



4 simple tools for optimum sleep

Guest: Jason Prall

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[00:00:10] Alex Howard

Welcome, everyone, to this interview where I'm super excited to be talking with Jason Prall. We're going to be talking about sleep from a few different perspectives. We're going to talk about four key pieces. We'll talk about the importance of sunlight, particularly morning sunlight, the importance of temperature, the importance of movement, and also the importance of food. And some really practical, simple ways to work with each of these to help optimize the quality of your sleep.

Just to give you a bit of Jason's background; Jason Prall is a health educator, practitioner, author, speaker and filmmaker. In 2018, his independent research and experience led him to create the Human Longevity Project, a nine part film series that uncovers the true nature of chronic disease in our modern world.

He's currently finishing his first book titled *Beyond Longevity*, as well as his next film series that explores ancient methods of healing mind, body and soul from indigenous cultures around the world. So welcome, Jason. It's great to have you back. Always a pleasure to have some time together.

Jason Prall

Yeah, great to see you.

Alex Howard

So we're going to get into a bunch of different pieces here, but I thought a good place to start is how much sleep people need. And, also you were saying to me just before we started recording, that genetics plays an element in that, there are different sleep patterns that different people can have. So, let's start there.

Jason Prall

Yeah, this is a big one. Because this is a constant debate in some of the old sleep literature. Do we need six and a half, seven, seven and a half, eight? Even more? And the reality is that the amount of hours that we need depends on, first, our age.

If you haven't noticed, children sleep a lot and they need more sleep. They also sleep different hours than adults do. And then if you look at the elderly population, they tend to sleep less. And so there are some natural fluctuations with regard to how old we're getting.

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But the average adult should be sleeping somewhere around seven to seven and a half hours. That's about average. But genetics will actually determine typically how much you need. Some people actually only need seven hours and they're good and they're sleeping deep, they have good REM sleep. So they have good restorative seven hour sleep. Some people can sleep seven hours and get horrible sleep. The beautiful thing is we can track our sleep now.

But some people actually will need eight hours, eight and a half maybe. And this is partially dependent on genetics, on your constitution. And so this is a tricky game that we can get into, this idea of the total amount of sleep. And it's a little bit less relevant than we used to think.

And again, with the advancement of sleeping tracking, the tracking technology that we can use for our sleep, what really starts to make a big difference is how many hours are we getting in our deep sleep, how many hours are we getting in REM sleep? And we want to minimize our time in light sleep, or the slight wake up. And so if we can do that, then we're getting good restorative sleep. That's going to be the most determining thing.

So the takeaway here is get rid of this idea of total hours of sleep as being a big indicator of having a successful night's sleep. Most of the time you can actually tell when you wake up in the morning how good of a night's sleep you got. And if you can't, sleeping tracking is the way to go.

Alex Howard

I guess if someone's got a predetermined idea that I must be getting this much sleep and actually that's not even what they need. But then the anxiety and the stress of trying to get that amount of sleep is in of itself an obstacle.

Jason Prall

Absolutely. Yeah. Again, it's about goals. In business, in anything, in relationships, if your goal is not conducive to what your actual objective is, then you're going to miss the mark every time.

So with sleep we don't want to set the goal as the total number of hours. We actually want to set the goal as first of all when am I sleeping? Which time of day am I sleeping? That is probably the most important.

But then also in these sort of sleep ranges, how many hours am I getting? How many hours am I getting in deep sleep? How many hours am I getting in REM sleep? And even in those you're going to find variation.

Some people are really great deep sleepers. That's me. I don't get a lot of REM sleep. I can try. And there's some techniques that I can make an effort to boost that up. But for whatever reason that's not something that my body really takes advantage of. Other people spend a lot of time in REM sleep. So there is natural variation in this.

The cool thing is for each person is to track that stuff if you can. The Oura Ring is probably the most notable technology to track these things in an efficient way. And start to feel it out. How do you feel in the morning when you get one hour of deep sleep and four hours of REM sleep versus three hours of deep sleep and two hours of REM sleep? See how you're feeling and try to figure out what is it about the day, about your habits that's leading to more deep sleep or leading to more REM sleep.

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Not to throw too many wrinkles in here, but the phases of the moon will affect your sleep. The cycles of all the planetary bodies will affect sleep. What's going on around you will affect sleep. There's a lot of things going on, but this is where tracking and data start to become really advantageous. You start to get a feel for your body, for what you need, for when you're starting to see sleep disruptions. And now you can modify because everybody is so unique.

And there's science actually pointing to the genetic aspect of this. Some people are early birds. Some people are night owls. Some people are in the middle. What that means is that some people were genetically wired to sleep a little bit later in the day, a little bit later in the evening, and wake up later in the morning.

Some people are like me, I'm actually a little bit more predisposed to go to sleep earlier than some and wake up earlier than some. And I actually don't need as much sleep. So there's a lot of uniqueness when it comes to sleep. And I think that's where the modern science is really showing us that there is no set standard for what each person needs.

And again, to recap, how old are you? So a young person versus a middle aged person versus an elderly person, that's going to change things. Where you're at on the planet and why the sun matters. If you live in Norway versus if you live in Costa Rica, that's going to matter because in Norway your winters are very dark and your summers are very light.

So that's going to impact sleep versus if you're more on the equator, you're going to get about twelve hours a day, twelve hours a night. You're going to have a really consistent sleep pattern. So there's a lot of variation when it comes to this. And this is why it's so important to look at this from a unique lens as opposed to this broad brush that everybody needs seven and a half, eight hours, and this is what it looks like.

Alex Howard

You mentioned that you need less REM sleep. One of the things that I find is that if I'm in a period of a consistent meditation practice, for example, or other practice people might use, that also has an impact on sleep. It's recognising there's individual differences that perhaps are genetic, but there are also differences that happen as a result of the tools and the practices that we use.

Jason Prall

Absolutely. And you're naming something that's really cool. And this is where it's worth playing, because you can do certain types of meditation. You can do breath work. You can use red light therapy at night. You can do all these different techniques. And you can see how this starts to impact your sleep architecture. How much deep sleep, how much REM sleep, how much light sleep.

What I noticed is when I exercise, when I have a really big day of exercise, my body will tend to need more deep sleep. So it's in that recovery mode. And then there's other times where there's things that are preventing me from going into deep sleep. And we can get into some of those things and what's disrupting sleep architecture.

But until you start measuring and monitoring these things, the only thing you can really do is go off of how you feel in the morning, and how fast you fall asleep at night and when you wake up. You have to

go by feel. And that's a great way too. You can actually learn a lot. But I find that because these technologies are actually becoming quite affordable for most people, and the benefit is so profound when you start monitoring your sleep, it really does become a valuable tool, especially if you have sleep disturbances and if you're not sleeping well.

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This is one of the best investments you can make, not only because of the sleep aspect and how miserable it is when we don't get good sleep on a consistent basis. And I have a two year old, so I went through about a year and a half of him disrupting our sleep in a pretty significant way. And I must say I really developed a lot of empathy for those who have sleep issues because it was miserable. I mean, my mood was all over the place, my food habits changed, so I was eating more junk food, crappier food. I was eating more often. I wasn't able to follow my normal food habits. My mood was off, it wasn't as effective, I couldn't think as clearly. And that was my life. I was walking around in a brain fog for about a year and a half compared to what I was normally used to, which was: I go to sleep, it takes me almost no time to fall asleep, my sleep latency was minutes, two minutes, and then I would wake up.

I don't tend to remember a lot of my dreams, but I would literally just wake up. It was like, you put me to bed and I wake up. That was my normal way of sleeping for so long. I got so used to it, and it's so amazing that when it got disrupted, I really noticed it. And so that's a big thing to do is to track your sleep just with a pen and paper. But also these sleep tracking technologies can be amazingly effective.

Alex Howard

You mentioned a little bit earlier around circadian rhythms and around the different cycles that our body has. And I think that's the piece we've spoken about in a few different places, but I think it's an important one to get into.

And particularly something you were saying before we started recording is that there's obviously a master clock, but also you talked about these peripheral clocks. So say a bit about what circadian rhythms are, why they're so important, and then perhaps some examples of these different rhythms that we have within our body.

Jason Prall

So the human body is following its own cycle, and I think it's about 23 and a half hours or something like that. In other words, they've put people in a dark hole and just watched what happens with their sleep cycles, and they start to vary wildly. They start going all over the place. In other words, the body and its sensing mechanisms is actually looking for cues to when to go to sleep and when to wake up.

And so the primary cue that we use is the sun. The sun actually syncs our sleep wake cycle. So the sun and the darkness, that cycle, sets our clock, our internal biological clock. And we can think of that primarily in the brain. Something called the suprachiasmatic nucleus in the brain, picks up light from our eyes, creates a signal, and it starts to read based on the frequencies and intensities of the light that are shown in the sky. So as the sun starts to rise, we start to see certain frequencies of light will come through the atmosphere and certain ones will bounce off.

Upon sunrise, there's almost no UV light that really enters the atmosphere. It all gets reflected back into space. Which is why you're never going to get a sunburn, no matter how light skinned I am, in the morning. But as the sun rises now, we start to see the UVA and UVB start to come through the

atmosphere. And now we're getting all frequencies of light. Our eyes and our skin are picking up the subtlety of those frequencies.

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So those signals are communicated through the suprachiasmatic nucleus into the brain, into the hypothalamus, the pituitary, the pineal, and number of other structures. But that's the primary mechanism for setting our central clock. This is our brain clock, our central nervous system clock. That's what's governing there.

Now, we also have clocks that are throughout our body. We actually have clock genes, period genes, we've got all these different proteins, these genes throughout our body that are there to pick up the signals for what time of day it is.

And I think in 2017, the Nobel Prize was given for a few researchers studying circadian biology. And so this is what we're now learning. Something like insulin resistance, type two diabetes, blood sugar regulation. We used to think that was all the pancreas, beta cells and inability to regulate glucose because of insulin. Well, we now know that we can have different types of insulin resistance. You can have insulin resistance in the liver, you can have insulin resistance in the pancreas, you can have insulin resistance in the muscles and the adipose tissue. And that's because they all have different clocks.

And so these clocks get desynchronised, the master clock is on one time of day, the muscle clocks are on a different time of day, and the liver clocks on a different time of day. Now they can't communicate effectively. So now we're going to get blood sugar dysregulation, insulin resistance, simply because these internal clocks can be mismanaged. And so if we want to set that master clock, which is the most important, then light is the thing that's governing that.

So look at shift workers, people working night shifts. This is one of the most deleterious lifestyle behaviors for all cause mortality, cancer, autoimmune conditions, depression, anxiety, gut issues, you name it. Thyroid disorders. Anything you can name.

In other words, if you're staying awake under artificial lights while the sun is down, your body is going to start to regulate to that light cycle. But it's artificial. It's not what our biology has adapted to recognise. And so everything's going to be off.

Jason Prall

And this is what the literature shows. We even see this with daylight savings. In the US, we have daylight savings and we set our clocks backwards. All cause mortality increases, traffic accidents increase, more heart attacks, strokes, all those things increase by losing one hour of sleep.

Alex Howard

It's crazy, isn't it? The opposite happens, I think, on the other side, because we have the same thing here in the UK, that suddenly you have a decrease in those things.

Jason Prall

That's right. And so what that's showing us is that one hour sleep makes a huge difference. And of course, we have data to show us that because everybody's doing it. So because everybody's doing it, we can actually see it as big data is telling us the story.

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But on the individual level, if I stay up just one hour later tonight, if I get one hour less sleep, all of my functions are going to be reduced. Not only my risk of injury goes up, but everything's going to be impacted. How I manage relationships, how I manage my business, it's all going to be affected simply because that one hour.

And that's because if my circadian rhythm is set, and I'm waking up at the same time of day, and I'm tending to go to sleep at the same time of night, my body is actually predicting the next day when the sun is going to rise.

So this is what's interesting, is that your biology is actually in the forecasting mode. So each day it's going to forecast that we're probably going to have breakfast about this time, we're going to exercise this time, we're going to have lunch this time, we're going to have dinner this time, we're going to start to make cortisol at this time of the morning, we're going to start to make melatonin at this time of night. And that predictive sort of biology is what we call jetlag.

I was in Spain, I went from California to Spain, that's like a ten hour difference. And so when we flew there, it took twelve hours or something to fly there, but when I landed, my body was still essentially on California time. In other words, my body was predicting when the sun was going to rise. But of course my body was wrong.

So now the new cues based on the life cycle, which has totally shifted now by a 10 hours difference, is now influencing my biology. My brain, my whole body is having to recalculate and reconfigure when we're supposed to get up. And this is why it's so dysregulating when we have these big jet lags, like 10 hours.

The body takes a while to reregulate, when to make cortisol, when to make melatonin, when to make glucagon, which is a hunger hormone, when to make neuropeptide y, when to make estrogens and progesterones and DHA and pregnanolone and all of our master sex hormones, all of our hunger hormones, all of our bladder controlling hormones, such as aldosterone and some of these things that shut down the urine production at night so we don't have to pee in the middle of the night, that is regulated by these master clocks in the hypothalamus and the pituitary.

So when those hormones are off, when those are dysregulated, then often what we see is somebody's got to wake up at two in the morning to go pee. There's nothing they can do about it, because the hormones are regulating that, other than start to get synchronized with the light cycle.

And when you do that, the hormones start to shift. You can lose weight instantaneously. It's just easy because now your hormones are on track. You start making better decisions with food. You're not craving that sugar and that fat in the morning, right when you wake up, because your hormones are all aligned.

And these are hormones that are literally governing when you're hungry, when you're full, how to use the fat that you already have as fuel. So a lot of people try to get into these sort of diets, but if their circadian rhythm is off, if their body is predicting something different and they're not getting the proper sleep, then you're fighting an uphill battle. And no matter how much willpower you have, your hormones will almost always win. They are so powerful. It is the most powerful signal in our body is these hormones. And so this is why it becomes so critical to really get a grasp on what circadian rhythm is and how it governs our biology.

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So we need our master clock in our brain to be synchronized with the peripheral clocks around our body. And that's when things are going to be effectively functioning. Detoxification, hormone regulation, all the things that we are looking for. No matter what disease somebody has, improving your circadian rhythm will help.

Alex Howard

Walk us through some of the things that we can do to reset that. You mentioned, of course, about making sure that we get sunlight in the morning, but say a bit more about that and just some of the practical pieces here we can do to bring balance.

Jason Prall

Yeah, so it's funny because when we talk about circadian rhythm, chronobiology, a lot of people talk about what happens at night, and reducing the light at night. But the most important thing to set your internal clock is getting sunlight in your eyes and to some degree on your skin in the morning. Right when you wake up, no matter what. If you're waking up without an alarm clock, you might have to start setting an alarm for a little bit until your body gets regulated.

Ideally, you want to wake up and within the first 20-30 minutes you go outside, and you can just sit there if you want and drink your coffee, or better yet, your decaffeinated tea or decaf coffee, but drink your morning beverage in the morning just sitting on your steps. Or better yet, you can go for a walk.

Now by going outside and getting that light, I don't care if it's cloudy, raining, snowing, sunny, it doesn't matter. But, if the sun is up, then no matter what the conditions are outside, your biology is going to recognize what's happening. And so that light in the morning in your eyes for 20 to 30 minutes will create a powerful signal in your body over time.

Now, just like jet lag, it's going to take perhaps 10, 15, 20 days for your body to totally reset sometimes. But if you do this consistently, especially if you have sleep issues or if you have a disease that you're trying to resolve, getting up in the morning and getting that light in your eyes for 20 or 30 minutes will set your clock. What you want is a really good cortisol push in the morning. You want a good cortisol response. It's called the cortisol waking response. And you want that.

And this is measured. We can actually measure these things on tests and we want to see this as the clinician. I want to see your cortisol spike really high in the morning and I want to see it start to come down during the day. If it's flatlined, or if it's spiking at different times of the day, that's a good indication that your circadian rhythm is off and your body is not predicting properly what time of day it is. So we want a good cortisol waking response in the morning. Morning light will set that. It will help your body do that. Your body sees the light and then it goes, okay, time to make cortisol.

That cortisol is critical. That's what makes you feel awake, you feel alive. It'll actually increase blood sugar so that'll move blood sugar into your system so that you can use it as fuel. You don't wake up groggy, needing that coffee, needing that morning pastry. You don't need those things. If you eat those things, that's okay too. That's your choice. But the key is not needing them. When we get that good cortisol waking response, that's going to set the tone for the day.

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Perhaps more importantly, that morning light also creates an evening peak of melatonin. So it essentially shuts down the melatonin that was produced at night. It's going to suppress that pretty significantly. But that light also is converting things for later and creating a big melatonin spike at night.

That's going to set your cortisol rhythm and your melatonin rhythm, and they should be opposite. So in the morning, your cortisol rhythm rises and your melatonin falls. And then as we go through the day, your cortisol falls, your melatonin peaks, so it should be opposites.

Many people have a flatline or they're all over the place with that rhythm. And you can test this stuff. The Dutch Test is a fantastic test to look at these rhythms. It's a really good test. It's a urine test. And so that's one thing to keep in mind. But that morning light is critical.

Now, when you go for a walk, now you're actually starting your engines a little bit. It's a very easy way to get the body into flow. You're going to increase your hunger hormones. So when you actually eat, you're actually going to digest your food better. You're moving the body. Movement is also another cue that the body uses to determine your rhythm, your circadian rhythm.

So there's three primary things, and we can call it a four, but the three primary in order are: light. The most important thing is light to set your circadian rhythm. Probably the second most important thing is food and when you're eating your food. Third is movement, when you're moving throughout the day. And then the fourth can be temperature. That also plays a little bit of a role in this.

This is where we want to really dive in our light. So in the morning, get good light. At night, you should be trying to minimize light. So you want to minimize particularly the blue and the green spectrum of light. These are the spectrums, blue, green and purple, which is UV.

In a natural setting, if you're camping, you wouldn't see the spectrum toward the end of the day. The sun sets, you see orange, red and yellow. If there's no clouds, that's all you're going to see. It's orange, red and yellow in the sky. You're not going to see any other colors. It's because the blue and the green and the purple are getting reflected back into space. Now, if you have clouds now, you're actually going to see the blue and the green reflect off the atmosphere, hit the clouds, and now you get this beautiful pink, blue, orange, cotton candy sunset. But that's because those rays are being reflected back into space and now they're catching the clouds.

So that's the thing about the night is you want to get red, orange and yellow. Now they have orange light bulbs that are actually orange and your whole house can be orange. I've done this with clients, they thought it was really weird at first, and then they started to feel a really calm presence. They get sleepy earlier.

They also make these new lights, I can't remember the brand, but they actually make normal looking light bulbs that don't have blue and green in them. And so they're actually circadian light bulbs that look fairly normal. So you can actually turn on your lights at night and those are better than your normal lights. But normal lights contain a lot of blue-green spectrum and it's not good for your biology.

Again, your eyes are picking up those little frequencies and saying, okay it's daytime, even though it's 10:00 p.m. When we look at screens, another issue, these are backlit screens. Alex, you and I are old enough to remember the old Cathode-ray tube TVs and the old technology that we used. Not only were they small and kind of goofy looking, but they weren't bright. They weren't bright like our

screens. You look at TVs now and they light up the whole room if it's dark. So these things are very bright and we're sitting very close to them.

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Right now I've got you really close to me on my screen. And it's daytime, so it's not so bad. But at night, if I'm sitting close to a computer screen and it's fully lit, then it's actually signaling my biology that it's daytime. So it's going to suppress my melatonin. I'm not going to get a good melatonin spike at night.

And melatonin is not just a sleep hormone. It is the most powerful anti-inflammatory hormone in the body. Mitochondria use it, and it's critical for reducing inflammation throughout the body. Gut bacteria use it. So we need melatonin. It's really important. So we need that good melatonin spike.

Reducing the stimulation from light at night is a really critical aspect. So again, the absence of blue green light in the light bulbs, and the other thing you can do is you can wear blue blocking glasses, these are the orange glasses that you may have seen. Those can be effective.

And again, some of these measures maybe aren't for the average person if they're not dealing with something. But if you're dealing with cancer, immune conditions, sleep disturbances, anxiety, depression, some of these things that are really impacting your day to day, this is where some of these more extreme, these more goofy measures of wearing orange glasses at night over time can make a really big difference in your recovery and getting back into good health.

So those are the primary aspects with light, and then we can kind of move on from there. But just wanted to see if you had any follow up.

Alex Howard

Yeah, no, I think that's super helpful and I think I'd love to actually go through the four different elements. So that's light, maybe we could touch on temperature a little bit as a kind of related piece of what the impact of that is in terms of sleep.

Jason Prall

Yeah, the interesting thing is when we look at the old sciences of Ayurveda and Chinese medicine, they've actually mapped out the rhythms of our body, of our internal organs. They've gone to a great distance, a great length to map all that out. But generally speaking, what I'll say is that the body has a natural rhythm. The digestion is strongest in the mid day. Our internal temperature is strongest in midday, and it decreases at night.

We have these sort of natural rhythms. At night our body temperature will naturally decline. And it's helpful to get a cooler temperature at night to sleep. Our body wants to dip down in temperature. So if it's unable to do so because the room is so hot at night, that's going to impact our sleep.

Now, you still may get your seven and a half hours, but if you track it, you may notice impacts on your deep sleep, impacts on your REM sleep. So the quality of sleep and your sleep architecture may change dramatically based on just a few degrees temperature at night. So we want it to be ideally 65 Fahrenheit, maybe even less. But you want to have it cooler than you do during the day. It's actually really important.

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Even if it's slightly cold. If you've ever noticed when you're camping, or outside, or you're in a really cold environment to the point where you're like, this is insanely cold, what am I doing? When you get into your sleeping bag, you're getting to your bed, your head is cold, your nose might even be cold. You will actually tend to sleep really good in a more cold environment than you would even prefer. So going colder is always better at night.

And that actually can make a big difference for many people. And they don't realize that they seem to be comfortable getting into bed, but at night it's just a little bit warmer than anticipated. Some people even have Chili pads, these pads that people lay on, that have cold water running through them that actually help cool them down at night. So there's actually a lot of technology out there now that's helping people cool themselves down.

At the end of the day, you can adjust your sheets and adjust your thermostat, open your window and getting that cool air is going to make a big difference.

Alex Howard

And of course, it depends where you live. We don't require cool pads in the winter. In the UK, we just open the windows.

Jason Prall

The UK is great. These are good examples. Again, I mentioned Norway, Finland, those northern regions. In the winter, before modernisation, before we were civilized, when we just had huts and these type of things, you would sleep more during those winter months. Not only because there's really not much to do, and you don't want to be burning a ton of energy, you want to conserve energy, but because this is the natural sleeping dormant cycle season.

Just think about it intuitively. Everything starts to shut down. We start to hibernate to some degree, and in the summer we get more active. Particularly in the spring, we start getting more active. Then we have the harvest, we've got all this food and we're really active during the spring and summer. And then we start to go to sleep again during the winter.

These are the natural cycles that we can start to pay attention to. And so these cycles exist seasonally. They exist over the course of a lifetime. We have the winter aspect of our life. We also have it in the day. We've got the winter aspect of the day, which is at night.

So these are the important cycles to pay attention to. And so during the winter, it's not unusual to sleep more than you would during the summer. Not only because the light is going to shift, but because of the temperature as well.

Alex Howard

That's awesome. So I just want to come back because I like this model of these four pieces. So we've got sunlight, we've got temperature. You mentioned food, nutrition and movement. So let's dip into each of those a little bit.

[00:31:46] Jason Prall

Yeah, the movement is maybe the most obvious. We want to move during the middle part of the day. That's when our hormones are primed to move. And it can vary, so I don't want to put too fine of a time frame on it, but sometime in the middle of the day.

You don't want to be moving too early in the morning, at least not too aggressively. You want to move lightly in the morning, but you should be moving in the morning, actually get up and starting to move. And this can be qigong, this can be yoga, this can be walking, this can be light exercise, bike or a swim as long as it's fairly gentle.

Your more intense movement should be more toward the middle of the day and maybe early afternoon. As you start to get into the 4:00 p.m. 5:00 p.m. 6:00 p.m, closer to the sunset and beyond, this is really not the ideal time to be moving. Not only are you amping up your system, your cortisol should be declining. And I'm just going to use one hormone but there's a whole suite of hormones that are changing, but cortisol should be declining and now you're asking the body to ramp up. So you're asking the cortisol to sort of go the opposite direction. Meanwhile, your melatonin should be rising and you're sort of doing things that are not really conducive to melatonin production.

So exercising in the middle of the day is key. Too much movement, too much stimulation physically at night is going to disrupt sleep. However, a good amount of physical movement is critical for sleep. We actually produce ADP in response to movement and normal activity, but the more we produce is going to actually help us sleep at night.

In fact, this is one of the things that caffeine is actually blocking. This lock and key mechanism. Caffeine doesn't give you energy. So I kind of mentioned earlier, get rid of the caffeine. It doesn't give you energy. It just steals energy from tomorrow essentially is what it's doing. So if we can reduce caffeine, you're going to actually find a lot of improvement in sleep in that regard.

But exercise is one of those things that helps us sleep at night. So more movement, particularly in the middle of the day. Intense movement, that's really what we're looking for. A good amount of intense movement. It doesn't have to be a marathon, but lifting something heavy, pushing the body hard, whatever that means for you, is going to be really impactful for sleep at night.

When it comes to food, probably one of the biggest issues that I see today is we're not eating in a way that is conducive to our natural rhythms. And remember I said that if we're synchronized with the sun, that's great. But if our food is not synchronized with our sort of natural solar cycle, daily cycle, then that's going to cause mismatch for the central clock and the peripheral clock.

When you eat food, you're asking a lot from your digestive system. Your gut, your liver, your gallbladder, your kidneys, the whole system is going to be working hard to digest that meal and distribute those nutrients and get rid of the waste. You're turning on those functions. If you do that towards the end of the day, it's not really conducive to what the daylight is saying.

So when the light is coming into the eyes and your master clock is set on a pretty good rhythm with the light, and now you're eating late at night, you're sending opposite signals than what the light is sending. So the light is sending one signal and now you're eating late at night, that's sending a different signal.

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The optimal time for eating food is midday. So theoretically it's best to eat your largest meal in the middle of the day. That's what the biology is asking for. However, that's not really what our general lifestyles are set up for. Our modern lifestyles are set up for a lot of people skipping breakfast, they eat medium sized lunch and they will eat a big dinner typically. That's our social time. And while that isn't going to wreck you if you do it a couple of hours before bed, doing that too late, too close to bedtime will cause massive disruption in your metabolic function.

So if you're going to eat a large meal at dinner in particular, I would say give yourself at least 3 hours to digest that meal. And so you kind of have to work backwards from the light cycle. So if the light cycle is naturally putting you to bed at 10:00p.m., let's say, then your last meal should be at 7:00p.m., and that's actually pretty reasonable. That's not unreasonable.

However, we tend to go eat desserts and eat some snacks and have some things later at night. That's what's really going to start to disrupt those peripheral clocks and that master clock, those signals. And so you'd be surprised, and you can track this, if you start to eat particularly a large meal close to bed, within an hour of bed, you're going to see sleep disruptions in your deep sleep, REM sleep, your sleep latency, how long it's taking you to go to sleep. That whole architecture can get disrupted pretty readily.

And so ideally, we want to eat the largest meal during the middle of the day, or at the very least that large meal that we might be eating at dinner, giving ourselves plenty of time to digest that food before we go to sleep.

That digestion takes a ton of energy. It takes a ton of energy, and it's going to signal all kinds of different hormones that are in opposition to the natural sort of hormonal architecture that we see when we go to sleep. And so if you're looking to lose weight, improve disease of any kind, improve gut dysfunction, again any disease, then putting your meal in the proper place during the day is going to be critical.

For some, it can actually be effective to eat a larger breakfast. And that's okay too. Our digestion is the most primed in the middle of the day. You're best able to digest your food when the sun is the highest in the sky. So whatever that means for you based on where you're at in the planet, that's the general rule. So at least understanding how the natural rhythms go can help us start to augment our lifestyles in a way that's going to be a little bit more conducive.

You don't have to get perfect in these regards, but eating ice cream at 11:00p.m., or slamming a pizza at 1:00a.m like I used to do in college, is really bad for the body. When you're young, you can get away with it, or you think you can, but it's really causing a lot of damage.

Alex Howard

And you just said it, but I just want to amplify the point a little bit more, just to say a little bit about it that fact that it's not about having to get all of this perfectly right. It's about getting a few key pieces in place, which then helps to shift the balance. Because I'm mindful of the depths of winter here in London, it's getting darker at 4:00pm. And so if one is having their last meal 3 hours before it gets dark, they're not eating after 1:00pm in the afternoon, which for some people, if they've got blood sugar issues is tricky.

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But I think really the point that you're making is that one has to listen to their body. But also there are just certain hard and fast rules of these different pieces which collectively are having a meaningful impact.

Jason Prall

That's right. In fact, a couple of years ago, I was in Estonia for the summer and the sun didn't go down. It would go down at midnight or 1:00 a.m. And it would dip just below the horizon and it would start to come up again. And it was so cool for me, it felt wild, like what the heck is going on? But my biology was so confused because at 10:00 p.m., it felt like, based on where the sun was at, 4:00 p.m.

It didn't feel like it was 10:00 p.m.. So my entire rhythms were off, my social rhythm was off, my biological rhythms were off. And so to some degree, you kind of have to go with where you're at. I lived in Seattle for a number of years and same thing, especially during the winter. Not only would it get dark early, but it was naturally gray like it is in London. And so it could be dark essentially almost all day. But remember that this is how humans have lived on the planet throughout time.

So our biology knows what to do. There's a certain amount of trusting that your biology and trusting that your body understands how to deal with. We know that the thyroid hormone changes throughout the seasons. We actually see a more hypothyroid function in the winter. It's like putting the breaks on the energy systems of the body, on the metabolism in the body.

So the wisdom of the body is truly profound. We just need to start to get in harmony with the natural rhythms as best we can. And so in the winter and in London you're going to deal with indoor lighting most of the time because you're not going to be standing outside in the rain and the cold thinking, oh, well, this is how we've been living for thousands and thousands of years. No, you're going to live inside.

But it still brings this idea that it's 4,5,6pm I can start reducing stimulation, I can start reducing my movement, I can start reducing the amount of light that's in my house. And there's good ways to do this. You can get the orange light bulbs that I'm talking about and put them in lamps. So start to use lamps, start to use candles, start to use natural fire if you've got a fireplace. And you start to shut down all your overhead lights that are super bright for the day, and open the windows. Now you start to just turn those off. You turn your lamps on. Now you have more of an orange candlelight vibe in your house. So there's a lot of different ways to do this, but the idea is simple: reduce stimulation. You don't want to be on your computer as much, watching TV as much. Better to read an actual book, not a kindle. Start to not eat food too late. So there's just natural ways that we can do this.

And what you'll find is when you start doing these things, I've had so many clients that thought they were night owls - "I can't go to bed early, I'm awake until eleven. Even when I'm not watching TV and doing things, I'm just naturally awake" and I say, okay, well let's change the lighting in the house. And soon enough they start getting sleepy naturally at 8:30 or 9 or 9:30.

And they're like, what the heck, what's wrong with me? No, this is what your body is craving. And so when you start getting into that flow and you understand what your body is craving now you can start behaving in a way that is more in alignment with what your body is really trying to do. Because again, that light is a key aspect.

[00:42:09]

And as you mentioned, the seasons are going to fluctuate. So in the summer in London it stays bright until like 9:00 p.m., 9:30. Sun doesn't go down till 9:30 or 10. And so yeah, you might want to start to change your lifestyle. Both from a social perspective, because you're not going to shut down your social relationship saying I got to be in bed by 10, so that means I got to have my last meal at 7, sorry I can't go out to dinner with you tonight. It's not going to happen.

You just start to recognise, we're in the summer, we may be going to bed a little bit later in the summer and getting less sleep in the summer and that's okay. But it's following what your body's natural rhythms are and really understanding the flows.

And when you do that, you're going to find better results. It's not about trying to fight all the things that are going on. Instead it's about becoming more aware of really what your body is craving. And there's one more thing I want to add here too, is that there are other techniques that we can use to sort of stimulate the body in the morning and slow it down at night, breath work being one of them.

There's an energizing breath, a breath of fire. Now, for some people you might want to be careful with this because it is very stimulating. And so if you have heart issues and that kind of thing, doing the breath of fire may not be the greatest thing. You may have to be careful with it. But the point is that you can actually use breath, exercise, movement. You can do a little bit of some push ups, you can do some squats, you can just kind of get the blood flowing. And breath work is a really good way to do that in the morning. And then at night we can do something like the 4-7-8 breath or box breathing.

We can do these calming techniques to engage the parasympathetic, start to slow down the sympathetic side of the system. And that's completely going to help get us to sleep.

Alex Howard

We're running out of time, Jason, but you said something to me before we started recording I just wanted to touch on briefly. You talked about sleep orientation. Talk about the side of our body which we lie on and from an Ayurvedic perspective how that can have an impact as well. That was really interesting.

Jason Prall

Yeah. So this is one of those things that I wasn't aware of until I started looking at things like Ayurvedic and Chinese medicine. But the worst position you could probably sleep on is your stomach. So if you're laying on your front and you turn your head to the side, it's not the greatest position to sleep in. Your back is not great either, to be honest. Even though I tend to prefer sleeping on your back, it's not the worst. But according to these traditions, lying on your side is the most effective and particularly lying on your left side. So your left side on the bed, your right side in the air is the most optimal. And that has to do with the way your guts are oriented.

So we have the colon and the large intestine. The ascending colon is on the right side of your abdomen. Then the transverse colon goes across the top and then you're descending colon across the bottom. And so when you're laying on your left side, you're actually working with gravity to help move food through the digestive system in a way that's not inhibitory.

And same thing with your liver and gallbladder. Your gallbladder will dump from your right side of the body to your left side of the body. So you're just working with gravity. So that's one trick, particularly for those who have digestive issues.

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There's another aspect too that is you're breathing through the right side of your nostril, which has some implications on your nervous system. So there's all kinds of different things that are happening when you sleep on different sides, breathing through each nostril and how your body is oriented. And so that's something that may be worth playing around with specifically if you have sleep issues. But I don't find it to be the key driver in things. It's just something to kind of play around with.

Alex Howard

I think also sleeping on one's back you're a lot more likely to snore and that then has other implications, particularly if you're sharing your bed with someone.

Jason Prall

Exactly.

Alex Howard

So Jason, I'm mindful there's lots of places we could go, but I think we're out of time. But do you want to share a little bit about how people could find out more about you, your work? I know you've got a book coming out soon, so say a bit about that.

Jason Prall

Yeah, my books coming out December 27th, I believe. It's called *Beyond Longevity* and it really details the work that we did for the [Human Longevity Project](#). I'm traveling around the world, speaking and interviewing people in their nineties, one hundred, and asking about the things that contributed to their good health. Combining that with ayurvedic wisdom, combining that with functional and integrative wisdom, and the modern science, and really detailing a lifestyle plan for those looking to improve their health and hopefully live a long time.

So it kind of gets into what aging is and how to slow it down really through practical lifestyle measures. In fact, I've got a whole chapter on sleep in that book. And so that's coming out December 27th. You can go find it on Amazon and most of your common bookstores. You can also go to beyondlongevitybook.com to find that book called *Beyond Longevity* and then you can find me at Awakened Health Academy as well. And that's where you can find a lot of the resources that we can put together over the years as well as awakenedcollective.com

Alex Howard

Awesome. Fantastic. Jason, it's always a pleasure. I really appreciate your time.

Jason Prall

Thanks Alex, good to see you. Bye.