

THE MODEL **HEALTH** **SHOW**

EPISODE 569

The Optimal Social Clock For Humans & The Sunshine Protection Act

You are now listening to The Model Health Show with Shawn Stevenson. For more, visit themodelhealthshow.com.

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. Do humans have the power to control time? We can sure act like we do, but what we experience as time is a highly complex relationship between our bodies and the entire solar system. Every time we have any documented tinkering's with time, in the movie Format for example, things go pretty badly. We've got Back To The Future, we've got Doctor Strange and that time stone. Alright, it can work out in the end, but there's going to be some residual effects, and you might lose Iron Man. We've got a new one, the Adam Project, it just came out actually, starring Ryan Reynolds. Great, great movie, but tinkering with time tends to cause problems. Now, time travel might not be an apparent thing right now, but there's a strange way that humans have been trying to manipulate time for about the last 100 years at mass scale, and what I'm talking about is the utilization of Daylight Savings Time. And recently and what inspired this episode is legislation coming through called the Sunshine Protection Act. And this new legislation is looking to make a permanent change to our clocks. But is it really the right move to make, and does our biology even care about us making this move?

So that's what we're going to dissect today, and I think what you learn is going to truly blow your mind and make you an advocate for a certain kind of change that might not be fitting the vanilla flavored changes that our legislative agencies are wanting to make. Now, this conversation needs to start first and foremost with understanding this relationship between the human body and our environment, the human body, and, as I mentioned, the entire solar system. The Circadian Timing System, this is the proper name of our bodies' clocks. This is defined as the network of interconnected cellular structures that regulate the timing of physiological processes and behavior. Now, these circadian clocks, often referred to as biological clocks, exist within each and every one of the trillions of cells within our bodies. And researchers at the Salk Institute for Biological Studies have uncovered that our biological clocks are themselves functional genes and proteins. At its core, this is what... When we talk about biological clocks, this isn't something that is just kind of this majestic mystical thing, this is a very real...

Not to say this is not mystical, but something that's very real and tangible aspect of what's controlling every single thing about us. At its core, we're talking about these biological clocks being in the forms of genes themselves and proteins. As we go back to some of the basics in school, we got DNA to RNA to protein, so these are kind of the end products that are printing out and making our tissues and also driving functions. So being that they're genes, which the association with our genes and our DNA, and also on the other end of the spectrum being proteins themselves, it's all about instructions and execution, that's the spectrum that these

biological clocks are controlling. Now, these genes and proteins, as the researchers at the Salk Institute, which is one of the foremost institutes really studying the Circadian Timing System, they dictate that these genes and proteins, our biological clocks, control our other genes and proteins. So, these genes and proteins, our biological clocks, are controlling the activity of our other genes and our other proteins, our other building blocks, our other messengers.

So, proteins, for example when I say messenger, that is in the form of... For example, a hormone is going to be in the form of a protein that's instructing the cells or sending a metabolic DM giving an instruction from one cell to another. Giving a little advice, whispering in the ear, "Here's what I want you to do, this is what we're doing tonight." Alright? So, when we start to fiddle around with these things, fiddling around with our clocks, our body clocks, it's instantaneously affecting what our hormones are doing, our neurotransmitters are doing, and essentially, again, every other cell and tissue in our body. So, let's dig in a little bit deeper, and let's cover just some of the things specifically that our biological clocks are controlling. One of the things that our biological clocks control, again, is our hormones and neurotransmitters, when they're being released and what amount is controlled by our biological clocks.

These biological clocks also control our digestive function, including the rate of nutrient absorption, the speed of food transit throughout our gastrointestinal tract, all of these things are going to be determined by what time of day it is, specifically what time of day our bodies know it to be versus what we think it is. Also, this is going to control our elimination, most people don't tend to poop late in the evening, poop late in... Midnight poops, we don't call it midnight poops, alright? That's one of the things that, again, on that kind of normal clock, that function, the drive towards peristalsis and elimination, it ratchets down in the evening, and so much more with our digestion. Also, just even in that same domain for example, the behavior of our microbiome, our trillions of bacteria that exist in and on our bodies, but specifically we're talking about our gut microbiome right here.

Every single one of the bacteria, again, trillions... Dr. Evil, I'm putting the Dr. Evil pinky up on my chin. Trillions, we have trillions of bacteria, and they all have their own circadian clocks as well, alright? So, we're just basically a giant Flavor Flav clock ourselves all integrated together and trying to work together for our collective good. But that requires us to be in sync, alright? We know what happens when Flavor Flav is out of sync. Now, specifically with the microbiome, a recent study that was cited in the journal, Nature Reviews; Endocrinology states, "Disruption of the Circadian system can alter microbiome communities and can perturb host metabolism, energy homeostasis and inflammatory pathways, which leads to Metabolic Syndrome." Metabolic Syndrome is this vast category of symptoms that include excessive body fat, excessive visceral fat, insulin resistance, the list goes on and on. Things that we don't like.

We don't want these things to be apparent in our system, but as they're dictating here, this is driven by disruption to our circadian timing system in our microbiome as a result. Because again, our microbiome is trying to be synced up as well, is trying to be in sync, shoutout to Justin Timberlake. Now, moving on, also our circadian clocks control our blood pressure, controls thermal regulation. So again, let me actually... Let me back that thing up, and let's go back a little bit. No, not back that thing up. Let's go back a little bit to blood pressure, because again we think that our blood pressure is just controlled by our heart, end of story, we don't understand this dynamic system and cooperation taking place in our bodies that determine our blood pressure. It's not just our heart, by the way, it's also our kidney function has a huge impact on our blood pressure. But also overlooked is your blood pressure changes depending on what time of day it is. This is widely overlooked; it's controlled heavily by our circadian clocks. Thermoregulation, so our body's ability to adapt its temperature, also sleep efficiency is going to be dictated by our circadian clocks. Our muscular strength and reaction time, they're going to vary based on the circadian clocks and what time of day it is.

Reproductive cycles and production of sex hormones are determined by these circadian clocks. Our mental alertness, mental acuity, and so much more, these are just some of the things that these biological clocks are controlling. This is not a small thing by any stretch of the imagination. Now, with this concept of Daylight Savings Time and this shift, this losing an hour at one point of the year and then taking away an hour at another point of the year, it is clearly going to have some biological ramifications, and we're going to talk more about that. But I think it's important to know first and foremost how did we get into this situation in the first place, where we're just assuming we have the power to just change time, to change our clocks in our bodies, our society's association with time, abruptly twice a year. Where did this all start? Well, Daylight Savings Time has origins that stem from experiments and mandates in other countries, including New Zealand and several European countries as well. But specifically starting on April 30th, 1916, the German Empire and Austria-Hungary, each organized the first nationwide implementation of Daylight Savings Time.

Then Britain followed by its allies and many other European neutrals soon followed. Russia and a few other countries waited until the next year. And the United States adopted Daylight Saving in 1918, that's when it all took place here in the US. Now, most jurisdictions abandoned Daylight Savings Time in the years after the War ended in 1918, with exceptions including Canada, the United Kingdom, France, Ireland and the United States. But even that would vary to some degree, as we'll talk about in a moment. But according to the United States Department of Defense, Daylight Savings Time was initially known as, "War Time." Daylight saving time was once called War Time, and it was initiated during, again, World War I, this was dating back to 1918, a little over 100 years ago, when the Standard Time Act was signed into law. It allowed for additional daylight hours to be added into the day to possibly help save energy costs during the war. The law also established the time zones that we now know. Now,

the Act was actually repealed shortly after the war, then put back in place again during World War II, thus again, War Time.

But when the war ended in 1945, the law was once again repealed, so individual states could establish their own standard time. And then for the next several decades, there were no set rules for Daylight Saving Time, which caused an absolute chaos of time management and time changes across the country for transportation and broadcast industries, because different states had different rules, even some cities had different rules than other cities as far as what time it is. So that actually changed for good in 1966 when Congress passed the Uniform Time Act and set a National Standard Time that permanently superseded Local Times. Now, while this Daylight saving time advent is a federal mandate, states could opt out of it by passing a state law. And thus far, two states have, those being Arizona and Hawaii. Again, Daylight saving time began in 1918 here in the United States in an attempt to create more hours of daylight during the spring and summer months to conserve energy. But here's the thing, research has never proven that more electricity is saved during Daylight Saving Time.

So again, it was under the guise that this thing would happen, over a 100 years ago, when electricity was far different, especially from today. So, the data indicating that... And again, this was the driving force behind it, it wasn't anything else, it was about saving energy. Energy conservation. How have we done with energy conservation as a society, period. This is not really making a major impact, but the impact that it is making, as researchers have observed, is numerous ill effects, on human biology, due to the annual transitions between standard time and "springing forward", losing an hour, and these detrimental impacts include reduced worker productivity, increased rates of heart attacks, and increased traffic accidents. Now again, these are some of the detrimental impacts that have been seen by losing an hour by shifting our clocks moving up an hour, "springing forward in the spring." And we'll dive in a little bit deeper on that, but I also wanted to talk about the other side, what happens when we fall back? Researchers have observed questionable effects of standard time, falling back, compared to Daylight saving time including increased crime. There's more darkness. There's more darkness. So apparently there's going to be more crime.

More frequent traffic incidences for that when we are falling back and also, again, theoretically, there was the energy conservation that you're going to be using less energy. So, there are arguments on both sides, but my goal today is to get us to look through the lens of human biology, because that's the only lens you can actually look through in reality, you're looking through human biology, and create a movement and an importance for us as citizens on how we actually do this moving forward, because as of this recording, the Sunshine Protection Act, has now unanimously passed through the Senate, and is moving its way to the House of Representatives and eventually getting in front of the President and potentially being signed into national law. And what it is, this Sunshine Protection Act, it would establish a

permanent Daylight saving time in the United States, leading to later sun rises, and later sunsets during the four months in which most of the US currently observes standard time. And resulting in less sunlight in the morning hours, and more sunlight, in the evening hours.

So this is essentially what is getting pressed through, is staying on this one time, this Daylight Saving Time, where there's less light in the morning, and there's more light in the evening, under the guise of course that, first of all, it's been abolished in most countries across the world that have utilized Daylight Savings Time, and by the way, that number is very minute in of itself right now, it's somewhere in the ballpark of maybe 30% of countries in the world, 30%, 35% of countries in the world, even tinker with their clocks like this, and many of the countries that did observe a Daylight Savings Time, more than half of them have abolished this as just being something that they see as unnecessary. So, sticking to one time is the mandate, but is it the right time? Because this is driven by more of social preferences and not based on optimal human health. Which again, from my perspective should be the first consideration. So, by having more daylight in the afternoon, it's like again, we've got more time after work to have some daylight, and I get that, but let me give you an example of what this would look like.

Because underneath it all, what this is saying is that we want less light in the morning, in the morning when we should have light, and more light in the evening, in the evening when we should have less light. So, for example, as things stand right now without a permanent Daylight Savings Time, so as things are right now where we spring forward and fall back, during standard time, so this is when we fall back on our clocks, during standard time in New York City, on December 21st, the sun rises at 7:15 AM on the shortest day of the year. So, December 21st. So, the sun rises at 7:15 AM if daylight savings becomes our permanent time, on that same day on December 21st, the sun will now rise at 8:15 AM instead. That's a lot more darkness in the morning, a lot more time, a lot longer time until you get exposure to the sun, which is the on button for that circadian timing system. Now, why does this matter? Well, the apparent upside is instead of the sun setting, at 4:31 PM on that day, now it will set at 5:31 PM So essentially, you'll now have 60 more minutes of sunshine, shining on you as you sit in traffic after work.

Now, of course, again, there's perceived benefit on both sides of this but, I think it's also one of the biggest positives is not changing the clocks again, the dominant clock that society is all adhering to. I think that's definitely a plus. As you're going to find out, when we tinker with time and set our clocks back an hour and forward an hour, that's probably the biggest problem, but the most important consideration that's not being talked about within this legislation, as you would expect coming from these entities, is that standard time, standard time when we "fall back" that time, keeps sunrise and sunset more in alignment with our natural circadian rhythms. After getting this news about the Sunshine Protection Act, I sent a text to Dr. Andrew Huberman at Stanford University, and head of Huberman Labs, one of the foremost experts in

neuroscience today. And I asked him about, "Hey, my guy, what do you think about this Sunshine Protection Act?"

And this is what he said. He said, "Anything that gets people less light in the morning is a terrible idea. And anyone at the National Institute of Health who understands circadian rhythms knows that. I have no idea what is the logic behind this idea." Smart guy. He's popping out here on the internet. A lot of people are listening to him. But are they listening to this perspective? So, let's dive in a little bit deeper and look at what data do we have, what prestigious organizations are coming forward and saying something about this issue. Well, the American Academy of Sleep Medicine supports a switch to a permanent time as well. But they support a switch to a Permanent Standard Time. And by the way, it's called standard because it should be the standard. Daylight Savings Time. Daylight Saving Time, by the way. We throw the S on there 'cause it flows a little bit, sounds cute.

But Daylight saving time is a perceived benefit. It was implemented in society to reduce energy usage. That was supposed to be the apparent thing. This is not based on human biology, what is most natural, what we're most in alignment with. And so, the American Academy of Sleep Medicine supports a switch to a Permanent Standard Time, explaining in their statement that Standard Time more closely aligns with the natural rhythms of the body's internal clock. The position statement also cites evidence of increased risk of motor vehicle accidents. This is well-established. Cardiovascular events, heart attacks, strokes. When we "Spring Forward" and we lose that hour, all of these things go up on that following Monday, Tuesday. And mood disturbances following the annual "spring forward" to Daylight Saving Time. Lead author of their report, Dr. M. Adeel Rishi, a pulmonology, sleep medicine and critical care specialist at the Mayo Clinic states, "Permanent year-round Standard Time is the best choice to most closely match our circadian sleep wake cycle. Daylight saving time results in more darkness in the morning and more light in the evening, disrupting the body's natural rhythm."

So, what it looks like is that this Sunshine Protection Act, though it does have this apparent altruistic mission behind it to get us to stop this chaotic, senseless process of moving our time forward and backward, again, initiated for the purpose of saving energy, to abolish that. So, it has this altruism behind it. But it appears that the purveyors of this act, those in legislation, are a bit time blinded and not looking at the biological ramifications, what's most ideal for humans as a species, as a sovereign entity, as our bodies are existing in space and associated with the entire solar system. Why are we not taking that into consideration as the top tier thing? If we're talking about, yes, abolishing something that is pretty senseless in changing our clocks, what's ideal? What is best? And it's so crazy, just like, are they not consulting with anybody at all who knows anything about human health? And you already know the answer to that. Your health is not their responsibility, is not their concern. Because for them, it's like, "Well, we can get more daylight in the evening. It's less crime."

So, for them, it's more of a Daylight Saving crime, versus us actually doing something to save our biology and make human health the priority. Now to dig in deeper in where the American Academy of Sleep Medicine was getting their information from, this study was published in the Journal of Clinical Sleep Medicine, and was titled Spring Forward, Fall Back: Increased Patient Safety-Related Adverse Events Following the Springtime Change. And it outlines the acute effects of Daylight saving time, which range from increased risk of stroke in hospital admissions to sleep loss and increased production of inflammatory markers. Inflammation's going up when we're springing forward. One of the body's responses to this change is inflammation. And this is due to the driving force of stress. It's a biological stressor. Now, of course, we can sort it out. So, we don't want to be neurotic about this. The human body is very resilient. But we have an opportunity to create something that is ideal. And we know from recent history, that things that have been done in our society have not been ideal for human health. It's not hard to take a look around and to see how unhealthy as a nation we actually are. Right now, about three fourths of our nation are overweight or obese. Right now.

This was something that was rare. Back when all of these things were happening, the time changes, this whole thing, we're looking at an obesity rate, maybe, maybe 10%, at most. And now we're knocking on the door of 50% of our citizens being clinically obese. Right now, it's right around 45%. And this is the numbers before COVID, and all the shutdowns and all the related... All that stuff. Which I know it, when the numbers come out, we're going to see a big jump in our rates of obesity. Because we already see the reports from children. The CDC published some data and looked at the rate of childhood obesity and the impact that COVID and the related shutdowns and the lifestyle changes had on childhood obesity. And what the researcher discovered was that children who were moderately obese, their annual rate of weight gain doubled.

Doubled, so if their annual weight gain was six pounds, it jumped up to 12 pounds. And even children who were considered of a healthy weight, their annual weight gain jumped up by several pounds as well. So, we got data on the children, and we know that we are going to be far worse, but why are we doing this to our children? The rates of childhood obesity are already mind-boggling in of itself, again, we have the same institutions that are determining, what foods you're exposed to, what lifestyle practices, now, how you're associating with the sun and the solar system. If you want to be a part of conventional society that is. It's just like, "Are you kidding me?" So, here's what they found is, so again, the body's responses, inflammatory biomarkers going up, increased risk of stroke and hospital admissions, when Daylight saving time kicks on when we lose that hour.

In addition, the study noted that, traffic fatalities increase as much as 6% in the first few days following the time change for Daylight Saving Time, and in a recently published paper that

they referenced in this study, found an 18% increase in adverse medical events related to human error, in the week after switching to Daylight Saving Time. 18% increase, in adverse medical events related to human error. So, this is probably not the best time to schedule a surgery, or to get a new prescription, because the mistakes jump up almost 20%. That could be the difference between life and death. This is how much our sleep matters and consistent sleep routines matter because, a much less adept and qualified version of ourselves shows up, period. And this needs to be discussed when we're talking about, something that is literally going to change the clocks that we're all operating on.

So, what do the people think about this? Well, in 2020, the American Academy of Sleep Medicine surveyed more than 2000 US citizens and found that 63% of people support the elimination of seasonal time changes, while only 11% opposed it. So, it was 11% of people were like, "Nope, keep changing the clocks, I like it." And we... Listen, you 11% out there, you 11%, I respect you. But the vast majority of folks were like, "Please stop tinkering with the clocks." Now, again, the vast majority of citizens are for doing away with altering our time twice a year, but the lack of education here, is leaving out the benefits on human biology of choosing standard time, over the glorified Daylight saving time. That's the key, that's the key. And so, if you can share your voice with your representative, with your governor, your senator, just get this conversation out there, because if they're looking at doing this, why not do it in the most optimal way, the most ideal way for human physiology because, there is a gradual change in daylight, as each day passes in our lives. It's symmetrical, it's graceful, it's subtle, versus the abrupt forcing of the entire biorhythms of the human body to shift an entire hour all at once twice a year, as a society.

So, there's a gradual change that takes place, every single day of every year, again, it's graceful, it's subtle, it's symmetrical. Now, someone might say, "Oh, it's just an hour." But the residual effects of changing our association with the rest of the solar system, that has lingering effects for quite some time. And this is wide seen again even in that study, looking at a week after that time change and seeing the increase in adverse events from human error, it takes time. The human body is incredibly resilient, and we can adapt, but let's not put ourselves in a situation where we have to adapt to something so ignorant at this point. Having a graceful adjustment of daylight is not just an ideal scenario, it's how we evolved. It's just a little over 100 years ago, they were like, "You know what? Let's change these clocks, a couple of times a year, save energy." No other thing is taken into consideration. And we have the opportunity right now to share our voices on this. Now keep in mind again that having a permanent clock and not shifting our time a couple of times a year, regardless of if we're doing the Daylight saving time or the standard time, there's going to be some benefit there, just to have consistency with that for sure.

So, I want to be an advocate and I want you to be an advocate as well for what is going to be ideal for human health, because if we're going to study the outcomes of this, who knows how long it can take if "they" decide to change the time again, to something that's more advantageous for human health? And the thing is, are they even checking for that? Have we done any randomized controlled trials for example, to see what happens if people on this clock versus people on this clock, and just monitor what happens? It's just more so like, "Oh, let's just do this. Sounds good. We can have more time after work, where I can get to go fly a kite after work now." More time of the year, versus what is ideal for us as a species. So, this is the time to speak up because the process is taking place now.

But again, bottom line though, is still having a permanent clock that we can all get synced up to, we can adjust all good. I think that that is the biggest benefit for me looking at this thing objectively, I see that as a real plus, regardless of if it's standard time or Daylight saving time, but what's ideal is standard time. Now, what can we do when things are changing either way, how can we adapt? Because right now, as of this recording, Daylight saving time just passed. And so, this is time where we start to stack conditions, if you're aware of this, with our sleep hygiene, do a little bit extra. And one of the biggest things that's continuously left out of this conversation, and I've worked the past few years... Actually, I didn't know this, but just a few days ago, and I didn't know until almost the entire day was over, it was the seventh anniversary of the release of my first book, Sleep Smarter. And I had no idea, and I saw somebody tagged me in a post, they were sharing a picture of... They were reading Sleep Smarter, and it just hit me like, Man, I wonder... I know it came out in March, but I just had to double-check on what the date was, and sure enough it was the seventh anniversary.

And that book has absolutely changed my life. Writing it was... It was actually one of the most graceful and fun things that I've ever done, wasn't very tedious as far as a laborious thing because I really focused in, I had something very important to articulate and it was very practical. And that was the mission when I wrote the book was, I want to create something that is timeless, that is practical, and that is immensely valuable and also entertaining, because I know that that barrier for entry for a lot of folks to get educated about things with health is whether or not it's actually fun and engaging to learn about this stuff in the first place. And so, I'm grateful to say that that mission has come to fruition in such a way whereas of this recording, we've got 21 different foreign publication, foreign book deals, these foreign publishers connecting with my agent and getting published in 21 different book deals/translations, ranging from the Slovenian translation to the Spanish translation, to the French translation, to the Japanese translation. And the list goes on and on.

And just very, very grateful for it. I wouldn't have thought this in a million years, coming from where I come from, growing up in South City, St Louis, East St Louis, Ferguson, Missouri, and then being able to have my book in libraries in other countries, is just beyond words, beyond

words. But when that book hit, it put me in a different place as a nutritionist, somebody whose focus is on food, because now I'm getting this additional focus that takes me beyond that realm of just this food focus, but food has always been there, and I even talk about it in Sleep Smarter, but more so, in my most recent book, Eat Smarter, I dedicate a chapter, an entire chapter to disconnection between what we eat and how we sleep. Because the foundation here, we can have the best sleep hygiene external, the sleep environment, the cold environment, the relationship with our technology, and the blue light, all that stuff, we can have that dialed in, but if you don't provide your body with the key nutrients that actually build your sleep-related hormones, and your sleep-related neurotransmitters and drive the process of sleep, all this magic happening in our bodies and our brains has to do with nutrients getting utilized.

Because truly, all of these processes are built on food, they're built on the elements of food and nutrition, and so for this to not be a top tier thing at this point. Again, it's changed a lot. I've had different papers published in prestigious media outlets, and I've done the television and all that stuff, but there's still a lot of work to do. And with the COVID taking place, we could take a massive backslide as far as people being able to focus on their health, proactively focusing on their health, because so much of this has been divisive. And not just divisive from other people, but divisive from oneself, and awareness of oneself, being able to self-regulate, and self-modulate and optimize. Now, there have been people for sure, a significant amount of people utilize this time to self-assess, to really investigate what do I want, how do I want my life to play out? What do I want my days to look like?

People dedicating themselves to transforming their health while everything was shut down. So there's different realities that we can exist in, but at the end of the day, it's about stacking conditions in our favor, so good sleep nutrients are key, and one of those that's most accessible and just so much peer-reviewed data on this, is making sure that we're including an adequate amount of bioavailable vitamin C. Data cited in the journals, Appetite and Plos One, the Public Library of Science One demonstrated that insufficient intake of vitamin C increases the likelihood of sleep disturbances, and shortens the duration of overall sleep time. A simple nutrient deficiency like this can be disrupting our sleep quality. And moreover, there was a 2009 study that showed that a combination of Vitamin C, most importantly, and also having some vitamin E in the mix was able to... For folks who were utilizing a CPAP, so this continuous positive airway pressure, this was able to significantly reduce episodes of apnea, the inclusion of vitamin C also improved sleep quality and decreased daytime sleepiness. Of course, there's great food sources of vitamin C from bell peppers to green leafy vegetables, kiwi, strawberries, citrus fruit, papaya, but especially today, because vitamin C is also a stress-modulating nutrient, it's going to get used by our body now more than ever.

We need to make sure that we're getting an adequate amount that's going to supersede the concentration that's in most foods today, unfortunately. Even the soil deficiency, we talked

about this recently with Rob Wolf on the show, we'll put that for you in the show notes, but we've got to make sure that we're stepping up and doing a little bit extra today. So, this is why again, make sure that it's bioavailable, getting those little crappy vitamin C packets that are at the checkout that are synthetic, and oftentimes have sugar and all that, that's not what we want, we want botanical coming from a real food concentrate. The vitamin C that I utilize and that my family utilizes is a concentration of the most vitamin C dense super foods ever discovered, camu camu berry, acerola cherry and amla berry. Alright, so this is the formula and all organic from Paleo Valley. Go to paleovalley.com/model, and you get 15% off their essential C formula.

This is the vitamin C supplement that I use, and I recommend for everybody to have on hand, go to P-A-L-E-O-V-A-L-L-E-Y.com/model, 15% off their essential C formula. This is definitely one to have, especially right now at this time in human history, we got to upgrade our vitamin C choice. Now, in addition to vitamin C, the other thing that's top tier for me is magnesium, this is because magnesium is involved in over 600 cellular processes in the body that we are aware of. So that means that there's over 600 processes in the body that your body cannot do or cannot do efficiently if you're deficient in magnesium. Now, the problem is about 56% of the United States citizens, again, prior to pandemic times were deficient in magnesium, is a huge, huge issue. A 2016 study reported that magnesium is able to reduce the activity of your sympathetic fight or flight nervous system and turn on the activity of your parasympathetic, "rest and digest" nervous system. Another study published in Pharmacological Report states that magnesium is able to interact with inhibitory GABA receptors and induce anti-anxiety effects. Another double-blind placebo control study published in 2012 found that improving magnesium levels appears to improve sleep efficiency, improve melatonin function, reduce cortisol and reduce wake after sleep onset.

So, reduce the time that you wake up in the evening after falling asleep. Again, focus on getting high quality food sources of magnesium, but also this is a place for a blend of magnesium-rich super foods like spirulina, like corella, and this is why I'm a huge fan of the Organifi green juice formula. Alright, so with this one, not only are we getting that benefit of a high concentration of magnesium, but also with spirulina, this is the most protein-dense food ever discovered, it's about 70% protein by weight, providing these amino acid building blocks in a bio-available form that help with neurotransmitter function that help with hormone function and the like. Also, phycocyanin is a rare compound that's found in these green-dense super algae like spirulina, that's been found to assist in stem cell genesis, the creation of new stem cells, the list goes on and on and on, the benefits and the green juice formula tastes awesome as well, very refreshing, you just feel healthier when you drink it. So, for this one, go to organifi.com/model, and you get 20% off their flagship green juice formula. Again, that's O-R-G-A-N-I-F-I.com/model, 20% off their Organifi green juice and their red juice formula as well is pretty remarkable.

Now, obviously, this is an important time to stack conditions in our favor for optimal health. So, our nutrition is a big part of it, our movement practices, our stress management, our relationships, but also of course the stacking conditions in our favor with our sleep. And this is really the thrust behind this episode, is to get us focused on what we can do as a society to ensure that our bodies are better lined up with what we're all made of. We are made of the same stuff. When we look out into the stars we're made of the same stuff. We're part of all of this, and to act like we're not is the most ignorant things that humans do, we're literally made from the same elements and we're synced up with it, whether we want to accept it or not. And when we're throwing off our body clocks just for the sake of some socially accepted thing, it has multiple downstream effects, and when we do this as a society long-term, we make a pivot like this, what are going to be the ramifications? We need to think about that. So, I really hope that you enjoy this, and just keep in mind, in addition to sleep's importance for regulating our immune system by the way, so much of our immune system and healing, if you just even think about when you do get sick, you get better faster when you're sleeping, this when so much healing takes place.

When it comes to our brain health, most of our glymphatic system activity, so this is like the brain's cellular waste management system, it's 10 times more active when we're sleeping than when we're awake. Our heart health, a 14-year study reported by the WHO found that poor sleep quality can double the risk of a heart attack, while scientists at the University of Chicago reported that even short-term sleep deprivation can increase insulin resistance. The list goes on and on and on. These matters. What can we do the stack conditions in our favor? I appreciate you so much for tuning in to the show today, if you got a lot of value out of this, please share this out with your friends and family, you can send this directly from the podcast app that you're listening on, and of course, you could take a screenshot of the episode and you could tag me on social media, I'm at Shawn Model on Instagram and Twitter, and at The Model Health Show on Facebook. Now listen, we've got some epic shows coming your way, very, very soon, some powerful master classes, remarkable guests so be ready. 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 themodelhealthshow.com, that's where you can find all of the show notes, you could 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.