Introduction to Sleep, Brain Health, and Habits

Hello again, everyone. It's Dr. Wells. I'm your host of the Sleep Deep Summit. New approaches in treating sleep apnea and insomnia. And next up is Dr.

Austin Perlmutter. Now, Dr. Perlmutter is a board certified internal medicine specialist. He's a New York Times bestselling author and international educator and published researcher who is here to talk to us today about inflammation, bad habits and the brain.

Welcome, Dr. Perlmutter. Dr. Wells, thanks for having me. So excited to be here. Yeah, it's great to see you. And, you know, I am really excited to tap into your expertize because I know that you and I are on the same page when it comes to the critical nature of sleep and how it affects the brain.

Sleep is of the brain, by the brain for the brain. But I want to start off with your best tips and tricks for establishing habits, particularly around sleep.

Well, this could be the next hour. I wish that it was. I have lots of these. And I think what's great about sleep is that it's something that you can always do something to improve.

You know, all of us think about it. It's something that happens every day that we can always get better sleep. And the nice thing is, again, there's so many things that we can do.

So I think the first thing I would say is, as we look at the things that each of us can and should be doing for better sleep tonight, our habits really should start in the morning.

And that's often something people don't think about because sleep isn't just something that happens at the end of the day. It is part of this circadian rhythm that is somewhere around 24 hours a day.

Morning Light and Evening Device Habits

And if we only think about sleep right at the time that we're trying to go to sleep, we've actually missed out on the majority of our chances to improve the quality of our sleep in a given night.

So we'll start at the beginning. You wake up in the morning whatever the quality of the sleep was the night before. The key is to reset your rhythms by getting some bright light in the morning.

And I live in the Pacific Northwest, and bright light in the morning is not a natural thing for about half of the year. So I think for most people, getting outside is the best way to do it.

For some people myself included, I actually use a full spectrum light to help tell my body, Hey, it's early in the morning, now's the time to start waking up, getting things moving.

So I think that's kind of the first piece of it. Now there's a lot of stuff during the day that we could talk about or got around the timing of caffeine, around timing of alcohol.

But let's fast forward to what happens when we're actually going to sleep. A couple of the top tips that I have as far as the habits that people tend to get wrong but could get so much more right.

Is number one, don't have your devices in your bedroom? I think this is so fundamental. Our brains pay attention to our devices, not just because they're there, but because they're incredibly activating.

It's the light coming off of them. It's also the content that comes through, though people don't think about this. But if you consume activating content, whether that's Tiktok or the news or TV, right before bed, you're telling your brain, Hey, we don't need to be going to sleep right now.

There's a lot of threats that are out there in the world. So no devices in the bedroom. And I'll throw out one more here real quick, which is the temperature.

Now, I know this is something that many people haven't thought about, but it turns out that our bodies actually do better. Going to sleep at a somewhat lower temperature than was anticipated.

So I personally like around 65 degrees Fahrenheit. But the key here is to actually bring it down a little bit more than what you might anticipate. So I guess that's three to get us started.

One is bright light in the morning. One is not having devices in the bedroom and one is having a lower temperature in your bedroom. You are seeing my tune because these are things that I talk about a lot.

And I think, you know, sort of woven through what you're saying is this idea that a person actually has a lot of control over their sleep quantity and quality by engaging in some of the things that promote good sleep.

So thank you for that. And you mentioned light. I'm a little bit sensitive to this, too, because I'm in Minnesota, which is a very high latitude. So like you during the winter, I'm really kind of looking for ways to get bright light exposure in the morning.

I certainly have a light box near my computer so that when I wake up, I'm getting that signal for light. Is there something else that you do when you're looking for light during the day?

Well, I mean, again, it would be nice. And sometimes the year I'm trying to get outside as much as I can in the winter up here, it is a little gloomy, it is a little rainy, but I still try to get outside.

You know, in a perfect world, the coffee walk is my ideal scenario, where I'm outside taking the dog around the block, getting that bright light in my eyes and kind of telling my body, We're starting the day.

I think in the absence of that, you know, the real goal here is, yes, you get the bright light in the morning. But the other thing that you can do is start to decrease your bright light exposure in the afternoon.

And that's something that all of us have control over. So I'm not saying, you know, afternoon per se, but, you know, later afternoon and into the evening, that's when we want to be thinking about decreasing the blue light in particular.

And I've heard lots of people and I'm sure you have opinions on this talking about, well, it's the angle of the light that's coming in. So overhead lights with a blue light spectrum is the worst.

If it's lower down, it may not be as big of an issue. But really what I try to think about is what is the level of light exposure that I'm getting in the 2 hours before bed?

And is it specifically in that blue light spectrum? And is it bright? Because those are the signals that tend to tell melatonin not to come out because we're not ready for bed yet.

So, again, if you think about this whole kind of sleep hygiene and the sleep habits, it's very tempting to paint one single point and say, well, it's right before bed.

The goal is not to have coffee. Not really. Right. The goal is to live an entire day, an entire 24 hour period where what you're doing is promoting good sleep.

And you may make some mistakes, let's say in the morning you didn't get your bright light exposure. But that's

more reason to say that in the afternoon.

The goal is not to rev up your brain and get a whole lot of bright light right before bed. So I think we think about this over the course of the day. It's kind of a continuum in the light.

In particular, the goal would be bright light first thing in the morning, maybe through a new at least, and then kind of decreasing that as the afternoon goes down and then really being protective of that 2 to 3 hour window right before bed where you want to tell your brain it's getting dark out and we should be producing melatonin and getting ready for sleep.

One more thing I'll just say on this, which I really think is a really helpful way to be thinking about our bodies, you know, humans haven't necessarily changed all that much in the last thousands of years.

We've changed our world. We've changed what we learn, and we've changed what we do. We've automated a lot of things. We have incredible technology. But the actual system, our DNA, the actual physiology isn't really all that different than what it was 10, 100,000 years ago.

And to that end, I think it's just really important to understand that our bodies operate in a kind of very consistent way when they're giving given certain inputs.

And as much as we want to override this and say, well, you know, I'm just going to have that Red Bull and stay up late and work on my computer, I realize that that is in incredibly artificial and that you are actually compromising the innate knowledge of your body.

Noise Pollution and Sleep Quality

That is telling. It's telling you, here's how the day is supposed to go. So I think there's a whole lot that can actually be understood and applied simply by asking the question of what did our ancestors do before all of these extra variables got involved?

And to that end, it's understanding that, yeah, the temperature did go down at night and yeah, the sun did come up in the morning and by and large are kind of sticking to those types of codes that are built into our genes does us pretty well.

So granted, we all want to be able to watch Netflix at 9 p.m., but appreciating that when we do these overrides, there can be consequences. You know, I totally agree.

And I want to highlight a few things that you said. So, first of all, that nature exposure, getting out into your environment, looking at trees and grass, green things and blue sky, I think that sort of hearkens back to just honoring our human nature and our place in the world.

And then you mentioned not only light in the evening, but also the emotional component that goes with our handheld electronic devices. And I really think that those two types of stimuli I can actually synergize to produce this artificial environment where we're kind of revved up emotionally and revved up physiologically.

So even if people are able to get to sleep in a reasonable amount of time, I can tell you that when I read a sleep study for someone who has had an electronic screen before bed, I can see little awakenings, little sleep disruptions during their sleep.

And I think a lot of times those get attributed to other things because that's easy to do. I want to talk about something else in the environment we discussed Light.

Let's talk about sound. Can you help everyone understand what sound pollution is and how that might interfere with sleep? This is so interesting and there are so many ways to get into this.

I think all of us have had the experience of sleeping in a bedroom or in a hotel or somewhere where the person that we're with or near is snoring and you realize you can't stay asleep.

They wake you up. Now, there's a lot to be said about snoring, which is a somewhat different conversation. And I know Dr. Wells is something that you're very passionate about speaking about, you know, is there a cue here for sleep apnea?

But thinking about sound in general, it's really fascinating noise pollution. While we sleep seems to decrease the quality of our sleep. And when I was learning about this, I said, okay, of course, that makes sense.

If you're being woken up or you can't fall asleep because it's so loud. Of course, your sleep isn't going to be as good as you think it would be, but it turns out it's a whole lot more nuanced than this because the research would suggest that noise pollution doesn't even have to wake you up.

It just has to take you away from the ability to get good sleep, meaning that you may not sleep as deeply. And when I was looking at this in particular, what the researcher said is that we're more vulnerable to noise pollution as far as decreasing the quality of our sleep in the second half of our night.

And so I was wondering, well, why would that be the case? Is it just noisier in the second half of the night? What's happening out there? But this gets to this question of sleep pressure and what it is that makes us feel sleepy.

And I think we've all had some sort of an experience where we're really tired, we fall asleep and then, you know, we wake up maybe earlier than we anticipated and we just don't feel as tired anymore, wake up in the middle of the night.

We kind of all of a sudden we're not as sleepy. And part of the reason for this is it seems to be that in part because a molecule called adenosine that we build up a sleep pressure or a sleepiness during the day and that gets progressively cleared out or decreases over the course of the night.

So we're not as sleepy in the second half of the night. Now, why does all that matter for this noise pollution? Well, if we don't have as much sleepiness, if we're not as asleep in the second half of the night, then that noise pollution can wake us up easier.

And again, I want to make this point. It's not necessarily that you wake up and say, wow, it's loud out and it's hard for me to sleep. It's that it can actually detract from the quality of your sleep, even if you're not aware that you're awake.

I think all of these things are such good indicators that this is one of the variables we've hugely overlooked. So as far as solutions go, I think there are several.

I think it has a lot to do with minimizing the effects of variable noise. That's really key. It's not just noise overall because we know that sound machines, for example, white noise can actually be a great way to kind of standardize the sound and get people to sleep and keep them asleep.

It's variable noises that kind of jolt us out of our high quality sleep. So I personally use a white noise machine. I found it incredibly helpful, I think, to if you live somewhere like a city or somewhere that there's a lot of outdoor noise.

These are good reasons why it might make sense to keep your windows closed and I think even insulating kind of against noise. So if you have a lot of loud roommates, you might consider putting a strip in underneath your door and soundproofing it a bit.

These are all strategies, I guess, that we can take into account to help to lower the risk that noise pollution in our bedrooms is decreasing the quality of our sleep.

You know, that term I think is really descriptive noise pollution. And the pollution is kind of interfering. And I can tell you, I have another story about reading sleep studies.

I used to do sleep studies in a hotel based sleep lab, and those heavy hotel room doors would shut when the technician would come in to make an adjustment.

And then they would leave the room, the door would shut and make a loud click as soon as it locked into place. And that showed up as a disruption in the EEG waves of the person who was being studied.

And in fact, sometimes it awoke them from sleep and it's always harder to get back to sleep in the middle of the night. If I had a magic wand and I could wave it for everyone who struggles with nighttime awakenings, I would because that's one of the most frequent problems that I hear about.

But let me say one more thing to this, because sleep is complicated. There are a number of different variables that can make it hard to get to sleep, state to sleep.

But our bodies, as much as they're incredibly nuanced, I want to come back to this idea, which is that we haven't changed that much in the last hundreds of thousands of years.

And if you go from an evolutionary perspective and just kind of ask, what are the things that take away from our high quality sleep? So many of them make perfect sense if you consider that back in the day, if there were dangers in our environment, our brains and our bodies would say, this is not a good time to be basically weak, to be vulnerable, to be unconscious.

So if a noise comes up, a loud noise in the middle of the night and you're sleeping out in the savanna, and that loud noise is telling your brain there might be a predator or a threat nearby.

Of course, your brain is going to say, wake up and be alert. And it's very similar, I think, when we consider the kind of threat of chronic stress on our brains and bodies today, if we're feeling a ton of even existential dread because the state of the world is really bad, or we go on social media and somebody said something mean about us, or we're just getting caught up in this drama of a reality TV show.

These are all things that are telling our brains. It's not safe outside. And so historically, if it's not safe outside, you don't go to sleep because then you'll get eaten by the saber tooth tiger.

Right. So all of these things are to say if your brain is picking up a dangerous signal, something that is telling you that it is not safe out there, whether it's a loud noise or the stress that you experienced right before bed, these are all just data points that your brain is going to say, we're not going to prioritize deep sleep right now.

And I say just deep sleep as generally good sleep, not necessarily non-REM burst REM, but we're not going to prioritize good sleep right now because there is something more important that we need to pay attention to.

And I think this really helps to explain why anxiety and stress really detract from the ability to get to sleep and to stay asleep. If cortisol is running high, if our body is basically spitting out this signal, which is it's not safe outside, of course, our brain isn't going to shut down and go unconscious because that would be historically a major liability for our survival.

It's really useful to look at this in the context of our evolution and development, especially because sleep is one of the most preserved physiologic processes over time.

So on the one hand, it's critically important, and on the other hand, it's important to kind of regain that consciousness out of sleep if there is a threat.

So I really like the way that you're framing that. You know, we talked about sound and that monotonous sound that can kind of mask variabilities in the room or from outside the window is really key.

I wonder if you can also speak on air quality or air pollution as a factor that can and that can affect sleep. I mean, this is stuff that I don't think almost anyone really knows about yet, even though the research has shown that lower quality air in our bedrooms is linked to lower quality sleep, and it's really outstanding when you think about, you know, why is it that air pollution would actually decrease our quality of sleep?

Well, one of the key pathways that seems to be involved is inflammation. And that's a whole world in and of itself. But something that was which just incredible when I learned about it, is this dynamic interplay between inflammation, basically activation of the immune system and sleep.

These two things seem to work hand-in-hand. If you get good sleep, your immune system stays balanced. If your immune system is out of balance, you don't get good sleep.

Air Quality, Inflammation, and Bedroom Pollutants

And so even small perturbations in your state of immune function can actually detract from the quality of your sleep. And, you know, to go back historically, I was fascinated to read about this.

Over the last hundred years, researchers have just been asking why is it that people get sleepy and they tried to figure out why is it that, you know, people get sleepy over the course of the day and so they use all these animal studies which often make sense as the case, and they started looking for other molecules involved that kind of make dogs sleepy and they use a bunch of different animals.

But dogs in particular were looked at and what they found is was actually an immune molecule that led to dogs getting sleepy. And so this led to this understanding that it's actually in part a low level of inflammation that helps to trigger the brain to get sleepy.

Now, why would that make sense? You know, if you think about this again, we're going to go back to this evolutionary model. Inflammation is telling your body and your brain.

You know, that there is something that needs to be repaired. It's telling you you need to divert your energy in your body towards healing something. We all have a sense of this because when we get sick, you come down with the flu or COVID or really any sort of significant infection.

We tend not to want to go out and socialize. This has been historically studied over the course of the last decades, and you see that people who get sick exhibit what's called a sickness behavior, meaning they want to isolate themselves.

They don't feel so socially involved. They actually might feel depressed. Inflammation in the body and in the brain is telling them to change their behavior.

Why does that make sense? Because it's basically telling them, you know, we need to focus our energy on removing this pathogen. It turns out when the immune system is highly activated, it can actually use up around 50% of all the energy in your body, just basically working on the immune system.

So coming back to this idea here, inflammation in the body may actually tell the brain, you know, it's time to go to sleep at a low level. But when that goes too high, if we have too much inflammation, which may be the case, if we're exposed to air pollution, it can have the opposite effect and actually take the brain out of good sleep patterns, because we know that inflammation influences a number of different systems within the brain.

And we're now learning that inflammation may actually damage certain aspects of what's called the lymphatic system, the drainage that comes out of our brains, that clears out waste, that builds up during the day.

So that was kind of a long tangent. But the core idea of all of this is we do want to be thinking about not just are we getting, you know, enough air in our bedrooms.

Obviously we need some oxygen, but what is the quality of that air? That's coming into our rooms? So there's kind of a double bonus here if you get some sort of an air purifier that also has some background noise associated with it, then not only are you cleaning the air, but you're also providing some of that white noise, which is kind of a great way to solve for both of those issues at the same time.

One other tip I'll just put forth here. Many people are not aware that they're kind of poisoning their air, using things that are seen as somehow healthy or otherwise.

A good plan for your wellness. The best examples here would be air, fragrances, those things that you spray out of the Febreeze cans and all these other aerosols.

Those are concentrated sources of air pollution, other ones scented candles. Scented candles smell nice. What you're actually smelling is toxic air pollution.

And the last one I'll just bring up here is incense. You know, I have been historically in places where people like to use incense. It's a nice thing.

Many people use it as part of spiritual and religious ceremonies. Incense is an incredibly large contributor to indoor air pollution. So if you are going to use incense, don't use it in your bedroom.

And if you do decide you're going to use it in your bedroom, make sure that you're ventilating that room so it doesn't linger and create high levels of air pollution that may compromise your sleep quality.

That's such good advice, and I think a lot of people may think that those types of smells, that smell conditioning is promoting sleep, but especially if it's in place for the whole night, the whole eight hour period where you're kind of exposed and vulnerable in those conditions.

And one thing that I like to beat my drum about is nasal breathing versus mouth breathing. Nasal breathing is the way to go. It's hands down the best way to breathe.

But if you're exposed to some kind of particles that are irritating your nasal mucosa, you can get swelling and mucus production that make it very difficult to breathe.

And I know that's a big deal for people who are having breathing symptoms during sleep or even trying to acclimate to something like CPAP therapy with a nasal mask.

Now, I wonder if you can help the audience to kind of have a direction where to go to look at air purifiers or ways that they might condition the air in their rooms to be more pollution free.

Yeah. I mean, the first thing to understand is that the majority of the pollution that can come into your bedroom may be from outside the bedroom if you have if you live in a place with high levels of air pollution.

So if you have a wildfire going on outside, don't open your windows. Right. These are basic things. But most people and most of the time are going to generate the majority of the air pollution in their bedroom by basically the things that they have in their bedroom.

And so I think the key here is don't kind of put all of these things in your room. And I am starting to become not the most popular person because I've been saying some of these things, but just going down the list here.

So aerosols and air fresheners are kind of the worst. You don't want to be using these things. Everything from the little dangly Christmas tree that goes in the back of the rearview mirror to the wick candles that kind of just flowed out.

You ever see those things that you pop up and then over time they just kind of dissolve into the air and they put out the nice apple cinnamon. You're literally just creating air pollution there, so don't do those things.

Scented candles, I don't think are a good idea most of the time. If you do choose to use candles, beeswax may be a better option and don't get the scent inversions, incense we already mentioned.

So basically don't bring in the air pollutants. Now beyond that, if you want to increase the quality of the air and actually remove some of that, there's really two things you can get.

One is if you have an h-back or if you just basically have an air conditioning system, you want to make sure that that is on with the fan on circulate and you want to make sure that you're using a high quality, high Merv Air Filtration Unit in your house, which means that you're pulling the air through a high quality filter and in doing so, removing a lot of the particulate matter that we're worried about here.

And then the other thing would be, as it relates to an air purifier, you really want to look at the clean air delivery rate. And so there's a number of different ways you can do this.

But the goal is kind of to calculate the size of the air purifier that you need based on the size of the room. You don't want a really small one and a big one might be a little bit overkill.

Air Purifier Science is really not all that complicated. You're basically pulling air through a filter, and that's the key. So you need you need a device that has a fan that pulls air through a filter and does it in an efficient way.

But what I will say here, which is where I think marketing has gotten the better of many people, all of these things that you see, these special air purifiers do like ionizing technology and electrostatic technology.

These things tend to actually generate more air pollution, specifically in the form of ozone. So these ionizing air purifiers are actually creating air pollution.

That's why I would say the core of all of this is you basically just need something with a high HEPA. So perhaps a 13 or so would be good that pulls the air through this filter delivers enough clean air that covers the course of your bedroom and then you're replacing the filters between six months in a year.

Not super complicated, but there's two parts of that equation, right? The first part is don't generate excess pollutants. And the second part is how do you clean them out so that you're breathing in the cleanest air possible?

Those are really actionable steps. So I heard a HEPA filtration of 13 or above finding a filtration system that matches or even slightly exceeds the square foot area of the bedroom and not bringing pollutions in either from candles or scents or even, I think on your hair and skin that can be washed away.

These are these are other. I know. And I guess I should just mention here for completeness sake, you know, if you are a smoker or you live with somebody who is a smoker, that is always going to be the lowest hanging fruit.

That is by far going to be the most prominent source of air pollution in your bedroom. So highly, highly recommend that if that's something that you engage in, whether it's smoking cigarets or vape pens or anything else, that's something to work with the health practitioner around because that's just direct air pollution that's going to hang around.

But you're totally correct, Dr. Wells, as far as you know, some of these other things that people are not aware of, the cosmetics, the things we put into our hair, I think in the years to come, we are going to have an incredible amount of science that tells us that all of those sense that, you know, we thought, oh, well, it's the leave-in hair shampoo that it smells really good.

That really what we're doing here is creating a ongoing source of pollution that we're inhaling. So I'm totally in agreement with you. I mean, if we really wanted to go to the place where I think we're going to go with saying the more that you smell fragrances, probably the higher the chances are that you're polluting your bedroom.

And I will say, you know, there's this question about essential oil diffusers. And honestly, the majority of these

products that you're going to buy are going to be in part made around petroleum or other synthetic molecules, even if it has some lavender, even if it has some citrus in it.

When you do analysis of what happens when you create that essential oil diffusion, basically put out these tiny particles into your atmosphere, it is air pollution.

So, you know, I think there's a difference between saying you're going to have some lavender in your bedroom that's just going to smell good. And the actual lavender plant versus a lavender scented product that is actually made out of petroleum and has a whole bunch of other synthetic molecules.

Bottom line here, though, is and again, I know these are things that I'm going to say that are going to make me less than popular. You really don't want to be bringing a ton of additional scents into your bedroom, and especially you don't want to do it to try to cover up other things.

This is where people get in real trouble. They say, oh, well, you know, I have stinky teenagers. I'm just going to spray the house down and Febreeze. That is not a good plan.

You're just making things worse. You know, I I'll tell you what I say to folks that is that anything that you smell is a molecule. It's a particulate matter.

And I like to use the example of a toot or a fart because there's a little rhyme there. So if someone tweets in your presence and you smell it, you've just smelled particles, i.e.

particles of fart. And the idea is that you're kind of bringing that into your body, right? You're bringing this synthetic substance into your body, and now your body has to deal with it.

And often the way that it does so is to elicit an inflammatory response. Yeah, that's absolutely right. And in the brain, that might be actually a much bigger deal than we thought.

So a lot of my work now is focused on, you know, what is the role of air pollution and neurocognitive outcomes, not just higher risk for Alzheimer's. But The Lancet did declare recently that air pollution was a top risk factor for Alzheimer's disease, but also for depression, also for worse decision making, more aggressive behavior.

And why this is super relevant to sleep, I think, is that during the course of the day, you know, we make all these decisions, we decide what food we're going to eat.

Hopefully you're not eating while you're asleep. That would be really a scary thing. But you're deciding if you're going to exercise. You know, you're deciding if you're going to interact with other people, spend time on your phone.

But if you're getting that, let's say 8 hours of sleep a night, which hopefully you are, that is time where you're unconscious and you have to say, well, what's happening to my health in that eight hour window?

And you think, well, not much, right? Because I'm just sitting there in the bedroom. But if you're just constantly inhaling what's happening around you, you may actually be exposing yourself to a really concentrated form of an inflammatory stimuli that over time, over the years could actually be incredibly concerning.

And, you know, to the point that you have spent so much time educating people around sleep, I think one of the reasons that sleep is always so interesting to me is you have basically set aside a window of roughly one third of your hours of the day where you're going to be either getting a quality kind of event that is improving health, or in many cases you could be having a low quality event that is detracting from your health and it's unavoidable.

You might exercise some days, you might eat healthy food some days, but you have to sleep most, if not every day. And so the quality of what happens in that window, whether it's the actual quality of the sleep, the air that we're breathing, these are all things that have a huge compounding effect on our health, which is why I think it's

basically the most important thing a person can do, especially for their brain health, to improve the quality of their sleep.

You know, I love it that you put it that way. And for sure, sleep is a highly vulnerable period of time because of your unconscious. I see sort of a downward spiral here because what you're describing interferes with sleep, interfering with sleep.

This can produce sleep deprivation, which is an inflammatory condition all of its own. That increases risk for things like dementia and cardiovascular disease and metabolic disease.

So really, things can start falling apart really quickly. You know, and they do. I mean, I think this is the most fascinating thing for me. People want to talk about, oh, you needed to consume a mediterranean diet.

You need to exercise all these things that we know are so important to longevity and to health. But if you really want to think about it, you could eat the perfect meals three times a day for a week and you might feel a bit better.

I mean, if you were eating junk food every day, you'd probably feel a little better. You could exercise every day for a week after, never exercising before, and you might feel a little bit better.

But if you skip sleep one night, you're going to feel miserable. And that's just across the board, meaning that it seems to be the most potent short term intervention or deficit that a person can have for their health.

And that's why I think that really sleep has to be the first thing we go to. Coming back to this question about sleep habits and let's just expand that into habits in general.

You know, as doctors, we're always telling people all the things that they need to do for better health. Take this, don't take that, exercise more. Eat this.

Not that, but the reality of it is that people do the things that feel good more than they do, the things that don't feel good. And that means there's a reason why people keep eating junk food and going to the drive thru.

It's not because, you know, it just happened to be there and that's part of it, but it also tastes good and people eat food that tastes good more than they're going to go and just eat the head of kale or a piece of broccoli.

Those things don't intrinsically taste good. And what I really love about sleep and the reason it's always the number one recommendation I make to people to improve their quality of sleep for brain health is because, unlike all those other things, you feel immediately better after one night of good sleep.

It's not something people argue. Nobody gets up after a great night of sleep and says, Wow, what a waste of time. You know, I wish that I would have skipped sleep last night so I could watch YouTube videos.

Now, with exercise, sometimes people finish exercising, say, Oh, that was not great. Or eating a really healthy meal as opposed to junk food. They might not say That was amazing, still important, still great.

I'm always going to recommend it. But why I love this topic so much is sleep is the thing that a person can do tonight where they will immediately feel and think better and it's enjoyable.

It isn't something that's going to be painful. You will literally almost certainly feel better tomorrow if you get better sleep tonight. I think it's one of the greatest natural pleasures that we have access to.

And I can't think of anybody who kind of doesn't realize the value of a good night's sleep. It's so remarkable that the following day they'll actually make a point of telling people, and when I see folks who are coming to me for evaluation of a sleep disorder, it's not uncommon that they'll tell me.

I remember the last good night of sleep I got. It was 15 years ago. And I'm like, Oh, geez, for 15 years you've been

suffering. Listen, it's been so great to talk to you.

And I think that it's really fun to see someone who is as passionate about the benefits of sleep as I am. So I want to say thank you for bringing your expertize.

We talked about air pollution, sound pollution, forming habits and keeping inflammation down in the brain by acquiring healthy sleep on a regular basis.

Thank you so much, Dr. Perlmutter. And if people want to know more about you or even reach out to see how you teach and educate, where can they find you?

Well, I came up with a super original name for my website. It's AustinPerlmutter.com, and so that's a good place to go. The other thing I'll say is I put out a free newsletter where I talk about sleep a lot and other kind of brain specific strategies.

So that's a great place to interact with me. Fantastic. Thank you so much for your expertize today. Thank you. Dr. Wells.