Jason Prall

How to Optimize Sleep To Supercharge Your Energy & Heal Faster

Jason Prall:

Hello, everyone. I'm super excited to share with you this presentation on optimizing sleep to super charge your energy and heal faster. If there's any place to start when it comes to recovering from disease and trying to maintain health, I think sleep might be the most important or at least the lowest hanging fruit. As a practitioner, when I'm working with people that have chronic issues, it doesn't matter what it is, it's the first place I start. I really like to evaluate the sleep because once the sleep is dialed in, healing is so much easier and all the other things that you're doing to improve your health become so much more effective once your sleep is dialed in.

Jason Prall:

So, here are a few aspects of our modern society that are really causing an issue for us when it comes to sleep. The toxic chemicals in metals have really created a hyper-inflammatory state in the body which disrupts sleep, artificial lighting which we'll get into, manmade EMF radiation and these are things like cell phones, Bluetooth, wi-fi, cell towers and they all have an impact on sleep function. We'll get into that as well. Food distribution, this really causes an issue because we're able to distribute food from all over the planet, store it and really eat it whenever we want and that's not really a normal ... It's not something that our ancestors did and it's not something that still a lot of the populations around the world that live in a little bit more alignment with nature have to deal with. So it's something ... It's actually a hurdle, right, that we actually have to deal with here in the West if we're ... Because we're so lucky that we have this, it's something that we have to consciously try to avoid and be conscious of.

Jason Prall:

A text-based lifestyle, so just being on phones and computers, TVs, this is not only stimulating us, which is kind of the next one, but it's also affecting the way that we interact with light and again, that gets into the artificial lighting and then convenience. This is just something that becomes an issue because we don't really have to work for things anymore. Everything becomes so easy. We don't have to exercise, move our bodies nearly as much as we did even 30, 40, 50 years ago. So again, these are hurdles. This is not really any ... I'm not blaming anything here. This actually makes it more difficult for us to sleep.

Jason Prall:

When I did the human longevity project and went around the world to speak with people in Costa Rica and Okinawa and Icaria, Greece, in these little villages, they didn't have to deal with this stuff. Everything was a little bit more simple in terms of being in the flow of nature. And so these are challenges that we have to face that are really making it difficult for us to sleep.

Jason Prall:

And this is a big one that I really want to hit on, which is chronobiology. This is the idea that your body is being governed by rhythms and everything is flowing at a rhythm and the greater alignment that we can find ourselves in with the rhythm of nature, the better things are going to be. So this was a beautiful

quote that I pulled from a research paper. It says evolution has installed in us a powerful internal clock, programed to anticipate physiological events based on a battery of entrainment cues including light, temperature, food and physical activity. Unfortunately, the infrastructure of today's society and our lifestyle choices have thrown a wrench in our biological clockwork.

Jason Prall:

So, what this is simply saying is there are these cues, light, temperature, food and activity, these cues are guiding our natural rhythms. Our body is anticipating what's going to be happening based on these cues. So, in other words, our body is predicting the future, so to speak, because of the rhythms that we're being exposed to. It starts to anticipate what's next. This is how your body knows to start increasing melatonin and getting hungry and performing all these different functions throughout the day. And a good example of this is when you fly across the country, when you travel and you cross timezones. When you land in the new timezone, the lighting environments change, the temperatures, all these things have changed but your body is still on your old timezone. It's still in your old habits.

Jason Prall:

So it's still ... It's trying to anticipate the timing of day but it's also recognizing in real time these new cues and it kind of gets confused and it's going, okay, this is what we were expecting and now, it's a totally different time of day, so we're going to have to try to adjust and that's what we call jet lag. So, if you can think about it in this way, that your body's anticipating what's going on, then you can start to ... Then it stresses the idea that being in a rhythm, doing the same things each day at each time becomes a really valuable tool.

Jason Prall:

So, if you can eat breakfast in the same time of day or lunch and dinner, you can exercise, hopefully you're moving throughout the day but if there's a primary exercise window, if you can do that at the same time of day, then your body starts to optimize its function to perform those different functions and tasks in terms of digestion, in terms of elimination, in terms of increasing testosterone or estrogen or growth hormone. That's really what we want to do is we want to stay on rhythm and the biggest factor here is light. I think light and food tend to be the biggest factors in our modern life and the issue becomes this light pollution at night. We're not used to seeing artificial light after the sun goes down, evolutionary or biologically speaking, then that's going to throw a wrench in the natural clockwork and we'll get into that a little bit more but light, temperature, exercise and food are the big ones.

Jason Prall:

So, here's just a quick diagram of what Chinese medicine kind of maps out in terms of how the body tends to up-regulate function based on the time of day and of course, it's not the time of day based on a clock, it's the time of day based on the natural rhythms of the day, based on the light cycles. And so nothing really that we need to get into too much but it's just interesting to note that Chinese medicine has mapped this out and now Western medicine is doing the same. And again, Ayurveda has done this as well. Of course, they use a little bit different language, vata, pitta, and kapha, but nevertheless, using their framework, their map of how to work with these energies of pitta, kapha and vata, it gives you an idea of when is the best time to eat the biggest meal, and that would be in that pitta time, right around noon to 2:00 p.m. That's when your digestion's going to be really, really good and things are going to start moving through.

Jason Prall:

And at night, that's a different type of energy but it's an energy of metabolizing. So this is where we would transform. We would metabolize. We would start to move things out. So this just gives a description of, again, when is the best time to do certain things. You could see exercising in the morning is the best time to do exercise according to Ayurveda. So, this is a cortisone-melatonin rhythm. Cortisol being what we think of as the stress hormone but it comes in and actually assists us. Cortisol is a fantastic hormone. It's amazing when you have nice high cortisol levels when you're dealing with stress. The problem becomes when you have high levels of stress and you're unable to produce the cortisol in order to meet those demands and same thing with melatonin.

Jason Prall:

Melatonin is needed in high amounts in order to both help us fall asleep but also to clean up a lot of inflammation. So, melatonin's critical and we want to be producing it in high levels at night. The problem comes into play when we aren't producing this nice high melatonin spike at night and it's sort of ... It's diminished or it's spiking at the wrong time of day. Same thing with cortisol. If we start to spike our cortisol at 7:00, 8:00, and 9:00 p.m., that's exactly the opposite of what we want. We want that cortisol nice and low at 9:00 p.m. and it starts to rise throughout the night ultimately peaking first thing in the morning and that should be what's happening, and when this does happen correctly, we wake up, we feel refreshed, we feel energized and ready to go. So, this chart here really shows the ideal situation when we are tired at night, we start to really, really feel tired around 9:00, 10:00 p.m. We go to sleep. We stay asleep and the cortisol starts to rise, melatonin starts to fall and we start to wake up.

Jason Prall:

The other key factor here is core body temperature. You can see that naturally, the body temperature is going to start to dip around midnight and around 3:00, 4:00 a.m., it's going to hit its lowest point. So, we want to keep a nice cool temperature in the home when we sleep at night, even if it feels slightly cold if you're in bed, you're obviously going to heat up and that's naturally going to help you sleep. This is why you see things like the Chilly Pad and some of this technology out there to help keep people cool because if the body temperature is excessive at night, it will wake us up. It will cue different aspects of our physiology. So, a lot of the physiology when it comes to sleep is guided by these three primary rhythms and if we can optimize these rhythms, then sleep becomes so much easier and we'll get into how exactly to do that.

Jason Prall:

So, just briefly, this is just a nice diagram to look at to give us a sense for lighting and for millions of years, since the beginning of humans, we didn't really have much other than fire, the moon and eventually, oil lanterns and that kind of thing and candles. In the early or late 1800s, early 1900s, we started seeing light, artificial light coming into play with the advance of the light bulb and then, of course, with LEDs, fluorescents, compact fluorescents and now really, really bright white lights, we're only talking 30, 40, 50 years maybe of really strong light that has come into play. So this is a new phenomenon where light is becoming an issue for us. And this is just a nice way to look at the spectrum of light because when it comes to light, the thing that we want to pay attention to is the spectrum. It's the purple, the blue, the green, et cetera, because the eye is actually picking up those different aspects of the spectrum and those different aspects of the spectrum are going to cue the eye and the body into different functions.

Jason Prall:

And so when we look at daylight, for example, we see a nice huge spike across the board from ultraviolet into infrared. The incandescent bulbs that I remember from the 80s and early 90s produced a lot of infrared light, in other words, it produced a lot of heat, which is part of the reason that we got rid of them because they use so much energy but they were actually probably the healthiest light bulb that we have because it includes the entire spectrum and that's what our eyes are used to. Even though it's in the wrong amounts, at least we were getting some of that. When you look at the fluorescent light and you see a big spike in the green and a big spike in the orange, it's really not what our biology is used to seeing. That's not found in nature and especially if you look at the cool white LEDs and even the warm light LEDs, I mean that is just a complete distortion of what our biology is used to seeing.

Jason Prall:

So, this comes into play when we factor in what's really happening with the eyes and we'll get into that. This is a really good visual of kind of the spectrum that we see during the day and during the night. So we actually see that the temperature changes, the light temperature changes from a 6500 kelvin at the middle of the day down to 2400 kelvin when sun's just about to set, and so this spectrum shift that our eyes and even, to some degree, our skin is picking up is going to inform the functions of our biology.

Jason Prall:

And at night here, this is a real problem that we see, especially with kids that have really just grown up with technology, phones, computers and these type of things. We see a lot of this at night, on phones, playing on phones, iPads and even as adults, we do a lot of this now but if we recognize that the blue and green wavelengths, anything below 530, it starts to shut down melatonin production. So, this is a huge, huge deal and this is why at night, we never really used to see the blue and green in spectrums, we didn't really have an issue with melatonin production. Now, with all this artificial blue and green light at night, we're seeing melatonin be affected in a huge, huge way and when you run melatonin tests, you can actually see this show up on those curves.

Jason Prall:

So, here is just a visual description of what's going on. We take in the light during the day or any light source and our eye is picking up on the various spectrums. So it's so precise in what it's able to understand that it can sense how much blue, how much green, how much yellow, orange, red, and that's going to ... Those signals that are picked up in the back of the eye are then sent to the brain. And so I love this headline and this subtitle that the molecular clocks throughout the body keep tissues humming. So it's not just the brain, it's the molecular clocks throughout the body. So, we actually have genes in the liver, in the pancreas, in the thyroid, everywhere throughout the body that are keeping time. They're getting signals from the eye and then the brain about what time of day it is so that these tissues know which functions to up-regulate and to down-regulate.

Jason Prall:

So, here, you can see an even better description of when the light comes into the eye, it goes into the optic chiasm, the super chiasmatic nucleus which then communicates to the pituitary gland. The pituitary gland then communicates to the hypothalamus. And so the pituitary gland is really the master regulator for a lot of hormones throughout the body and you can see that it's communicating with the kidneys, with the thyroid, the adrenals, the skin, the bones, testes, ovaries and sending these very, very

important hormonal cues to govern the function of a lot of these tissues and hormones are probably the biggest lever when it comes to governing function.

Jason Prall:

This is why when we have hormonal imbalances, it really causes havoc in the body and creates a lot of symptoms but things like luteinizing hormone, growth hormone, thyroid stimulating hormone, adrenal hormones, these are all governed by the pituitary gland and the pituitary gland is being given signals from the eye based on the lighting of the environment. So, if we can start to shift the environment and shift the lighting, then that's going to cue our pituitary, our hypothalamus and our entire hormonal system into a function that is more optimal.

Jason Prall:

So, here, this is a little bit technical and there's not really much to understand here other than the fact that if you look at the right hand side, you see xenobiotic detoxification. That means detoxifying chemicals, foreign substances in the body. Lipid metabolism, that's fat burning. Lipogenesis, that's making fat. Mitochondrial bioenergetics, that is the way we're producing ATP and energy at the cellular level and then gluconeogenesis is turning things into sugar. It's making sugar. And so these functions are all being governed at the cellular level by a ton of different genes that are regulated by these clock genes, these internal cellular clocks that trigger a whole host of events downstream that govern all of these functions.

Jason Prall:

So, if we want to detoxify properly, circadian rhythm is critical. If we want to burn fat, circadian rhythm is critical. If we want good energetic production at the cellular level from the mitochondria, then circadian rhythm is critical and this is occurring, again, in every tissue of the body, and actually, in 2017, the Nobel Prize in medicine in physiology was given out to, I think, it was three gentlemen who did a ton of work on circadian rhythm, on chronobiology. So, we're just now starting to recognize in Western medicine how important circadian rhythm is and we're starting to map out a lot of the functions at the cellular level, at the organ and tissue level and the more we do, the more we recognize the critical nature of circadian rhythm and why it's important to align with the rhythms of the day.

Jason Prall:

So, this is just an interesting research paper that looked at a lung tumor, lung cancer and recognized the actual mechanisms that come into play with respect to circadian rhythm. So, when circadian rhythm is disrupted, you're actually seeing the lung tumor grow, you're actually seeing the promotion of lung cancer. When circadian rhythm is aligned, you have much less growth of the lung cancer and if you're doing other things correctly, much higher likelihood of recovery. So circadian rhythm is absolutely essential when it comes to chronic issues like cancer, autoimmune conditions, you name it, everything. Circadian rhythm is really, really important.

Jason Prall:

And the other aspect is melatonin, right? So, when we have good circadian rhythm, we're getting a nice high melatonin spike at the right time of night, that's cleaning up a lot of things going on at the cellular level. It's cleaning up a lot of cellular inflammation and the other aspect is melatonin is a signaling molecule. So this is just one thing that it's signaling which is regulatory T-cell function. So, regulatory T-cell function comes into play, in particular, with autoimmune conditions as well as cancers and multiple

sclerosis is a type of autoimmune condition. So, if we are having issues with food sensitivities with autoimmune conditions, with any immune related aspect, the regulatory T-cell function is critical and melatonin is important for optimal regulatory T-cell function. So, again, it just argues for really, really good circadian rhythm and making sure that we're doing the things necessary to spike our melatonin at night.

Jason Prall:

Here is a visual of the United States at night and you can see just the massive amount of artificial lighting that is lighting up the cities and the relative darkness in some of the Midwest states that really contrasts with these cities. So if we go to this next diagram, you can actually see the population, the percentage of population that get more than seven hours of sleep. Now, the time of sleep is not everything. We want to get good quality sleep but to some degree, the qualitative factor of sleep does come into play. So, when we look at the white states, the ones that are light colored, that is the less percentage of the population is getting seven or more hours of sleep. So, they don't get as much sleep in those light colored states. The darker colored states represent a greater percentage of the population that get more than seven hours of sleep.

Jason Prall:

So, if we look at these two images combined, you can actually see a pretty strong correlation when it comes to the areas with a lot of artificial light at night and the states that are not getting as good of sleep. Again, it's not a perfect correlation but it is interesting to note. And this is a big one in the 21st century. This is becoming more and more of an issue with the fear of skin cancer and the propensity to stay inside with all of our electronics, we just aren't getting the amount of sun on our skin that we used to and ironically, despite the fact that we're spending less time outside, we wear more sunscreen, our rates of skin cancer are continuing to rise.

Jason Prall:

Here are a few headlines that really do a good job of highlighting the variety of benefits that one might get from enough sun in the eyes and on the skin. Kids who get more sunlight are less likely to need glasses. This is an interesting one. I had a client years ago and when we started optimizing her circadian rhythm and getting more natural light in her eyes, her eyesight shifted. She actually wore glasses typically and I told her that she'd be better off by taking off the glasses every now and again, not wearing contacts and getting the sun in her eyes and as she started to do that, her eyesight started to shift and she actually needed to change her prescription. So the lights in the eyes go a long way to sending signals but also the improvement of our eyesight.

Jason Prall:

The myopia boom, you can see that myopia is increasing in the last 20, 30 years and this has become a real big problem in Asian countries actually. Effective heliotherapy on skin and joints sometimes in psoriasis. So heliotherapy is an old technique to actually just get out in the sun and use that as a therapeutic agent. This tends to be one of those things that improves the symptoms of skin conditions quite a bit is just getting in the sun enough to where you're not burning but enough of that sun on your skin can really, really improve the health of the skin overall.

Jason Prall:

Researchers link leukemia to low sunlight and vitamin D, and circadian rhythm governs damaging effect of UV light. So this is a big one that when we talk about the damaging aspect of ultraviolet light and it is damaging, it becomes more damaging when our circadian rhythm is out of alignment. When our circadian rhythm is in alignment, then we can actually produce mechanisms to protect against the UV light. The skin has a number of ways of doing that and we can do that when our circadian rhythm is optimized. So, again, UV light is a hormetic stressor. It is something that's really, really good in a certain dose and once we go over that dose, it can be damaging.

Jason Prall:

So, this is interesting to note that when we look at the skin, the different wavelengths of light penetrate to different depths and the UV doesn't penetrate very far. As we get up into the blues and greens and yellows, they start penetrating deeper and into the infrareds, it penetrates even deeper. And so this is just important to recognize because it shows us that there's something going on. That our skin actually picks up light in different ways and there're different elements depending on how deep in the skin you go that are going to be impacted. And so this is really, really deep science. I don't want to get lost in the technicalities here but I just want to illustrate that the different spectrum of light is penetrating the skin differently. So, when we don't get enough of that infrared light from the sun or that ultraviolet light from the sun, then we're only going to get certain spectrums and it's only going to impact the skin and the signals that are being picked up through the skin in different ways.

Jason Prall:

So this is a great image showing the various light related hormones that we make. If you look on the left, you see phenylalanine, tyrosine, tryptophan, histidine in green and these are amino acids, and these are amino acids that are required to make the various hormones that we are so reliant on. So, if you look at phenylalanine, tyrosine and you go all the way to the right, you end up seeing melanin, dopamine, adrenaline, noradrenaline. Those are produced with the interaction of those amino acids and light. So, we need the UV and the infrared in particular but we need those light spectrum, the whole light spectrum to be able to produce these hormones, to be able to produce T3 and T4. It is required that we have light to be able to produce those hormones and the amount of light is going to dictate how much T3 and T4 we make.

Jason Prall:

Same thing with tryptophan. Tryptophan is required for us to make serotonin and melatonin and those are governed by the amount of light that we get. Same thing with histidine. We make histamine and urocanic acid, both are very, very important for function in the body and urocanic acid is one of those things that acts as a UV filter. So, if we're able to make urocanic acid and at the top, if we're able to make melanin, then we can actually protect ourselves against the damaging aspects of UV light. So here is another description of some hormones that are related to light. We take in red and infrared light. It interacts with cholesterol to make our corticoids, cortisol, aldosterone, as well as our sex hormones like testosterone, progesterone and estradiol.

Jason Prall:

So, when we get enough light in our eyes and on our skin, we're able to make these hormones in a much more effective way. Same thing with vitamin D, everybody's familiar with vitamin D but it's, again, not often talked about, the red and the infrared light that is required to make some of these sex hormones

and we're going to make these sex hormones in a much more effective and optimal way when we get light at the right time of day.

Jason Prall:

Okay, so how do we optimize our chronobiology? How do we optimize our sleep given all this science? I first kind of want to start off with an amusing quote that's attributed to Voltaire but it says, "The art of medicine consists in amusing the patient while nature cures the disease," and I couldn't agree more with this sentiment that really we ... The best solution is to get out of the way and start to work with nature and that will ultimately resolve any of these imbalances, dysfunctions that we're dealing with.

Jason Prall:

From our travels with the Human Longevity Project, this is Orestis Portellos from Icaria, Greece, he's 99 years old and we talked to him and he said, "When I was young, the body was busy and the mind was still. The problem today is the mind is busy and the body is still." And it's such a simple and wise statement but some of the solution here that I want to point to is to get moving, keep moving. Move the body. Get outside and move the body. Reduce stimulation of the mind and start to move the body and when we do that, it makes it so much easier to sleep. This one tip can be a huge, huge factor for so many people. Just to start moving more.

Jason Prall:

Another one is to go outside and be amongst nature. Shinrin-yoku, this is a Japanese term that means forest bathing and you don't have to be in a forest, although being in a forest is very therapeutic but just getting outside, it can be on a beach, it can be in a park but it changes your neurochemistry, your neurotransmitters. It improves your mood. It calms your sympathetic nervous system, your fight or flight. It improves the parasympathetic tone, the rest and digest. Research has even shown that looking at photos or art of nature can have minor effects on your sort of brain wave function. So being in and amongst nature is a really, really therapeutic tool and can help you improve sleep. Getting light in your eyes and on your skin, of course, is of upmost importance. So anytime you can be outside and get light on your skin, in your eyes, can be helpful as long as you're not burning.

Jason Prall:

So, here's a big one, eating on time and intermittent fasting. If you have hypoglycemia, I would not recommend doing intermittent fasting but for pretty much anybody else, intermittent fasting can be a useful tool. When you do this, when you eat on time and you do a little bit of intermittent fasting, you'll improve gut microbiota balance, you'll improve your mitochondrial function, your metabolic flexibility, your immune system, hormonal function improves, your brain function and cognition and you actually make more stem cells too. So there's a lot of benefits to eating on time and what do I mean by that? Ultimately, if you can eat your last meal at least three hours before you go to bed, so if you go to bed at 10:00 or 11:00 p.m. naturally, then you want to eat your last meal no later than 7:00 or 8:00 p.m. Give yourself at least three hours before you go to bed to digest that meal and I say at least three hours. If you can give yourself more, that's even better.

Jason Prall:

And then if you eat dinner at, let's say, 7:00 p.m., then if you can eat your first meal no earlier than 7:00 a.m., ideally, you would want to eat maybe around 10:00 a.m. or even noon. So if you're giving yourself that 14, 15, 16 hours without food, this is when your body can do a ton of cleanup. It can do a ton of

repair. And this maybe tricky at first but after a little while, your body will adapt. Your body will start to operate on that cycle. And these are just a few of the different types of intermittent fasting that you can play around with. Depending on your situation, depending on what's ideal for you but you may want to play around with some of these things. If you can at least do a little bit of a fasting every week, this will make a huge, huge difference to your health but the key, again, is really no food within three hours of going to sleep. If you can do that, you'll notice tremendous benefits.

Jason Prall:

The energizing breath. So, we can use breath work to start to influence our function and this is a type of breath that probably does require a little bit of caution. If you are pregnant, if you got hypertension, epilepsy, seizures, panic disorders, last thing you want to do is ramp things up but for anybody else, if you're dealing with ... If you wake up and you don't have a ton of energy, you can use the breath to actually stimulate function in the body. And so just inhale and exhale rapidly through your nose with your mouth closed, approximately two to three breath cycles per second. So you're breathing in and out the nose quite quickly and your belly should be moving in and out. That's kind of what should be happening as you do this. And if you do this for, let's say, 15 seconds at first and then see how you feel.

Jason Prall:

Take a break, breathe normal for a little while and then do a couple more rounds of this and see how you feel and each day, you can start to increase the total time that you're doing this breath for, let's say, five seconds. And if you do that, you should build up to be able to do 15, 20, 30 seconds or more. Probably don't want to go more than a minute but if you're doing this energizing breath in the morning on an empty stomach for 30 or 45 seconds each day when you wake up and you do a couple rounds of that, you will start to notice that your body is producing a lot more energy. That will get you going.

Jason Prall:

It's better than a cup of coffee if you start to really do this. It takes a little bit of effort but it's a natural cup of coffee and it's going to actually start to entrain your circadian rhythm. So your body is going to start to up-regulate a ton of different mechanisms that if you do that on a regular basis, again, your body's going to anticipate that each day. So, not only will this get easier but your body will start to align with this type of rhythm when you do this every day and again, you want to do it in the morning on an empty stomach before you eat or drink anything and you should notice a nice energy spike in the morning as you get used to this.

Jason Prall:

And then at night, you can use the relaxing breath and this is just one example of a relaxing breath. Some might refer to it as the four, seven, eight breath. You can inhale through your nose with your mouth closed for four seconds, hold your breath for a count of seven seconds at the top and then exhale completely through your mouth for eight seconds. As you exhale, you should kind of make this whoosh sound and then you fully exhale, so your navel draws in towards your spine. So it's a complete exhale and you repeat that breath for a total of five rounds. So inhale through your nose with your mouth closed for four seconds, hold your breath for a count of seven seconds at the top and then exhale completely through your mouth for eight seconds and draw your navel in towards your spine as you fully exhale on the count of eight. So do that fives times or so and this really should reset your nervous system.

Jason Prall:

You should find a lot more ground, a lot more calmness and doing this before bed will completely change your mental perspective. It gets you out of the head a little bit. Again, it calms the system. It starts to draw you down towards your root and this can be a really, really effective tool, especially if you have trouble getting to sleep at night.

Jason Prall:

So, here are some ways to optimize circadian rhythm when it comes to light. First thing you can do in the morning, go outside and go for a 20 to 30 minute walk. Now, I know this is challenging in some areas where it's really cold or it's raining or it's snowing or what have you but the more can do this in the morning, whether it's cloudy or raining, as long as the sun is up, your eyes are going to pick up on the fact that it's daytime and it's going to set your circadian rhythm. It's going to entrain your biology. You want to minimize the use of glasses and contacts, if possible. So, if you wear contacts and/or glasses, try to see if you can get some time outside allowing that light in your eyes, as much as you can.

Jason Prall:

If you can, avoid the use of sunglasses as often as possible. Open up windows allowing more natural light into the home. This can be really, really beneficial. You can use the f.lux app on your electronics at night. This will reduce the blue light that your eyes are exposed to should you have to use computers and if you are around artificial light at night, you can also use blue blocking glasses after the sun goes down. This will limit the amount of blue and green spectrum that's getting into your eyes and again, that blue and green spectrum is the type of light that's going to be shutting down melatonin production.

Jason Prall:

So one other thing you can do is use orange and red light bulbs at night and one of the ways I like to accomplish this is to get a few lamps that are dedicated to those orange light bulbs because a lot of the overhead lights I can't change. They don't have orange light bulb options for those and so I turn those off at night and you can turn on your orange lamps and you can get a handful of these so that you have enough light in the rooms that you're going to be in and this makes a huge difference. When I implemented this for the first time and I've done this with clients as well, people start getting tired earlier. So, a lot of times, we think that we don't get tired until 11:00 p.m. or midnight or what have you and just by changing this one thing, by either wearing the blue blocking glasses or using orange and red light bulbs or the last one, using candle lights or fire, you start to get tired earlier and there's just nothing you can do about it.

Jason Prall:

Once you start getting tired, you get tired and you just naturally start going to bed earlier and this is really the key. So the key is to not to force yourself to go to bed earlier but rather to set up your environment in such a way that you naturally start getting tired earlier and wanting to go to bed earlier and when you do that, and you're getting better nights sleep, all of a sudden, it makes a huge, huge difference and you start to wake up in the morning with energy and you start to do more exercise. You start to eat better. All the things that you really want to do, it's so much easier to do.

Jason Prall:

The lack of sleep really throws your whole day out of wack. So if you can start to optimize your sleep, use some of these tools and techniques to set your circadian rhythm, it's going to make a huge difference

and before I close, I just wanted to name a few more things that might be helpful too. There's an amino acid called ornithine and you can get L-ornithine and this will help with ammonia production in the brain. So you can take 500 mg, 1000 mg. You can do this ... You can actually take a lot more than that but if you start there and you take some L-ornithine at night, a lot of people find a lot of benefit from that. It does help with inflammation and like I said, the ammonia that is produced in the brain at night. So that's something that you can try and that can be taken on a fairly regular basis. There're no issues longterm with taking L-ornithine.

Jason Prall:

And then melatonin. I know a lot of people don't like to recommend melatonin but I think low dose melatonin is extremely effective. It's been shown in a lot of studies to be highly effective for inflammation, for improving sleep and in terms of the longevity research, it's actually one of the most important aspects from a research standpoint that has been shown to improve longevity. And so a little bit of melatonin at night, I would say 1 mg up to 2 mg and even less than 1 mg can be effective. So you can play around with that but especially as you get older, in older populations, using melatonin at night as you go to bed can be a really, really effective tool.

Jason Prall:

And one more thing that I'll mention that can make a huge difference for some people is to shut off wi-fi and any cellular phones at night. So if you can put your phone in airplane mode, move it away from your heads, off of your nightstands, you don't have your wi-fi router on, that can make a big, big difference. And so there's actually automatic timers that you can get for your wi-fi routers and that kind of thing and what's more, if you can go hardwired, that's even better. So looking at your EMF at night, especially if your wi-fi router is close to your head or close to your bed in any way, moving that, shutting it off and reducing the electromagnetic frequencies that are near you can be a really, really effective tool as well.

Jason Prall:

So, those are some things to play around with. Focus on your lighting. Make sure there's not any excess light coming into your bedroom. Blackout curtains or anything like that are extremely effective. So hopefully, this helps and the more you can optimize your sleep, the better your health's going to be in the longterm.

Jason Prall:

Well, I hope you found that presentation valuable. There really are so many components to getting a good night's sleep and sometimes the primary causal factor of poor sleep is related to sympathetic charge and a dysregulated nervous system, which is related to trauma patterns, childhood conditioning and the like. And because many other speakers have discussed this, I didn't cover, in my presentation, but I wanted to bring it up here, so the more we can process the backlog of energies and emotions and cultivate a well-regulated, calm nervous system as our baseline, the easier it is to get deep, restorative sleep.