Discover Sauna Therapy Benefits For Balance And Healing Transcript

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Introduction to the Sleep Summit Interview

Welcome to the Parkinson's Solutions Summit. I'm your host, Dr. Kenneth Sharlin And we have a very exciting interview for you today with Dr. William Noah.

He where so many hats in the sleep world. He's the founder and CEO of SleepRes LLC, the medical director of Sleep Centers of Middle Tennessee. He and I were just talking.

They see 17,000 patients a year for sleep evaluations across the middle Tennessee area and their multiple centers. He is an expert. He is a researcher.

He is a pioneer in the area of sleep, medicine and how we can really correct this, this epidemic problem of sleep apnea properly. I in just a few minutes, we've been chatting before I hit record.

He has taught me a tremendous amount. I know you're going to learn a lot. Dr. William Noah Welcome to the Parkinson's Solutions Summit. Well, thank you for having us.

When I say this, I mean, I sort of represent the whole the whole group. So you are at home. You're You described your office there as your research lab with.

And in fact, you personally said, I haven't seen patients for a while because I'm more in the R&D area and educating other clinicians on how to best treat sleep apnea.

With this new emerging technology that you're developing. Tell me a little bit about how you kind of how you got here. Well, I was doing research, looking at ways to increase adherence, as you know.

The problem with CPAP is it that it doesn't work. It works great. it's just hard for people to wear and long term. Probably less than 50% wear it long term. And, over time, they just quit.

So we had just completed a trial that came out in the Journal of Clinical Sleep Medicine in January of 21, and where we got increased usage by considerable amount, like almost 90% at one year.

by interacting with some more and encouraging more and troubleshooting and, you know, just doing good care over what, the standard care was here in the US.

And so I sat out one day. I wondered if there's something I can do to actually change the machines or the mask, because in general, doctors don't really know a lot about it.

They understand ventilators in the ICU, but they they think there's no science in the mask, you know, and this is just CPAP. And what I found out is there's tremendous science in the mask.

How CPAP Adherence and Mask Science Evolved

And there's tremendous science in tap devices that basically engineers have done without really input from physicians for the last 20 years. And then I found out that a lot of the changes they've done to the devices have made them harder to wear.

And because they didn't understand the physiology. And so, I basically work night and day for the last three years. Two years ago, I brought in my own engineers who were, you know, 30 years experience at Philips.

And we released the V-Com device to sort of shocked the world that, hey, you can reduce its battery pressure. X

battery pressure is the therapy. We've been doing the opposite in the field for for 20 years.

And then we developed what we call kairos PAP. Kairos is a Greek word. Kairos means the right time. We don't have that word in English. Kairos was used by the TS 400 BC to talk about the right time of therapy.

And so therapy pressure that you need, whatever pressure you titrate to, has to be at the right time. And if you just apply that pressure towards the end of breathing out, which we call aspiration, then that's really where you need it.

And you can reduce the pressure we have found by five centimeters. throughout the rest of the cycle for comfort and decrease side effects. So we, you know, created the algorithm.

We just completed a randomized trial in the sleep labs comparing CPAP at the same pressure setting with five centimeter drop, okay, compared to CPAP And we found that it's the exact same efficacy.

In other words, all these years we've been giving all that extra pressure really just to cause discomfort and to cause side effects. So this is a really exciting thing.

We believe so many more people will accept CPAP We believe so many more people will use it. we know it has less side effects, particularly with, with what we call treatment induced central sleep apnea.

We have a study that just got accepted for that. And and this this is really exciting time. I've traveled all over the world now, and, you know, I never really thought that I'd be doing this.

I was just a private practice doctor here in Nashville where you used to be. And, I never knew when I got into this and started looking that I'd find this huge hole that we could fill, but.

But I'm really excited. My main goal is to get this on the market so I can put it on our patients. Well, you know, sleep apnea is a is an epidemic. And it just by itself is associated with increased mortality.

There are subtle things. When I learned a little bit about sleep medicine, like if you're on more than I think two blood pressure meds, two or more blood pressure medicines, that right there is an indication for a sleep study.

Even if you're not obviously snoring or your partner hasn't noticed, you're choking or gasping for air, pausing your your your breathing. And so we really make a huge effort with every patient that comes in to screen them for sleep apnea.

you've touched on continuous positive airway pressure with people call CPAp. When I learned it, we used to use the term air splint because the idea was that it was essentially that the pressure was holding that upper airway open, and that was going to be enough to allow air to pass through.

But what you're clearly saying is, well, that was the way we used to think about it. And now we've learned so much more that potentially you could even make someone worse.

So we have to address these issues, because when we do the Parkinson's Solution Summit, we're talking about sleep, we're talking about nutrition, we're talking about movement.

I just tell you about a patient I saw yesterday waking up six times through the night, not getting restorative sleep. Now, what does that mean for their brain when they have Parkinson's?

You know. Well, that, you know, you open the door for a lot of answers right there. So, we make a quick comment about three parts. We'll start with the splitting.

it is true that the pressure creates force on the wall, which you know, as you say, splints the airway. It actually creates an alternative airway. This is kind of interesting.

Like if your tongue base or your palate is where you're obstructing in your throat, you know, until you get to high pressures, it can't push that out of the way, but it creates like a bypass around the city in the more compliant lateral folds of the throat.

It actually opens them up. And you create this alternate airway, which which is quite interesting. but the thing I wanted to mention is, why is CPAP so much more effective than, like, a nerve stimulator they implant?

You see the advertisements on TV or appliances and other therapies. The reason is, is only CPAP increases lung volume and increasing lung volume moves down and pulls like I'm pulling on this hose here.

And as it pulls down, it stiffens the walls. So just increasing lung volume is treatment for sleep apnea because it stiffens the walls. And when you gain weight in your belly, it pushes the lung upward and it makes the airway more floppy.

So that's one key thing that there's two points. And that's why I see CPAP so much more effective, particularly in severe cases, or in those who have obesity and those, other treatments tend to fail in those situations.

Kairos PAP and Lower-Pressure Therapy

Secondly, about the frequency of it, you know, if you are on have hypertension and you're on two drugs or more, then you're about an 80 to 85% chance of having, sleep apnea.

if you have type two diabetes and your BMI is over 30, you're 88% or something. Really. And I if is it that right at 83 I think it is. And then if your BMI is over 30 you have a 77% chance right there.

If you have atrial fibrillation. A study from Cleveland a couple of years ago showed 80% for that heart failure. Well, there's two types of sleep apnea.

I mean, so, you know, you got to look for patients with diabetes, heart disease and hypertension. All three of those point between 40 to 80 something percent, right?

If you add snoring that's 80 to 90% chance you got it. And if you add obesity over 30 that's another 80%. So that was really accelerated. And so when people come in they usually have what hypertension diabetes heart disease their BMI is over 30.

and they snore. Well that means they're like 99% chance of having it. So because the the probabilities are additive. So it's it's it's it's kind of an interesting thing because you can diagnose them looking out the window in the parking lot.

And you can see, you know, that they're going to have it as a sleep doctor. It's interesting. Everyone we see almost has it because we're a physician preferred practice.

So that means another specialist or primary care doctor has seen them. And go, oh, I think you have sleep apnea. Well guess what? They're usually right in them.

So what we need is better screening in other specialties and in primary care settings. Because if everyone I'm testing is having it, that means there's a lot out there.

They're not picking up, you know. So that's what I want to throw out. Final thing about Parkinson's, you were saying? Yes. Sleep apnea in Parkinson's patient is a real problem because it adds to a lot of the symptoms they're already experiencing, particularly when they get in later stages.

And they're dealing with some cognitive issues because when you don't sleep well, when you have sleep apnea, it decreases your cognitive function, it makes you sleepy.

Or during the day, which is a side effect of some of the medications and other things. So it's really important in Parkinson's patients to screen for sleep apnea because we can make a big impact.

They're huge. When we talk so much people understand how did this happen? Why did I get Parkinson's? Why did I get Lewy body disease? And the term that folks hear about a lot is, is chronic inflammation.

So whereas identifying and addressing sleep apnea plays a key role in prevention. For example, a study I came across to some Alzheimer's research showed that untreated sleep apnea for four and a half years and older adults put them at a 50% greater risk of developing Alzheimer's disease right then and there.

Within four and a half years of nuance at sleep apnea. So it's so critical to identify it from a prevention perspective. But what we're also talking about, because this is the solution summit, is that when people have these diseases, by correcting that sleep disordered breathing, they're able to to actually get at some of those root causes that.

Absolutely. And, you know, just to make this simple, if you have Parkinson's disease and you're listening, you need to go to your doctor and you need to say, hey, do I need to be screened for sleep apnea?

and screening, you know, it is a test. You know, you can ask questions about it, but at the end of the answers or yes, you need you need a test. You snore.

Yes, you need a test as your BMI over 30. And you need a test because your high pretest probability already you're near 80%. You have hypertension. Yes, you need a test I have diabetes, do I have heart disease?

All those things need a test and there's others to add in there. I have a I want to do something different. I have a question for you. Okay. Because, you know, obviously as a sleep specialist all these years and diagnosing REM sleep behavior disorder, you know, it's always a tough the tough case because you have to sit down and tell them this is a precursor for Parkinson's.

It's a precursor for other alpha synuclein properties, including multi-system atrophy and of course, Lewy body dementia. My mom got Parkinson's, at a late age.

Passed away last fall. but the. But the thing I've been wondering for ten years, when my mom first got it in 10 or 15 years ago. I mean, she showed me this article about the vaccine, you know, coming out.

So we've been following this in this Austrian company because, you know, what I have wondered is when someone gets REM behavior disorder, what if we gave them the vaccine?

Would that possibly, you know, hold off them getting Parkinson's or these other sequelae, you know, as it as, as the expert in that area, not me. You know, that's my question I've had for years.

Can you comment on that? I want to know. From the, pre-clinical perspective, if we start to see the classic mood changes, REM sleep behavioral disorder, often constipation, are there opportunities to actually head things off at the past?

Is what you're asking them for? Yeah, yeah. Correctly. And the answer is, you know, first of all, I think, we have to the short answer is I think. Yes. Okay.

and there are several examples that I can cite for that. We certainly do have to do a lot of education. We have to get, you know, I don't care if it's YouTube or Facebook or, you know, TikTok or whatever, but however people are getting to information and that's the general public, not just you and I, but we certainly have to educate our peers or colleagues to be thinking about these things because it's very clear.

Let me go back to something as simple. It's not simple, but is as universally understood as breast cancer. Women get a mammogram every year because they understand that early detection of breast cancer can make a life or death difference.

We now see that with the emerging disease modifying therapies for Alzheimer's disease, that the people who do the very best. And we're really at the beginning of that narrative with what will, you know, what will happen over the next several years.

But even with Donanemab and McCann and that when we treat those people with mild cognitive impairment due to biomarker positive Alzheimer's, meaning they don't meet full criteria for dementia, they haven't lost their instrumental activities of daily living.

But they have the amyloid. They have some tau accumulation. They have some mild cognitive impairment, as demonstrated in on objective testing, that early intervention has the potential to either significantly reverse meaning up to at least 60% slowing and the rate of decline seen in the trailblazer study.

Or if you follow the work of, you know, Dale Brunson. Isaacson Richard Isaacson down in Florida who recently reported using the passivity ad to test developed at a wash.

You and now a privatized company called C2 in diagnostics that his patients who follow these lifestyle medicine programs actually have measurable biomarker reduction.

And they can say they have actually cured Alzheimer's disease.

Sleep Apnea Screening and Parkinson's Risk

So now we're talking about Parkinson's. And the key is to recognize those early signs. you know, we're we're not universally doing genetic testing. And by no means is it a purely genetic disorder in most cases.

But there are, you know, these become biomarkers, these become risk factors. Right. And then, by by utilizing the available, currently available and emerging biomarkers, confirming that, yes, the ship is headed in that direction and then we've got to address those root causes if you will.

And that's going to be kind of individualized to a large extent because everyone's different. But at the same time there's some universal truths like let's immediately look at sleep, right.

Let's do what we can to correct the imbalances that are leading to this REM sleep behavioral disorder, maybe comorbid sleep apnea. We've got to get at nutrient issues.

We've got to get you moving your body. Interestingly, although there's not currently an approved, FDA approved drug that's labeled as disease modifying therapy for Parkinson's, they're on their way.

But exercise is actually listed as disease modifying therapy. And, you know, peer reviewed literature, American Academy of Neurology, Michael J. Fox Foundation, and so forth.

It increases dopamine levels. It decreases the, alpha synuclein levels. You know, it has major impacts on the underlying disease. So, yes, I mean, I think the the short answer, I'm giving you a little longer answered, but, we're on our way.

Well, that's exciting, by the way, speaking of REM behavior disorder is someone who treats it all the time. You know, melatonin just doesn't work. Well, we just almost have never had a case where we really felt that it it work.

Now, I know it helps a lot of Parkinson's patients, with other things. But we have we have found that we have to use clonazepam and most of these patients to, to control symptoms.

That's just sort of a side note. As someone who treats REM behavior disorder. Yes, I do too. I do too. But I would say here's the thing. Because we're running a very integrative clinic where we want people to take a deep dive into sleep and nutrition and movement and so forth.

This really dovetails in the whole idea that, you know, by virtually the clinic that we run, we'll have people come in and say, well, I don't even want to be on leave a dope.

I want not do this all naturally. And I say, well, this is like you were you were a you were an expensive, magnificent, you know, car that you're a Porsche fish in Idaho.

You know, you can't drive your Porsche unless there's gas in the tank. Right. And so that clonazepam certainly corrects the problem fairly quickly. and then it allows us to do the other things that are more, you know, slow medicine to take a little time, but ultimately really get at those underlying root causes.

Fascinating topic. The whole the whole discovery of the alpha synuclein, pathophysiology to me, years ago, I mean, it I think it was certainly the biggest thing in Paris, Omnia is in our field, you know, the last 20 years, 30 years almost.

So I want to circle back around because, you know, I can't emphasize enough to the folks watching this that sleep apnea is one of the biggest issues out there.

And it's and as common as it is, it is still vastly unrecognized, vastly on the screen for, you know, we do Epworth sleepiness scales in our office all the time.

Everyone that comes in to my office, and you might disagree with this, but at the bare minimum, that's going home with an overnight pulse oximeter. because we want to know what is going on with sleep, period.

And I'm personally kind of grateful, even though they're not clinical devices for things like Apple Watches that at least give us, you know, how long are you sleeping?

What does your Apple Watch say about the quality of your sleep? These are superficial, non-medical screening devices, but they're out there and they're helpful, and they still allow us to give us.

They give us a jumpstart and they allow us to track things. So I just I want to return to this whole concept of sleep apnea because you're really, you know, developing what what is the future of treatment of this problem.

And you taught me a term treatment emergent central sleep apnea. So critical because it's a departure from the traditional treatment of sleep apnea, tells us maybe we're doing this wrong.

Well, we have to do it a few things without complete understanding. I'll make it clear. Patients have been treated therapeutically. You know, we have a compromised therapy, but we've been given unnecessary pressure, which was leading to more discomfort and more side effects.

particularly, I think it's because pulmonologists like myself came in the field in the late 80s, early 90s when the machines came out. And, you know, we're used to ventilating everything.

So we were used to higher inspiratory pressures and lower excretory pressures, which forced air into the lungs and increases the size of your breath. And oh, that's great in the ICU if you're having trouble breathing.

In fact, BiPAP machines revolutionized all that. But to treat, sleep apnea, it's actually physiologically backwards. when you reduce the pressure, you make the airway smaller, you compromise the airway that you're trying to split open.

You also decreased in expiratory lung gone. You make the lung volume less, which is trying to, you know, increase and stiffen the airway. So your compromise in the airway when you do this.

So when we increase is maitri pressure up higher. You know. Well are we opening the airway up with that. And the answer is no. It doesn't open the airway.

It actually just forces air over the obstruction we cause. We are made worse by dropping the pressure. So that's what gave me the idea. Well, we've never done this before.

Maybe we could drop, you know, the battery pressure and just maintain the excretory pressure. So initially I released, you know, this little resistor just to that drop says battery pressure two centimeters, just to show it was harmless, that it was more comfortable.

It actually decreased leak, decrease these these central sleep apnea as a side effect of treatment. We'll come back to that. but then really the goal was to release the Kyra's CPAp.

The the the the algorithm and then the machine that is no longer going to be CPAp, not BiPAP. It's now going to be CPAp starting next year. And we're going to be able to treat people with the same therapy, but letting them experience five centimeters less pressure through most of the respiratory cycle.

you know, kairos, meaning the right time of therapy. It's a Greek word. We don't have it in English. And so we're supplying the therapy pressure just to that right time, sort of behind your breath where you don't really feel it.

And then the pressure drops. Because when the 7 billion people are breathing right now on the planet, they're dropping their pressure on inspiration. That's natural.

And we are jacking it up to people, which is unnatural.

REM Sleep Behavior Disorder and Early Intervention

And now with Kairos, CPAp or CPAp, we're dropping the inspiratory pressure and we're keeping it down as you cross into expiration or breathing out. And that's what makes it a more natural recoil of the lung.

one of the other manufacturers, the large one, who's in trouble right now, you probably. Yeah. So, two of their reps were over here yesterday visiting my lab, and I let them breathe on it, and they both were like, wow.

You know, it's so natural. It's almost like, I don't feel like I'm on CPAp. So our our goal is that this is we know it's going to decrease side effects.

We know it's more comfortable. We know it's the same therapy. Our goal is that it's going to allow many more people to tolerate it long term and then get the benefits, you know, and improve the quality of their life.

So and that definitely, as you said, you know, here we have had this sort of technology, not exactly yours, but but PAP in general for a long time. And we've made some reasonable efforts to get people on it, but a significant portion just can't do it.

And this is going to allow people who just can't do it to finally get on and feel like these are natural breasts. I'm also curious, though, you know, as you know, when we follow our sleep patients in the office, we get those compliance downloads and, and the, the relatively newer machines.

do give us some measures of whether or not there's any persistent apnea events. And we're looking for. But it's again, I'm not, you know, my I'm not doing all the CMS you're doing in sleep medicine.

Of course it and being a pioneer as you are, but I'm looking for an apnea rate less than five that I hope that's typically still still good. but my point is, let's say my patient comes in, they're like, well, I'm faithful.

In fact, I have, two, I have two. It's an Amber alert. We have two, machines because I travel, and so, I take one on the road, I keep one at home. I use it all the time.

I look at their compliance report, their, apnea index is, you know, to whatever. Looking good. So. So here's my question. That I always I have this tagline that is sleep is more than a time of rest.

Sleep may be more than a time of breathing, meaning that you brought up the issue of, say, of memory consolidation. Right? There's other things that are relevant that that are critical, like detoxification of the brain during sleep through the lymphatic pathway, the release of hormones like cortisol, not growth hormone and testosterone for body repair, issues related to digestion and hormones.

Point being is that when we treat people for sleep apnea, we're doing a lot more than making sure that they're breathing. Although that's obviously the ABC's.

That's critical. and I'm wondering if even for the folks who are in fact not having significant apnea is on their CPAp, do they need to be looking at CPAp?

do you think there may be other sort of, you know, indirect benefits? Even if the apnea index is corrected? So so let's talk about that real quick. the first thing to say is the downloads that come from the machines are not accurate.

they can be, but how do you know? it's like the joke I make. It's like having one referee in a basketball game if they call a foul. It was really a foul. I mean, did he touch it?

How could he see from one angle? Or if he misses a foul, did it really happen? Yes. It happens. So. So you only have one referee. You only have a flow signal in these devices.

And Robert Thomas actually, at an article I think in 20 to April journal Clinical Sleep Medicine, which just reminded us all what we knew 20 years ago is that they're not accurate.

You know, we did a study back at 18, looking at the downloads and and we used to know this because we did in labs on all these patients. And so they were being compared to the gold standard, but now they're being compared to themselves.

So if they come in and their download is five, you know, I don't know that it's really five, what their index is. So you touched on this and it's you're right on.

The key is how do they feel if they're feeling better. You know, and their index is high. Say it's 15 on their download. Well you still want investigate to see if it's real okay.

But they're feeling better. That's the main thing. Well if they're not feeling better their index is one. Well you're not through that patient because we don't know if one is right.

And you know are they really getting the benefit. So what you need is an independent observer. Now the best is to put them in the lab. That's expensive and convenient. You know, but sometimes you have to certainly they have syndromes, but, you know, you can use a home device and let him wear that at night.

and now, you know, pulse oximetry, the photo plus signal. And it actually is a sleep test, not just so you know, and we can we can help you with that in your practice.

And you can have devices and put home sleep test on patients to number one do a diagnosis okay. Number two, evaluate how their therapy is going. And you have an independent observer separate from the machine.

Look I'm in this all day. I've spent all day the last two days arguing about auto pap algorithms, as I'm manipulating the one in R2 device next year and trying to make it better, and there's no way to really make an ultimate one unless you have an independent observer.

Because again, I only have a flow signal in the machine. So I'm I'm developing in the future, one where I have separate, separate signals to where I can know that patients treated.

I'm going to put multiple referees in the game to look for those fouls. And so that, that that's where we're going. But the take home message is if the patient's not feeling better, you're not done.

I don't care if they're wearing it all night, every night. They need to be feeling better. And if they are feeling better and that index is high, you still need to kind of look into it a little bit. So, I hope that helps explain that with sleep.

Now, you also we're talking about other things like if they're having central events, you know, which so that that's where we need to do some education.

Us as a field need to educate non sleep physicians on looking at these down modes, because whenever anyone falls asleep, they're going to have a central apnea because their CO2 is going up a little bit when you go to sleep.

So you're going to have a little pause. And if you're having, you know, fragmented sleep, guess what? You're going to have a lot of policies. And so people can get confused and start an expensive workup when, you know, a sleeping aid or something else might, might help them.

there's a lot of things, particularly with Parkinson's patients, that we can do to improve sleep.

Why Pressure Settings and Downloads Can Mislead

Like, for instance, there was a study a while back looking at patients with orthostatic hypotension and that if they sleep on their side, they tend to do better.

there's other data out there. In fact, I encourage everyone to Google Parkinson's and sleep, and there's so much literature out there and more coming out all the time.

I was really I peaked again the other day, to get ready for this. And there were whole other areas that I really didn't even I never thought of it, you know.

And then, you know, we do tend to overly emphasize the movement component of Parkinson's. but there are many dimensions of Parkinson's collectively referred to as the non-motor symptoms that are equally impactful and may actually, as you pointed out earlier, herald the onset of those motor symptoms and not only weren't being addressed, but an opportunity to even potentially stop Parkinson's before it actually happens in its fullest form.

So yeah, I, I guess I didn't answer your other question. I apologize because I've, I'm very interested in Parkinson's disease for many reasons, obviously, over the years.

But, you ask, will CPAp, you know, help, you know, what we've done before? I just I just want to summarize CPAp will be providing the same therapy. So once you have therapy, more pressure or whatever doesn't really matter.

Once. You know, therapy is therapy, CPAp provides therapy. You know, CPAp will be providing the same therapy, but it reduced pressure. And that reduced pressure is to provide more comfort, less side effects, less gas in your belly in the morning, you know, less leak or less force, less tightness of your mask to hold on.

obviously you won't have the side effect of causing the central apnea events, you know, like we talked about. So that's really the advantage of CPAp. There will be some patients who are just used to their sleep that they don't want anything else.

And so much of comfort is what we're used to. And and so that's why CPAp is really going to be helpful for new patients or patients who failed CPAp and struggle.

Because what they hated was the difference. Now they're instead of breathing negative pressure, they're breathing positive pressure. And and CPAp helps to make that more natural.

I mean, I'm even wondering and this is sort of simple, speculation, but I was mentioning the lymphatic system, of the brain, which is our way of, you know, eliminating metabolic waste, toxins, things like that, primarily active during sleep.

And, you know, pulmonologist are really master physiology gists. and how much the, the, pressure of CPR potentially impedes venous return from the brain to the extent that maybe there's some benefit to Kate that that we don't necessarily get from seat back, even though seat that certainly has it's way better than not treating, you know, sleep apnea, no comparison.

But I'm just wondering if maybe, we can see some indirect benefits from Kate that we didn't even anticipate. So that's, that's sort of the home run right there.

You just open the door that leaders of our field are looking at and that we're involved with another study, going on. And I'll tell you about, because this is really exciting.

So as I'm sure you know, in observational studies, CPAp, obviously reduces cardiovascular events. And this goes back to mare and the Spanish study in 2005.

So there's lots of observational data showing CPAp reduces cardiovascular events. But in the intention to treat randomized trials. And a randomized trial for those listening means, you know, you know, one is blindly put in one group without CPAp, one one is blindly put in the group with CPAp.

You know, they obviously know they have it. But but in these randomized trials, CPAp has not shown, a decrease in cardiovascular risk. It's been a big issue.

Now a big problem is adherence is so poor. So your treatment group sometimes is like your non treatment group but still you know the studies are powered enough and large enough.

They should show a difference. And and why is that. Well Dan Gottlieb at Harvard and Susan Redline also there. and Sandra Gelhardt from Columbia University.

They have been working very hard at this. And they and they have found that there are these biomarkers, particularly angiotensin two and then, and, and sorry, age two and then vascular endothelial growth factor F, which is that graph they call.

So so those two, they have found that at higher pressure, those are those biomarkers which are associated with increased cardiovascular events. their profiles worsen.

All right. Age two goes up, the F goes down and there's others involved. So they recently went through the records of trial. It was a trial looking at CPAp in patients who are re vascularized and published in 2014.

And they had frozen blood samples. So they went back and looked. And what they found are those at higher pressures didn't have decreased events or had increased events in those at lower risk that pressures, you know, did better.

So it's just early evidence. So what we're doing is and when Dan Gottlieb got to try on, CPAp last fall for the first time, you know, the first thing he thought was, maybe this would work so well, we've started, you know, working together the last few months and starting a trial where we're going to randomize patients to half CPAp, half CPAp.

We're going to draw their blood before we start to look at these markers. And then we're going to look at the markers each month long term users we're going to take we're going to see if CPAp drops those markers.

Now if it drops those markers that that would be huge. And and you know, I'm not convinced it will because I don't know which aspect of the pressure is causing the increased markers.

You know, if it's in expiratory lungs, I mean, we're not dropping that. So there's stretch in the lung doing it. they had evidence stretching an umbilical, vein that increases release of them.

You know, it's a whole new field. It's just beginning. But I think it's really exciting. And so what you bring up was, is

really fascinating. you know, with Glenn Beck System, I mean, you know, is this lower pressure going to have benefits in other areas?

And, and I think just by obviously someone in bad heart failure, the pressure helps, you know, by decreasing preload and afterload. But in normal individuals, I wonder if it's if the lower pressures not only going to be more comfortable that have other long term benefits.

So that's really a I won't say million but billion dollar question, that we're we're now going to be able to investigate because now we have a way to get lower pressure and provide the same therapy which we never had before.

Okay. You know, we expect to have at least 60,000 people participating in the Parkinson's Summit.

Home Sleep Testing, AI, and Future Treatments

So this is a really, really important message that, you know, I don't have this statistic, but it's it's sort of analogous to the point about if you a two or more blood pressure pills, if you have a diagnosis of sleep apnea, I'm sorry, a Parkinson's where Parkinson plus syndromes or Lewy body disease.

You must be screened for sleep apnea. Absolutely. And I wonder, Doctor Noah, if as we round up our interview, if you would just briefly touch on the difference for folks between those, in home evaluations versus going into the lab, because I know you've also pioneered the OSA in home and that that really helped people through Covid, but but I still imagine there's a distinction, right.

So, you know, in in home test is never going to be an in lab test. Although I will say there is a, a company out there that that's coming out with, an an an at home in-home in lab.

In other words, you have the same, data collection you have, but it's going to be kind of expensive because, you know, you put a sticker here, a couple stickers here, one on the leg, and it actually creates a in lab type test that can be done in the home.

but in general, you're trying to identify more the moderate severe patients. And, and home testing is very good at doing this. And you could probably identify 70% of them to 80% right off the bat.

You know, in the home. The question is, for those where you see central sleep apnea, not just obstructive for those who are, quote, inconclusive, they have to come in the lab or have additional nights with the home study.

The point that everyone needs to understand that the home study can tell you yes, you have it, but it cannot tell you on a single night that you don't.

So and there's companies out there doing home testing that want to offer a whole solution. And they don't have an in lab available. So they're saying oh it's negative or it's normal.

It is not. It can't be. So with multiple nights it might be able to be certainly. the, the guidelines by the academy are if you have an inconclusive means it didn't show sleep apnea.

Okay. Then you have to come in the lab to exclude it. And those who have a high pretest probability, those who, you know, have a greater than 75% chance of having it, which all the things you've mentioned are over 75%.

So so that fits in there. So that, that that's I hope that helps. The home test are great. you just have to know the limitations. And, and it's also like this.

The dumber the test, the more experience the clinician has to be at interpreting it. In other words, on an in lab, it's it's always obvious. There it is.

It's the gold standard. But on a home test, you know, I had a friend yesterday. I was looking at his and, you know,

his index was only nine on his home test.

And you're thinking, okay, well, you know, that's kind of inconclusive or borderline or, you know, certainly mild. But then I looked at his desaturation and, you know, as low was 83 and as mean was only 92 was normal SATs 97.

So he spent a lot of time having said so, you know, this particular home device wasn't picking up all of what was going on as events, you see. So so that, you know, like I said, you have to look at other things.

And that's just one example. There's other factors. And and so when primary cares are being approached, you know, by a home testing company here we have the solution.

Well all they're going to do is look at the number and try to make a decision. And I just would encourage everyone, if you have a single night, you know, with a home test, it cannot tell you.

You don't. It can only tell you you did. You'll either need multiple nights or again and in lab. Very important. I hate to repeat myself, but it's not so important because so many people are walking around out there thinking they don't have sleep apnea when they do.

Because of this problem. Huge. Just curious. I know we only have a minute or two left, but we are now at the dawn of this AI revolution and I'm wondering if some of this technology is trickling in to what you're seeing in our ability to detect and treat sleep apnea.

More precisely. It is, you know, even though we say it's AI, it's still human. Intervene. You know, I mean, who's programing and all that there are now, two programs, one uses somewhat AI that the quote Academy, American Academy of Sleep medicine has quote certified as available to score in lab studies.

Now the question is, what are we going to do about home study? Because home study is where we really need help. where, a machine can actually pick up signals in different relations of signals that humans can, or at least couldn't fast enough.

And, and so that's where there's a lot of discussion and a lot of things going on just recently, Samsung got FDA approval for data from their watch to diagnose sleep apnea.

Now, what does that mean? Samsung's saying clearly that, you know, you this is not to replace the sleep position or all the different, you know, saying the right things, but it's very obvious that I gave a talk at the, at our meetings last week.

where, you know, I was really telling the whole thing, we've got to change all these years sleep doctors who got paid to make the diagnosis. All right, read studies and and and that's going away.

But that's okay, because the diagnosis is so apparent now people are going to walk in with data from their watch here in the future, and they're going to say, oh, wow, look, I have sleep apnea.

What do I do? And I think I think it's going to push my field to focus more on therapy like I do. You know, I, I don't you know, I'm not interested in testing.

It's pretty simple. I'm interested is can they wear it long term and is it going to change their life. and that's where we need to go as a field. We need to focus more on outcomes and less on the diagnosis, because that's going to be made for us.

The other part I do want to mention to your audience that's really important, is the pill is going to be out in a couple of years. actually. Well, the end of 26, the first pill for sleep apnea is going to be probably on the market based on what I know from, you know, sort of inside based on their, you know, phase three trials, and what their phase two trial showed, I think it's going to hit the market.

I have not heard that. What is the mechanism? Well, it's it's it's it's sort of help make sure it's trying. The whole key is to make your airway awake while you're asleep.

If you could do that, if you're sleep apnea and it's a combination drug, we don't have time to get into that. But but they can look it up. Go to apneamed.org A P N E A M E D, and they're going to have the first one released. And it's, it's gonna it's going to help a lot of people.

Now, it doesn't cure, you know, severe sleep apnea. It's going to reduce it. It's going to help. It might help someone on a mouthpiece who's not fixed it better.

some think it'll reduce the the pressure you might need with CPAP You know, we won't know till it's out, but. But it's going to have side effects. but the thing about it is, it's going to change the whole field because primary care physicians don't really want to do.

See that? but will they want to write a pill? And so I'm, I'm wondering if this is going to change, but it's going to be similar to an oral appliance or a nerve stimulator.

It's going to treat the mild, maybe some moderate, but it's, you know, the there's still going to be tons and tons and tons of people who need CPAP yes. And probably more of that are needed than perhaps right now willing to use it.

But hopefully with the technology you're bringing online, we'll get more into the fold. I don't know about you, but I tell folks, look for what we have today, you know, 2024.

Do something. Do something like, you know, I know that the oral appliance is really only for mild obstructive sleep apnea. I'd rather have somebody wear an oral appliance than nothing at all.

You know, I don't know if that's valid or not, but I. I really push people to get find what works for you and use it well. Good. I really appreciate your stance on sleep and your your driving to do that.

Obviously, I appreciate what you're doing in your own field, but I really appreciate your your emphasis on my field as well. Well, Dr. Bill Noah thank you so much for joining us to the Parkinson's Solutions Summit.

I know the folks in the central Tennessee area are going to want to find their way to the sleep centers of Middle Tennessee. but the folks in, you know, this is an international event.

So if they want to find out more about you, your work, about, KPAP about V-Com what are your recommendations? Where do they go? What do they do? Well, we're very easy to find, and it's easy to remember.

so for those who are looking for the best sleep care, in my opinion, in the southeast region, we have multiple locations in Middle Tennessee, around all around Nashville area, in the suburbs.

you can go to sleepcenterinfo.com that simple sleepcenterinfo.com, and you'll find sleep centers and middle Tennessee. They do telemedicine in multiple states around, you know, for, for for others.

And, they're wonderful people. I truly believe that, and I'm very biased. Number two, if you want to learn more about KPAP and Kairos PAP and what's coming, and there's other algorithms we have that are coming out and other we have mass technology where we're going to be coming out with and other things you can go to sleep, rescan, sleep, rest, sleep rescue.

and I think there's a link there to watch Dr. David White's, webinar at the end of May where he really announced to the whole world, Dr. White, in my opinion, is leader of our field still, after all these years.

And so he covers all that in detail. If you want to learn more about KPAP sleepres.com excellent, Dr. William Noah, again, thank you so much for joining us to the Parkinson's Solutions Summit.

I know the people found real value in everything that you have shared, and I hope to have you back next year. Well, thank you Dr. Sharlin and congratulations on on the summit.