

Transcript Details

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Transforming Clinician Wellness: EEG Headphones Helping with Burnout

Dr. Greenberg:

You're listening to *NeuroFrontiers* on ReachMD. I'm Dr. Michael Greenberg. And joining me to discuss how EEG headphones can help combat clinician burnout is Vital Neuro CEO John Golden. John, it is a pleasure to have you on the program.

Mr. Golden:

Michael, it's a real pleasure to join you.

Dr. Greenberg:

I'll tell our listeners why it's a pleasure. I happened to stumble on a pair of your headphones, and they have altered my life. I don't think I was burning out that much, but I didn't realize how much more calm I could be using this technology that we're going to discuss today.

So starting us off, John, how do you define burnout in the clinical setting, and what specific needs inspired you to pursue a solution like Vital Neuro?

Mr. Golden:

So burnout is pretty common today. So clinically, burnout is more than just feeling tired. It's a state of emotional and physical exhaustion that results from chronic unresolved stress. This type of intervention was only available in clinical settings to deal with burnout, but no portable user-friendly way was really available to people. Today, masses of people need a way to intervene before reaching a breaking point. Burnout is something building up. As I say all the time, if we had a new job title, it would be "busy." And everybody could just feel they're on the edge of this burnout. And so based on decades of clinical research by the Vital team and our co-founder, Dr. Kamran Fallahpour, we have been able to develop and validate solutions that can help. We've created this system that blends neuroscience, real-time brain monitoring, and music that adapts to your state to not only relax the nervous system but to retrain it over time.

Dr. Greenberg:

Okay. So tell our listeners about how the system works. It's not just headphones.

Mr. Golden:

It's as simple as it's a headphone with an app. The headphone reads your real-time brain activity. From there, you select what desired state you want to transform to—a state of relaxation, sleep, focus, or optimized meditation. When the process begins, we start reading your brain activity. That reading then becomes an interpretation of what your brain needs to transform. From there, we create custom music designed for your brain. We call it neuro-responsive music. That music will then transform you to the desired state. So we're using sciences like neurofeedback, operative conditioning, behavior design, and lots of different therapies, but in reality, what we're doing is playing music for your brain to transform your state of mind leveraging neurofeedback.

Dr. Greenberg:

Okay. So we've talked about the three sections of the brain, you and I—the forward part, the middle part. Can you go over that for our listeners?

Mr. Golden:

Yeah. So the front part of your brain is executive function, the mid part is where you're really trying to do focus, and the back is relaxation. So when we look at people who are dealing with burnout, the first thing we try to do is get them in balance—homeostasis. We look at how loud the volume is in their brain—can we quiet that down quickly so then they can make rational thoughts? They feel a sense of control, and then they're able to start to regulate their systems—sleep, mood, energy, fueling, etc.

Dr. Greenberg:

Happiness, satisfaction, fulfillment. Okay. Can you walk us a little deeper through the science behind the Vital Neuro headphones?

Mr. Golden:

Yeah. So when you think about it, what we're really trying to do is transform your state of mind to your desired state of mind, and so as we do that, we're using this neuro-responsive music. So, as you think about your brain, your brain is known to respond to certain tones and frequencies, and Vital has many levers from tone, tenor, and volume, and then we have certain other modalities that we will bring in that we can then train the brain to react to certain sounds of music. And again, we're training to your brain, not to your ear, and by doing this, we can transform your state of mind. For the neural folks, you'll hear a lot of things about alpha, beta, theta. In reality, what we're really trying to do is, when you're trying to relax, we're trying to make sure that the back part of your brain has the right electrical signature of what you want. We control that through music.

Dr. Greenberg:

So this is the only device that is actually personalized—it's actually reading your EEG—because you can get music tones pumped into your ear anyplace. This is different.

Mr. Golden:

Yeah. So how we can make it effective—and this is where the team at Vital has just done some great things, and we actually have a patent on this process. And so if you think about it, commercial music just sounds good. You listen to Taylor Swift or Eagles if you like, right? And then there's meditative music that you might listen to—binaural beats—that creates a calmness, and then there's music designed for your ear that's called psychoacoustically designed music. That kind of music can get you to certain states.

The challenge is all of us and our brains operate slightly different on slightly different frequencies, and so Vital can personalize it. And what I mean by that is by doing real-time monitoring EEG reading of your brain, we understand not only your state of mind but the frequencies and sounds you respond to. We then customize the music in real time so that you're getting your own playlist. That song is personally done for you to ensure that you get to the desired state of mind. We call it neuro-responsive music.

Dr. Greenberg:

I call it the anti matrix. Instead of controlling your life, it tries to free you from all that anxiety.

Mr. Golden:

Yeah. I think that's a great way to put it. The goal is to give control back to people, right? There's so many things happening to us, and what Vital really does is take away all that noise and give you back control so then you can decide how you want to behave, how you want to react, and how you want to make decisions.

Dr. Greenberg:

For those just tuning in, you're listening to *Neuro Frontiers* on Reach MD. I'm Dr. Michael Greenberg, and I'm speaking with John Golden of Vital Neuro about how his EEG headphones can help combat burnout for healthcare professionals. And your website, John, for those listening?

Mr. Golden:

Oh, it's www.vitalneuro.com.

Dr. Greenberg:

Okay. So, John, let's talk about how the use of Vital Neuro headphones translates into real-world impact on clinician burnout.

Mr. Golden:

Yeah. So when we think about clinicians, one of our use cases that we use all the time is we put Vital into pre-op, inter-op and post-op procedures. So think about ophthalmologists, oral surgeons, even people going in for infusion, or patients who are coming in with high anxiety. And our goal was "Hey, how do we relax that patient?" And we've demonstrated those results. We can get somebody to a level of light sedation like valium in about 11 minutes. We also at the same time take a huge burden off the staff, but for the physicians themselves, they're feeling a lot of pressure about, "Is the patient relaxed enough for the procedure? Have I given them enough sedative?" When you're talking about eye surgery, they need to be awake and alert, so they give them a sedative to calm them down. We want to make sure we don't oversedate them.

So Vital is very instrumental in helping the physician to know if they're not oversedated, but that stress of the art today—today it's art for them to figure out if the patient needs how much sedation. You can understand the complexity of how to deliver sedation in today's world. It's an art. Vital helped turn it into a science that takes care of the risk component for the physician. And speaking of the physician, I mean, just think of the stress that they're feeling. One thing I observe when I'm doing Vital in clinicians is the phonetic pace dealing

with patients—patients from yesterday, patients from today, dealing with all the questions and challenges of running their own practice. Physicians on operation day go back-to-back-to-back, and they are constantly exposed to either burnout or emotional intelligence issues, and so Vital is able to help them get back in control.

Dr. Greenberg:

So instead of a coffee break, take a Vital break.

Mr. Golden:

That's a great idea. We talk about it with the physicians. They talk about when they're ready to do surgery, they're Vitalized, like "I'm Vitalized, ready to go."

Dr. Greenberg:

So as I understand it—from my own experience too—you guys offer several mode settings, like relax, focus, and sleep. Have you found any of these to be especially useful for healthcare professionals?

Mr. Golden:

I think in the morning they like to be able to do the relax followed by the focus. This gets them grounded for the beginning of their day if it's an in-office day, surgery day, or just a meeting day or at a conference. That's what we've heard from the physicians. They like to do the optimize sessions between surgical procedures. So particularly, if they have that break or if they know they're running behind on surgeries in the afternoon, as the complex cases in the morning ran long, being able to have an optimize session is a great way to charge them up and get them through the rest and remaining of the cases. It's really important that they stay very focused. And again, Vital doesn't have the side effects of a lot of the caffeine or other things that people might take, and so they find that to be very beneficial.

Dr. Greenberg:

If we look ahead just a moment, John, how do you envision this technology becoming a key player in provider wellness?

Mr. Golden:

I think there's two things. First, just the raising the standard of patient care. Michael, you understand and you are well respected for the complete care you try to give the whole person. Even though you may be a dermatologist, you're looking at the whole self, and that's so important. Your job as a physician is to help that whole patient because it's not just treating the symptoms, what's creating the skin issue, and what's creating that, and so Vital will allow you to raise your game when it comes to the patient experience. The patient isn't dealing with the stress and anxiety. They're not dealing with the "Oh, if we're running late, and now I'm getting more fidgety." It's just a better patient experience. So we'll elevate that to a level that hasn't been seen before.

But more importantly, the side effects of that patient having that anxiety and that stress affects many things. If you're an ophthalmologist, that patient staying still and calm during the procedure, when you're talking about very minute incisions, they have to be accurate. So it creates better outcomes in that example. Also, when you talk about blood pressure, we talk about the white coat syndrome. Vital can help greatly reduce blood pressure. We were in a dental office just yesterday, and in procedure, while somebody's having a tooth removed, we reduced their blood pressure substantially in procedure by using Vital during the session. So blood pressure has a huge impact on both in the procedure and in the recovery. So we're going to be able to do a lot of things in that space. We talk about post-recovery sleep. I think you'll see Vital be used more and more not just in pre-op but in inter-op and then post-op, when you think about post-op and to be able to accelerate healing and helping patients deal with pain management.

Dr. Greenberg:

So finally, John, do you have any key takeaways you'd like to share on how Vital Neuro's technology can positively impact our lives as healthcare professionals?

Mr. Golden:

Healthcare professionals, they've got a really difficult job, and there's a lot of change that comes at them, and they want to do great things. We designed Vital with three things in mind. Elevate the patient experience so they're more relaxed. Number 2, create a frictionless experience for the operators, both the physician and their staff. Vital takes things off their plate. It's not an added step. In every case that we've installed it, the physician group has been able to take over and run Vital after two, three sessions in the morning. There's not a big training up curve, and there's no additional work. It makes their job easier. And then lastly, we give the physician a sense of calm. They understand what's the state of readiness of that patient because they can see how Vitalized they are by our app. It will tell them exactly what state of mind that patient's in at the given time, and it gives them the confidence to move forward. So I think for those innovative doctors, those doctors who want to elevate the patient care and be able to better serve their staff and be able to be more confident in what they do, Vital is the answer.

Dr. Greenberg:

With those key takeaways in mind, I want to thank my guest, John Golden, for joining me to discuss how Vital Neuro can help mitigate burnout among us clinicians.

John, it was an amazing conversation, and great speaking with you today.

Mr. Golden:

Michael, thank you for everything you're doing, and really you're a model for how physicians need to operate. I've been just so impressed with all the learnings that my team and I have gotten from you.

Dr. Greenberg:

For ReachMD, I'm Dr. Michael Greenberg. To access us and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. And thank you for listening.