



Episode 224: Easy Sleep Hack By Stimulating Vagus Nerve.

October 12, 2022

David Roberts:

Hey, everybody. It's David Roberts, and you're listening to the Marlabs podcast. And today, I just grabbed Dr. John Gildea to really quickly talk to us about a little sleep hack he's stumbled on using a TENS unit that stimulates the vagal nerve in your left ear. And we had a science meeting yesterday, and he was talking about different ways that he has been looking into helping folks. Well, he has had COVID, and he has a little bit of long COVID. And so, ways he's been looking at him helping himself to improve that. And so, John, first of all, have you known about this for a long time? And just walk us through a bit of how it works and what you've seen in your body.

John Gildea:

Yeah. So, I think everybody has a good framework for the subject, and that is that meditation and being able to calm down and not get excited is generally good for you. And then, the opposite would be under extreme stress, if it's prolonged, is bad for you. And so, that's the general background for the topic. And one of the issues that happens often with stress, especially say mourning the loss of someone or being around someone who has chronic disease. So, your sympathetic system can get in overdrive. And there's actually lots of ways that you can get into this stress response where you're locked into sympathetic overdrive. So, which is why anything that you can do to be able to relax, and meditation is one of them. So, that's the framework of it. So, what a lot of people don't know is that there is a sympathetic nerves and parasympathetic nerves. So, the sympathetic nervous system is fight or flight. So, that's where you're running away from a bear.

David Roberts:

Yeah. Don't want to get eaten.

John Gildea:

Yeah. So, that, in the short term, does all these nice things. It diverts all of your blood flow to your muscles and your brain, and turns off your immune system. So, you're turning basically on short term preservation as you're sacrificing long term. I'm not worried about getting infection at that point. And then, the opposite is when you have your parasympathetic nervous system stimulated, it's rest and digest. And so, it diverts your bloodstream to your gut in order to digest, and then it slows down basically brain weight activity into a relaxed state. And so, those are the two sides there. And everyone knows that if you don't get enough sleep that you basically feel pretty rotten. Also, maybe people don't know this particular piece of information, but if you don't sleep for a long period of time, there's a number of diseases where people can't fall asleep.

John Gildea:

The reason they die is sepsis.

David Roberts:

Wow.

John Gildea:

You have microbes that live inside you basically everywhere. And if you turn off your immune system for long enough, basically infections take over, and that's what kills you. So, those are the obvious extremes of that. But if you just want to turn down your sympathetic system a little bit and want to jazz up your

parasympathetic a little bit, the vagus nerve wanders all over your body. One of the people that I've been listening to says like, "Vagus nerves, the same root word as vagabond where we're wandering all over the place."

David Roberts:

Oh, that's cool.

John Gildea:

So, this vagus nerve is wandering everywhere, and one place where it's accessible is in the middle of your ear. And so, you don't want to mess around with your right ear because it regulates some heart rate and things that you don't want to mess around with.

John Gildea:

So, it's in your left ear and in the center of your ear, it's pure vagus. So, you can get a TENS unit, which is basically a nerve stimulating unit that people use for muscle stimulation, like for pain management for the back and things like that. And you can get a ear clip that will go onto these TENS units and you can clip it in the middle of your ear. And the important thing there is to get the pulse width of the stimulation correct and the frequency correct. So, pulse width is in between 150 and 200 microseconds, and then the pulse frequency is in between 15 and 30 hertz. And so, you get a TENS unit, you want to make sure it has the ability to be in that range. And then also, be able to adjust the intensity, too, because if it's too high, it actually hurts in your ear. You want it down to where you can barely feel it is enough to stimulate the nerve.

David Roberts:

So, what have you seen when you have done this? So, you have a wearable. You have a Fitbit. Have you noticed a difference?

John Gildea:

Yes. The two that I struggle with, I think we had mentioned it before, is basically if you're hyperactive like that, you tend to have more pain, as well. So, I think my pain threshold is changed somewhat. So, I have a knee and shoulder and back that's been in persistent pain that I can tell is getting better. And the other one is heart rate variability. Mine has changed somewhat. That's a common problem with long COVID is elevated heart rate, and mine has been a lot more steady and lower. And then, I would say the consistency of my deep sleep has improved.

David Roberts:

What numbers have you seen as far as improvement in your heart rate? From what to what?

John Gildea:

Yeah.

David Roberts:

[inaudible 00:07:48].

John Gildea:

I mean, my heart rate is a little high. So, it's a little embarrassing to talk about how high it is.

David Roberts:

What percentage? You don't have to-

John Gildea:

But that's a characteristic of long COVID. So, yeah, it's come down about, on average, eight to 10%-

David Roberts:

Beats.

John Gildea:

...beats per minute.

David Roberts:

Okay. Eight to 10 beats per minute. Okay.

John Gildea:

Yeah, A little over 10% probably.

David Roberts:

A little over 10%. And then, what about your deep sleep?

John Gildea:

Yeah. So, I would say that the most obvious thing for me is, I think, two or three maybe nights a week, I'll have a, I don't know what you call them, polysomnography read out where you have the amount of deep sleep, where I almost have no deep sleep. And it's been pretty consistent for the last year and a half or so. And so, I've been trying lots of things to try and get that more consistent. And I've noticed in the last two weeks of doing this that my deep sleep's been there's no days where I have zero or in the minutes range. And so, it's been more consistent, deep sleep. And then also, in the middle of there, a number of times where it's in the optimal percentage.

David Roberts:

That's great.

John Gildea:

18 to 20% of sleep.

David Roberts:

So, have you noticed it? Your wake up or your days, are you more fresh?

John Gildea:

Oh yeah. Yeah, for sure.

David Roberts:

That's great.

John Gildea:

And I don't know if this is anything. But I'm notorious for having a grumbly stomach, which I'm not sure what that is. But it makes sense that you would digest things better.

David Roberts:

Yeah.

John Gildea:

And so, much less of my family making fun of my stomach grumbling after a meal.

David Roberts:

And so, you keep it on all night?

John Gildea:

The TENS unit?

David Roberts:

Yeah.

John Gildea:

I've been trying to do it three times a day.

David Roberts:

Oh, so you do it throughout the day?

John Gildea:

Yeah. And you're not supposed to do it more than three times a day, 15 to 20 minutes each session.

David Roberts:

Is your last session right before bed?

John Gildea:

Yeah. I've been trying to do right before bed. And what's strange is sometimes it feels like it might wake me up. And I know that's something that people have noticed is that if you're having problems with fatigue, sometimes doing the TENS unit actually makes you more alert. So, yeah. I would do it during the day at first-

David Roberts:

Okay.

John Gildea:

...to see if it makes you more alert during the day. I try to do it near meals.

David Roberts:

For the digestion.

John Gildea:

Yeah. Yeah, I kind of switch into the digest. But yeah, it's a very interesting subject, and there's lots of other modalities. Maybe we'll talk about that in the future.

David Roberts:

All right. Well, John, thank you for popping on real quick to share these sleep tidbits. And you've been listening to the Marlabs podcast. Thanks so much for your time, and we'll be back next week with another episode.

John Gildea:

Awesomeness.