that? It's because we're consciously creating this neural pathway, this accessibility to relaxation, to reduce stress that we'll have on tap. And I'll tell you from my personal experience that having a meditation practice, it just creates a space, it's kind of like if you have seen those movies where there's like a hidden room, where maybe you pull a book and then the case opens and there's this hidden room there.

Or maybe it's a safe room, that's a new phenomenon as well, but you have this space that you can go to away from everything at any given moment, when you cultivate this place of peace within your psyche, within your spirit, and so over time, that space grows and the accessibility grows and your ability to tap into it grows, so it's just about how much investment you put into it. This doesn't have to be something that is some extreme long process. Five, 10 minutes of meditation is a good place to start, just to start to create this association to being able to control our breathing, to activate that parasympathetic nervous system consciously, so that I could start to do it unconsciously. Alright, so these are all clinically proven strategies to improve our sleep quality. Now these might sound strange. These might not be the conventional things that are being talked about, but these are things that can start to stack conditions in our favor to improve our sleep quality. And as we started off this episode it's one of the most important things for our health and wellness as a society. Right now, approximately 115 million Americans are regularly sleep-deprived, and this is one of the contributing agents, for certain, to our chronic health issues, but also our level of disconnection from our potential and from our connection with each other.

And so, I invite you to share this information with the people that you care about, you can share this out on social media, of course, you can tag me, I'm @Shawnmodel on Instagram and Twitter, and at The Model Health Show on Facebook. And you can, of course, send this directly from the podcast app that you're listening on, and send it right from YouTube, just text it right up to somebody that you love. Sharing is caring. I appreciate you so much for tuning in to the show today. I hope you got a lot of value out of this. And we've got some powerhouse episodes, new interviews, and masterclasses coming your way very, very soon. So, make sure to stay tuned. Take care, have an amazing day. I'll talk with you soon.

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