8 Hours Of Sleep And Still Not Rested? Transcript

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Introduction and ResMedu2019s Origins

Welcome back to the Sleep Deep Summit. New Approaches At Beating Sleep Apnea And Insomnia. I'm your host, Dr. Audrey Wells. And our next speaker is the fantastic Carlos Nunez, MD.

He is the chief medical officer at ResMed, which you may have heard of, if you know anything about sleep apnea. And he's also the chair of the Health Division Board at the Consumer Technology Association.

Welcome, Dr. Nunez. Thank you so much for having me. You know, it's a great pleasure to speak to you. I have been so familiar with ResMed products for the entirety of my sleep medicine career, and I think that anybody who is watching also has some familiarity with ResMed as one of the Coke and Pepsi players in this hip hop world.

Can you tell us a little bit about the history of the company? Sure. Yeah. Almost 35 years ago, the founder of the company was working for a large medical technology company at the time, doing sort of business development, was going around the world, going to different labs at medical schools to find new inventions that might be good products to bring to market.

And he met a physician, a doctor down in Australia named Colin Sullivan, who thinks he had created a cure for what was called snoring sickness at the time.

And he had used it the equivalent of the type of air pump used to pump bubbles into a Jacuzzi or a hot tub and had a hose with a custom molded, hard plastic mask custom for each patient in the trials he was running, it had to be glued on their face every day.

And the founder of the company is looking at this big machine that sounds like a 747, this hard plastic mask. And they bring a patient and his skin is broken down over the bridge of his nose.

And he's like, there's nothing here. There's nothing here. But he asked the patient, Why are you doing it? And he says, Oh, that's easy, because it saved my life.

It saved my marriage, and it saved my job. And he went on to describe the fact that he would fall asleep at every stop sign or that he could never finish a television program or a movie, and that he hadn't realized until he slept with this thing the first night, that he hadn't dreamt in 15 years, had a dream.

So he said, You know what? We can make that smaller, quieter, more comfortable. There might be something here. It's all the scientific data and everything couldn't sway him, but it was a patient story telling a real life story that this changed my life, that the spark of innovation happened.

And that's how it happens for a lot of great companies and products. You know, they say necessity is the mother of invention or whatever. But here he heard a very compelling story that that's autism agitation and launched this company.

And now, you know, 33, almost 34 years later, you know, it's a almost $30 billion company in the world, leader in sleep, respiratory care and digital health.

It's an amazing story. You know, that's incredible and really inspiring, I think, for the viewers to see and hear about. And I can tell you that in my career, it's not rare for people to wake up after their first experience with CPAP therapy and have the same kind of report I dreamed I the time passed so quickly I feel alive.

I didn't, you know, it was amazing. And then there's the flip side, you know, where people are like, I can't use that mask. I don't even want to go get a sleep evaluation if it means that I'm going to be prescribed CPAP and there's a

lot of reluctance for people to get tested and then to go forward step by step with getting fully treated and knowing that you've seen this pattern so much.

I wonder, what do you have to say to the folks who feel reluctant. Know the back to the founder of our company? If you go to our headquarters building in California, we're in Southern California, in San Diego, there's a cutout of him in glass.

And it just says next to it, our biggest competitor is his ignorance. You know, it's that too many people, including physicians, are unaware of the advances that have been made in sleep, medicine in general.

And I think more importantly, how critical it is for us to get good sleep for whatever reason it may. Maybe you don't have sleep apnea, maybe you have something else.

But if someone is not sleeping well, they have to ask the doctor. And most people because they don't.

Overcoming CPAP Reluctance

Our doctors, especially our primary care physicians, or those who work as a proxy for primary care, like, for example, an OB-GYN. For many women need to be asking these questions because this is not common Sullivan's CPAP anymore.

It's not your grandpa CPAP. You know, when you see a pap device on TV or in a movie, it's always the butt of a joke. It's the biggest, most complicated mask in the biggest, most ugly device.

And those things haven't been around for, you know, a decade or more. So I would just say that we have to work on the perceptions first around sleep and all the various sleep disorders, including sleep apnea.

Hey, I'm exhibit one. I'm a physician. I should know better. I have been a horrible snorer my entire life. My wife has told me for years that it sounded like I was choking while I slept.

I was always tired and I just felt like, you know what? I'm a doctor. Long shifts. I don't need sleep. This is just the way I live and whatever. And of course, by the time I get to resume it pretty late in my career, I'm already a man in my late forties.

By that point, when I joined ResMed, I took a device home and I said, You know, I need to try it to see what the patients go through, quote unquote. And it changed my life.

So, you know, I obviously got diagnosed as having sleep apnea. Now, I will not sleep a night without it. And it's, you know, the only therapy that treats two patients at the same time, because my wife has never slept better in all the years we've been married.

So anyway, that's not to to focus too much on me, but it's another great anecdote that, yes, whatever the issue, we need to sleep better. We ignore it to our own peril and it's killing us slowly and we don't realize it.

Yeah. And you know, I want to first say I'm always a fan of the wife sleeping better. And often times I'll start asking the wife some questions because sleep apnea in women can look different than sleep apnea in men.

And as a person who is now capturing the beginning of my own sleep apnea, when I've been trialing some of these home tests, you know, it's interesting to think about how that progresses because, you know, I'm approaching 50 years old and I'm going to have worsening of that over time.

You know, I think of people who are when they think about CPAP, they do this motion right that the mask and their kind of cover ring their whole face.

But truly, there are many options available for masks. One of the things that's been in the news lately is magnets

with masks. And I wonder if you can kind of highlight what that controversy is all about and what people should do if they have a ResMed mask with magnets.

Sure. So the recent controversy is that ResMed and other manufacturers in the last several months have announced that we've increased the the level of caution in the way we label our masks.

Because for those people who have things like pacemakers or implanted shunts, they know that magnets can affect those implantable medical devices. So we've strengthened the language in the labeling to make sure people are aware that magnets and the masks you need to keep them away.

Fortunately, most people who have these types of implants know because there are magnets everywhere. It's not just in. They medical device, like a mask for a ventilator or a CPAP device.

You know, they're magnets in our the phones and the iPads and the Kindles that we bring to bed with us. You know, that's how those magical cases snap on, you know, those magnets that stick on or the magnets that help them stick to the Chargers, same sort of thing.

So wherever there are magnets in our world, someone who has an implant like that knows to be careful. And so there are brands of resonant mass that have magnets that make them easy to connect, especially older patients who might have arthritis in their hands, find it easier to use the magnets in a snap or in the dark if people are taking the mask off to, you know, to go up to get a drink of water, use the restroom and put it back on.

It's easier to manage it in the dark, but those masks are also available with plastic clips as well. So really what happens is your provider, your doctor or the dummy that provides you with your CPAP, your CPAP equipment or your mask will probably already know that you have one of those implants and will steer you away from a magnetic mask and put you on one that uses clips.

Thinking about the variety of masks that you mentioned, this this motion, the mask I sleep with is not a mask. I sleep with something that you probably are familiar with.

Mask Magnets and Fit Options

Nasal pillows, which are simple, like the little prongs that you might see people breathing oxygen with just a little bit more bulk to them so that they seal against the nostrils.

This requires no magnets or no clips. It's just the little pillows and a small strap that goes over my head. And that's fortunately for me, I'm able to use the nasal pillows and it works great.

Yeah, I and thanks for that tip because I think a lot of people, when they think of a mask, you know, it is that big thing that goes over the nose and the mouth.

I commend you for a nasal mask. I'm a big fan of nasal breathing and I will beat my drum until the end of my career. And you know, just with the mask magnets, some people are saying it's a recall, which is a little bit triggering because of all of the recall language used in the sleep apnea world since 2021.

But truly, it's just a caution with the mask magnets. Would you agree with that? Yeah, it's the technical term in the United States. Every regulatory agency in every country might call it slightly differently.

In the United States, it's a field action. It's just meaning that something is happening that is changing this product. And in this case, it's the label is changing.

It's just strengthening as of strengthening the language around the warnings regarding magnets and the susceptible types of medical implants. And so it's unfortunate that sometimes in the press it gets labeled the wrong way or mischaracterized.

But yes, no one is going out and taking all the masks off the market. It's just increasing the warning and making sure patients who do have those implants realized they do have a choice.

They can get a magnet mask where they can get one of the plastic clips. Yeah, yeah, that's great. And I want to also address the idea of of reluctance in ways we can communicate with patients better about the importance of getting a sleep evaluation.

One way that I like to frame sleep apnea is that it's a breathing problem. You have interrupted breathing. You have drops in your blood oxygen level, your brain function gets interrupted, you wake from sleep.

And if you were experiencing that during the day, you would not tolerate it and people would end up in the emergency room. But at night, people, you know, kind of tell themselves a bedtime story that it's okay, no problem.

But it's it's really detrimental to health. So let's talk about it. How does sleep apnea ruin your health one night at a time? It's a great question. And, you know, I, I get to I tend to be a little scarier than you are in the way I describe it.

And I think it sometimes has to be that way. You know, there's a comedian named Joe Koy who tells a great story about how his mother diagnosed sleep apnea at the foot of his bed with a camcorder.

And when he saw that, he was mad at her. But then he saw the tape and he was horrified. And that's why it's so easy for us to deny this because you're asleep.

You kind of don't really notice unless you pay attention to all of the symptoms. And even sometimes people report being asymptomatic, but you don't realize the effect that it's having.

But yes, if you imagine someone with mild sleep apnea is suffocating somewhere between five and 15 times an hour. Right. So if someone every few minutes choked you to the point where put a pillow over your you know, to the point where you couldn't breathe your blood, oxygen level drops, your brain believes you're being suffocated, freaks out, sends an adrenaline rush through your entire body, wakes you up just enough to take a breath and then you kind of settle back into an uneasy sleep until a few minutes later, or in some cases a few seconds later, it happens all over again.

And for someone who suffers from mild sleep apnea, I mean, that that can be 15 times an hour, every hour you sleep. But many people, myself included, have no moderate or even severe sleep apnea.

So you are literally suffocating. 2030. I have seen people with an AA stands for apnea Hypoxia Index. It's the term we use to measure how many times you either stop breathing completely or have a breath.

It's so ineffective it doesn't bring any oxygen into your lungs. Those numbers can get up into the sixties, eighties, even higher. That's per hour. So that means 80 times an hour.

That's more than once a minute. You are suffocating. It is it's a it's an insult to the body that, like you said, you would not tolerate if you weren't completely asleep.

How Sleep Apnea Harms Health

And if you think about it, you never get a restful night's sleep. Your sleep is fragmented. You never consolidate your memories. You don't fully rest both the mind and the body and the evidence that we see that shows the direct physical insult to the body, like the inability to fully clear certain proteins from the cerebral spinal fluid every night, the same proteins that show up in great numbers in people with dementia, especially Alzheimer's dementia.

So we are seeing the beginnings of the evidence that poor sleep may lead to much increased risk for things like dementia and Alzheimer's. Then you look at the more long the one data to date, slightly more long term effects.

You are waking up and you haven't slept well. You are a danger to yourself and others. Every time you get behind

the wheel of an automobile or another piece of heavy equipment, you know, imagine if you are a physician who's never slept a good night in their life and is making life and death decisions.

You know, at the end of a long shift. So sleep is critical. It's not just about resting your body or, you know, having a dream or whatever. You are literally cleaning your brain fluid.

You are resting your mind in your body. You are repairing your muscles. You are allowing your body to recover from a full day's worth of activities. And without good, healthy sleep, you are setting yourself up for a problem immediately.

The problem today, tomorrow, ten years from now, 30 years from now. So I know I get very passionate about this, but it's not just sleep apnea. We sleep poorly as a society in general, and people are afraid to ask because they're afraid.

Yes, I'm going to have to have some crazy study or a sleep in the hospital wires everywhere. But what if I end up with that big mask? Well, you know what?

I am living proof that you don't have to go through a big, crazy sleep study. There are home sleep tests. During the pandemic, doctors were prescribing CPAP without a sleep test just based on history and physical.

Because if you have sleep apnea, it's pretty easy for a trained physician to really be able to tell just from the things you describe and some basic measurements in history and physical exam. So sorry.

Yes, it's a really big deal. One last thing about sleep apnea is a great study. I'm a little biased because president was involved in some of the work, but we looked at the largest claims database on the planet millions and millions of patients, and we were able to isolate a huge cohort of patients who were diagnosed with sleep apnea.

And we followed half who stuck to their therapy and half who did not do therapy, did not get CPAP. That half that didn't get CPAP had a 39% higher mortality in the first year than the group that took their CPAP therapy.

Now, this is real world evidence. It wasn't a randomized controlled trial, but the thing about real world evidence, it's real and it is evidence and it has a different type of meaning when you are looking at the, you know, the scientific evidence and how it's used.

But you can't ignore the fact that this is a real important problem and it's associated with so many other medical conditions that it is it has to be a part of everything that's evaluated when you go see your doctor, whether you're healthy or dealing with chronic illnesses.

I totally agree with everything you just said, you know, high five for really bringing that home for people. You know, people tell me sometimes I don't think it's that big of a deal.

I'm not going to die, am I? And, you know, it's not a fair question because, you know, when you look at people who die from sleep apnea, it's not common.

But there's kind of this slow disease progression toward death, that sleep apnea, definitely accelerates and complicates. When you think about Alzheimer's disease, which you mentioned, heart disease, the number one killer in the United States, metabolic disease such as diabetes, even pre-diabetes and obesity.

Sleep apnea is a driver of all of those conditions. They aggravate each other. And so I think it's worthwhile for people to think about how they want to spend the last ten years of their life.

Do they want to have their independence taken away? Do they want to be, you know, thriving and have good memory and good physical condition? When you sleep well, it's like having a vote.

Everything and all night that defines that last decade of your life. And so, you know, people on the fence who may

be watching this, I would really just advise that you go get tested, you're going to have information that you can use to make an informed decision, but sticking your head in the sand is not going to work.

So no. Thank you so much. Yeah, no. Thank you for the vote of confidence, because you're right, it is so rare for people to speak out like this. You know?

And part of it is maybe there has to be a stigmatization of this. There are. And I was involved in the study, but it's it's it's actually an amazing study was published a few years ago where we showed nearly a billion people have sleep apnea.

It's one of the most prevalent conditions in the human species. So it's one out of every eight people have this. This is not some rare disease you can sort of ignore whatever.

It's a part of the human condition. So we need to look at it as, you know, how can you live your best life if you happen to have, you know, flat feet, you might get arts support so you can go run a marathon.

It didn't stop you from running a marathon. It doesn't mean you're you know, you're helping yourself because you were born with a certain difference. You know, your feet are flatter than mine.

You've got arch support. Some people are born where either their anatomy or the soft tissue in their throat or their palate makes it so that when they sleep, their airway collapses too much.

They're obviously other reasons. I'm oversimplifying, but if you think of it as, okay, I have this, how do I what's what's the splint, what's the orthotics?

What's the thing? You know, if it was something else that had to do with athletic performance or we would strap it on, bolted on, you know, plug it in and use it every single day religiously.

But, you know, it has the stigma. So I'll throw this out there. There's a small study that was just conducted out of the Mayo Clinic to see if CPAP could be used by amateur pilots to fly their planes a little bit higher instead of having to carry oxygen with them.

So they're using positive airway pressure therapy so they can fly their planes higher, save gas. They're not doing it for sleep apnea, but what they're using is what CPAP is.

It's a mode of ventilation. Now, I worked as an ICU doctor. I didn't activate a single patient that didn't pass a CPAP trial. It's a mode of ventilation that's used on the most expensive high tech ICU ventilators and these little CPAP machines that these pilots are taking on their planes.

You know, so it's a way not just to deal with this condition. It's a way to help humans breathe their best sleep, their best performing them, their best look at it that way.

And it becomes maybe less of a stigma. I can't be the best husband, father, CMO that I can be if I'm not sleeping well. And so just like I would go exercise because I want to be more fit, or I would watch what I eat because I want to be more healthy and make healthy choices.

I want to make sure my sleep allows me to perform. The best part of it is that maybe it's a pillow. Maybe it's this for me. It's helping me breathe better while I sleep.

So important, so incredibly important. I mean, eat, sleep, move. That's all we have to do for health. You know, we sort of touched on obesity as one of the things that is a risk factor for sleep apnea.

I want to dispel the myth for everybody that if a person is obese, they always have sleep apnea. That's not true.

Sleep Apnea, Weight Loss, and GLP-1s

The reverse is also not true, meaning people who have have a normal BMI or normal weight can have sleep apnea and certainly should be evaluated with symptoms or concerns.

I'm living proof of that. And I think recently with the GLP one injectable weight loss medications that are so effective coming out, you know, there's there's questions about how far reaching these medications can be.

I'm excited because for people who do have obesity as a contributing factor to their sleep apnea, we may be looking at sleep apnea as an indication for these medicines.

So I want to kind of discuss what sleep apnea has to do with these highly effective anti-obesity medicines and how the future is going to look there. No, that's an excellent question.

And there is a lot of I mean, maybe hype is the wrong word, but there's just a lot of attention right now to how these drugs are affecting other co-morbidities.

So, you know, there was a recent trial that showed some very good cardiovascular effects of this, these drugs and the weight loss that they can drive.

And so there is thinking that because there is such an overlap between obesity and sleep apnea, you are correct. Not everyone who is overweight or obese has sleep apnea.

Not everyone with sleep apnea is overweight or obese. In some parts of the world, like in Europe, we see some countries in Europe where actually age is a stronger risk factor than obesity, where in a country like the U. S., obesity seems to be a little bit stronger of a risk factor maybe than age.

But when you also look at the distribution of when sleep apnea is diagnosed in people, the first bump is in pediatrics. There are pediasure for patients who are obese or overweight, but have an anatomic difference in the way their airway or their nose or whatever is shaped.

And they have trouble breathing when they sleep and they have sleep apnea. But then it happens again. You see the diagnosis ramp up in middle age because that's when more people start to seek attention for chronic conditions and you finally stumble on the doctor or the sleep specialist is like, Hey, we need to treat you for things like sleep apnea to test you.

But you are absolutely right. There is a lot of attention because of this connection between weight and sleep apnea. However, we've got a really interesting historical precedent to look at.

So a couple of decades ago there was a huge rise in the number of bariatric surgery being performed. One, as the procedure started to take hold, but also as different variations of the procedure made it easier to do the surgery and make it a little more tolerable.

And these patients actually lost significant amounts of weight more than you lose on these injectable drugs. And what we saw was that some of them, a good number there, I went down.

These are the folks who may have had both anatomical and metabolic reasons why their sleep apnea was so bad. Not only did they have bad anatomy to begin with, but maybe excess body fat in and around the neck or in the airway can make it even more susceptible to collapse.

So these are the one the patients that you might see have an H II in the fifties, sixties, eighties and their age. I would come down from 80 to 40 or 30 or something, but they still have sleep apnea and so that might have been less severe, but they still maintained treatment.

We saw very, very few patients who underwent bariatric surgery, lost a tremendous amount of weight, and then were cured from their sleep apnea. So we expect we are seeing the same things.

We have large sets of data that we examine. We're doing a lot of epidemiological studies to look at the population of patients who are on GLP one drugs, who are also on therapy for their sleep apnea with a pap device and to see how they behave in the real world.

Again, using real world evidence. And what we're starting to find is actually what we would have suspected, and that is that it looks like losing weight and treating your sleep apnea with pap therapy works better together, and that's nothing new.

You know, these drugs offer a very new and exciting path for someone who has struggled with obesity and struggled with their weight. And that is a very good thing.

And it also means it gives that combination therapy of losing weight and then CPAP that is the most effective for OSA, another avenue for awareness, another avenue for patients to gain better understanding, and for doctors to have that indication, to say, you know what, you've come in to see me because you saw a commercial or you read something on social media about these miracle weight loss drugs.

And, you know, a lot of patients, you know this better than I do. So please correct me if I missed something, but they're reluctant to go to the doctor because they have felt that some I'm assuming, as an obesity specialist, this does not apply to you.

But I'm sure it has applied to me in the past or others where they have felt shame or where they have felt made to feel like, you know, you need to control this.

This is all you. And so now they come out of not hiding per se, but come out of the shadows of medicine where we've forgotten them and say, look, I saw something.

Are these drugs for me? And you know what? They might very well be and it might help them. But you as an obesity specialist would never just treat one thing.

You would say, look, you are living with metabolic disorder, obesity, diabetes, whatever it is. Let's make sure we look at the whole person. Let's treat the whole person.

And you may have hypertension or other cardiovascular disease, you may have diabetes, you may have sleep apnea. You know, it'd be as if I went to the doctor because my eyesight had suddenly gotten much worse and they diagnosed me with diabetic retinopathy and gave me a pair of glasses.

So there you go. Now you can see a little bit better, but didn't treat the diabetes, didn't explain what was happening and all the underlying problems that I had.

And so I think this is a good thing. It's a good thing because obesity, patients that struggle with obesity will have more choices and it will help us reach that desired state.

For patients who suffer from obesity and sleep apnea, the best treatment is to do both lose weight and stay on your CPAP therapy. The two will save your life.

I love it and I'm so glad you brought up the concept of obesity bias. I love it that this is coming up into dialogs and people are more and more aware of it so that they can understand that as clinicians and physicians can get better educated about subtle ways that obesity bias may enter into a clinic visit, we can start to squash that out.

Obesity is an incredibly complex disease. It is not all about willpower. It's not all about calories in, calories out. It is something that needs to be treated with multi-modal treatments.

And so that's great that you were able to underscore that just now. I always worry that when people go through bariatric surgery or on these highly effective GLP one injectable medications, that the weight loss is so exciting.

And they couple that with cure of their sleep apnea. And so they stop using CPAP treatment even before they've been reevaluated. Because I straddle both obesity medicine and sleep medicine and I'm actually trying to promote sleep as a mechanism to not only lose weight, but to maintain that weight loss.

And I worry that when people prematurely stop using their pap therapy in especially in our culture, where sleep is undervalued and sleep deprivation is so rampant, lack of sleep or lack of quality sleep actually contributes to weight regain.

And we've seen this in the bariatric surgery world. Yeah, no, you're absolutely right. And you know, we mentioned those three pillars of good, healthy eating.

So what you eat, how you move and how you sleep. I always say that sleep is the most important, because if you don't sleep well, you make bad choices in the things you eat.

I mean, you've created a hormone imbalance that your body is now starved for energy and you choose the wrong types of food. And so it makes your diet, at least for that day, less healthy.

And if you're not as energetic as you could be, your workout or your exercise or whatever physical activity you may do is not going to be as effective either.

So you're absolutely right. The key to good health is all three. It's not like let me pick and choose that the top two that I like, you have to do all three, but sleep undergirds all of it.

You know, some people will say there's, you know, a fourth or fifth pillar of health. They'll talk about things like mindfulness or recovery. And to me, in some ways, it's extensions of sleep because sleep is the way we rest, both the mind and the body.

If you practice mindfulness, meditation, whatever, however you find your mindfulness is an amazing practice in your resting your mind. You know, when you recover from an athletic, you know, endeavor, that recovery period, sometimes it's active, sometimes it's passive, whatever you're resting, your body will guess what every human, whether they're an athlete or whether they're a yogi or whether they're an Amazon delivery driver, we all have to sleep.

And sleep is the natural evolutionary way that we get both of those things. You're resting your mind and your body. And now we know that the sleep version of those two types of rest also have real physiologic and real physical benefits for the body and end the mind as well.

We know that people who sleep poorly, you know, there's a strong correlation with things like anxiety and depression. And so we see that, you know, the mind and the body are tied together.

And the one pillar of our health that ties the mind and body together is getting that good restful sleep. Definitely.

Sleep, Health, and Closing Remarks

And, you know, when you think about the hunger that people experience, there's physiologic hunger, which is kind of our drive to get energy from food and nutrients.

But there's psychologic hunger and sleep deprivation has a direct effect on both of these concepts. So people who are really struggling with weight loss medications or no medications would benefit from healthy sleep across the board?

Absolutely. No, I couldn't say it better myself. Yeah, we are kindred spirits. Well, you know, it's been such a pleasure to geek out with you on sleep and health.

I think people will get a ton of value from our discussion today. And really, I hope that the underlying message is

the well-supported version of you is the best version of you and it's worth it.

This is such a valuable biological need. Absolutely. No. I mean, we use a catchphrase around ResMed, awaken your best and truly, that's what it is. And it it goes beyond sleep.

We know people want to live their best lives, their healthiest lives, wherever it is they happen to live. You know, they don't people no one wakes up and says, gosh, I hope I wake up in a hospital bed today or gosh, I really hope I get to go to the doctor's office today.

You know, even when we live with our chronic conditions or we live with the goal of optimizing our health, 99.99% of the time, it's somewhere outside the health care system.

And the most effective medicine, the most effective health care that you can do for yourself every single day, get a good night's sleep, try and put good food in your body and move.

Just move. Whatever it is you can do to move. You don't have to be a performance athlete or run a marathon. Just walk is so good. So yeah, I'm I'm a huge believer in this.

And again, I am biased. I believe sleep is the most important. But like I said, I feel like we're kindred spirits in that belief. So that's a really nice thing to find within the medical community.

Definitely. And listen, I love that you're on the cutting edge of research being done around sleep. I the company is really doing great strides in providing education treatments.

And I wonder if you can tell everyone where they can find ResMed. Is it simply ResMed.com? It is yeah ResMed.com. And we do have a podcast that I host if people want to listen to it, and you can find all that on our web page.

And there's great information for patients and things like that. Excellent that fantastic. Dr. Nunez, it's been a pleasure to speak to you today. I certainly hope that you go on to enjoy other talks in the summit, and I hope to talk to you again soon now.

Thank you very much. It's been an honor and my pleasure.