Introduction to the Parkinson's Summit

Welcome to the Parkinson's Solutions Summit. I am your host, Doctor Ken Charland. And today's guest is my co-host for the Parkinson's Solutions Summit, doctor Barbara Pickett.

And I hope you've enjoyed many of the wonderful interviews we've been able to cultivate for you for the Parkinson's Summit. As you know, Doctor Pickett is the associate professor of neurology in the Departments of Neurology and ophthalmology at Michigan State University and an expert in mindfulness, where she, received her training from the University of Massachusetts, which is sort of the mothership of the American mindfulness movement.

But we're going to learn so much more about that. So without further ado, Barbara, it is such a pleasure to finally get to interview you. My thank you can thank you for having me and making time for, talking about Parkinson's and mindfulness.

Well, let's just begin. And, I want to learn about mindfulness. I'd like to know how you got involved with mindfulness. Why is it important? What is it?

Tell me about mindfulness. Yeah, well, I guess I if I may, I'll start my story back when? Very early on in my career, I had the opportunity to be investigator and co-investigator in studies and in new drug development for Parkinson's and people.

I was I was just struck by how people were so generous and giving of their time. Also, they were full of hope that their participation would lead to a better life for themselves and for others, for all folks living with Parkinson's.

And not only did they, express this desire to be in this, in this particular drug trial, but also were seeking ways to enhance, better management of symptoms and maintaining independence in life as long as possible at that time.

So, as you know, because you're also involved in drug research. So as we know, we have to document very well the symptoms that people are reporting and that we're measuring.

So back in the day, the case report form was a spiral binder. And with with, carbon copy sheets in it. And what we were doing is we were cataloging the symptoms of Parkinson's as they are graded on what we call the unified Parkinson's Disease Rating Scale, you know, tapping of the fingers, opening and closing of the hand, etc..

How Mindfulness Entered Parkinson's Care

And, you know, people were very loyal. They would show up and they did what then did what they had to do, take took their medication and time, and we would count the tablets when they came back in and everything was was going well.

And but I started to notice directly from working with people that there were unfulfilled needs and desires that people were expressing, and that despite my best efforts as a physician and investigator in these clinical trials at that time, I was falling short in addressing emotional, psychological, needs and also some physical needs that the patients were.

We're talking about because back in those days, we did not score non-motor symptoms that came later on in the evolution of the clinical studies in Parkinson's disease.

So this motivated me to, begin offering mindfulness training, in the form of mindfulness based stress reduction to people living with Parkinson's. And my goal was to empower them to improve their quality of life by offering mindfulness, in order to achieve a greater sense of, self-determination in their, in the management of their own

health.

Now, this is so important, and I'm just curious, is this something that you had already been practicing yourself? I mean, how did you know about this?

So I, I grew up in Ann Arbor, Michigan, where there was, the opportunity to study with BCS. I anger himself. So he would he would come to an arbor, and, I took classes with him, and, also, back in the day, I was one of those people who learned TM.

Those were the days where where everybody on college campuses, I was learning, was learning to meditate. So I had a background, in this and at the time when, I was working on these clinical studies, there was a psychiatrist at our clinic who, was offering mindfulness based stress reduction.

Doctor marks and he actually invited me to work with him, back in 2006, in this clinic. So that's how I got involved in that. And it was a great opportunity to, allow me to focus on the population of people with Parkinson's and their caregivers.

All that time. So that's how I became involved, coming in with a background and applying it. So applying what I learned. So, you know, many, many people who get into functional medicine, lifestyle medicine, as I see this, especially in functional medicine, I think of just as a sort of, almost a stereotyped example.

Doctor, my friend, Doctor Terry Walls, who we interview for the summit, and she has this incredible story about how she, you know, was so debilitated by her illness and ultimately as a, as an academician such as herself, but stumbled on the principles of this root cause medicine and applied them in her life and started fine tuning them and sort of personalizing them in such a way that she was able to really transform her life and then share her message.

So really, what I'm asking, Doctor Pickett, is insofar as your you became familiar with mindfulness and transcendental meditation. I'm just curious that it must have in some way, maybe not a Doctor Wall's transformation, but it must have in some way really had a very positive impact in your own life for you to want to be able to share that with others.

Yes. I think there's a there's a strong yes to to that answer. And it's, one of the things I've learned personally is that it's a practice. So neuroplasticity isn't just something that you wave a wand and there's a change, right?

So we have positive neuroplasticity. But if we don't train it and don't use it, you know there's some idea of also a negative plasticity. So we the the concept of mindfulness in its practical application, is rooted in the willingness to, to practice.

And what does that mean? That means, you know, the practicing, the awareness, being in the present moment, and, and the physical that goes along with.

So mindfulness as it's taught, there's a physical component to that, which is, of course, the mindful yoga, where we, practice with people with Parkinson's, sitting in chairs, because we teach right now online, we teach Parkinson's, mindfulness online.

It's an eight week training, 1.5 hours a week in group, it's the same group. It's same cohort that follows over the eight weeks. And we, we teach the theory behind it, her stress theory that we've talked about in the past and summit 2.0 at a different place.

And I urge people to to go back and review this. But basically, there's a growing evidence that people living with Parkinson's are highly sensitive to the impact of psychological stress.

I'm sure you've seen that in your clinical practice as well. And you know, we know that upwards to 40% of people with Parkinson's suffer from depression and or anxiety, and these symptoms can manifest throughout the course of the disease.

Or they can actually be prodromal. They can actually be, experienced by people before the, clinical diagnosis of Parkinson's is made. We also another reason that, I was motivated to offer mindfulness to people with Parkinson's and their caregivers, but particularly to Parkinson's.

Now is though we know that under stress, we have a worsening of symptoms, right? I think oh, I think all clinician eyes have seen this. So when people are nervous, there may be an exacerbation of tremor.

There may be, an increase in freezing of gait. People will tell us, yeah, they were at an event or something, and they had to walk across the ballroom floor and, in freezing of gait, although in wide open spaces, often we see somewhat less freezing of gait.

But it's the, the anxiety or the, the, notion, the nervousness of of being seen. We also know that people under stress exhibit, or may exhibit more dyskinesia.

So, so what's what's happening here? What is it? So when we encounter a particular perceived stressor with emphasis on the word perceived, our body initiate its, complex biochemical, reaction as, as we know, we call it the stress, the stress reaction.

And there's a complex biochemical cascade that happens. And, we call this the stress response. So at the core of this is the hypothalamic pituitary adrenal axis, which we know when we talk about this in, in the mindfulness lessons.

And it involves the release of stress hormones such as adrenaline and cortisol. And these can affect multiple bodily systems including the nervous system, the endocrine system, the immune system.

And this response, of course, is designed to protect us in the short term but can become harmful when activated chronically. So. When when we talk about this, I often bring the example of, you know, we're driving in traffic and, it's rush hour time and there's a lot of cars on the road.

And, you know, you have to follow with some distance, but, you're doing your best to navigate this stressful anyway situation. Right? And you look to the side and then you look back at the car in front of you, and you notice the red brake lights flashing on.

Stress, the HPA Axis, and Parkinson's Symptoms

Well, that that wound that we get that, that rush that we get in our body, that adrenaline rush, is the autonomic nervous system, the sympathetic part of the autonomic nervous system kicking in, and that, you know, plays a role in the expression of Parkinson's symptoms.

So mindfulness training is a way to first recognize that and learn how this autonomic nervous system works as best we know it, it's sort of like, if you will, a teeter totter.

So the autonomic nervous system is running all the time. It's the operating system it runs with without our there are some people who tap into it, but without most people's knowledge that this is running.

And there is a certain tone, between the sympathetic and the parasympathetic and it's you can kind of think of it like a teeter totter. So there's, there's they're both of them are always active.

So they are the autonomic and then the parasympathetic. So you know, we know the autonomic sympathetic branch as the fight or flight or battle or bold.

That's one that gets us ready for reaction to, to be able to react. Whereas the parasympathetic branch is more the one of rest and digest tend and mend.

So those two are, constantly, in some sort of finding some sort of equilibrium with each other. And so the

understanding of this process is something that we work on with mindfulness training.

And, you know, this is so because, many of us as adults, without wiggling, don't feel our feet anymore. Now, some of that is probably neuropathy, but some of it is not.

So we sort of lose the awareness of our body. And, mindfulness is an invitation to re inhabit the body. And this is so that we can use the body to help us as a metric for where we are with any given stimulus.

So it's sorry. No, no, this is so great because, well, I have to tell you that I, I explain some of these things to my patients, and you and I have had many conversations, but we don't necessarily talk about what analogies and things we use in the clinic with each other.

And I talk about the stress response, the I call it the biological stress response to help people understand that stress has many inputs, but manifests itself, you know, biologically, chemically, hormonally, immunologically in terms of mitochondria, energetically as well.

And it's not just this thing out in the atmosphere, the, the ether of, of, you know, emotional or spiritual stress. But it can be it is certainly very importantly that way as well.

But it can also be, of course, like the guy who recently, not too long ago passed away for different reasons, but I use the analogy of the gentleman who did that movie called Supersize Me and, you know, ate McDonald's food for a month and nearly killed himself by essentially activating his stress response system as a result of the, you know, that food.

We're not really food, as you know, but the I use the same, traffic analogy. And then I also talk a little bit about, Robert Sapolsky, whose book, Why Zebras Don't Get Ulcers, to offer people that alternative, perspective.

But, I was thinking about and I didn't want to go too much on a tangent or throw you off or anything, but it's so interesting because you and I, as neurologists, we don't just see Parkinson's, we see Alzheimer's, I see ALS, I don't know how much you, you know, do.

But each of these disorders sort of targets a different neurological system, if you will. You know, ALS the motor neuron, you know, the upper motor neuron, lower motor neuron, Parkinson's or the extrapyramidal mood, motor system, although obviously, as you've mentioned, there were other things that are involved.

The Alzheimer's patient who is experiencing problems, especially with memory, but then eventually other things, are affected. But my point is there, it's it's very interesting to me because you're bringing up kind of almost like as much the scientific explanation as things that, you know, you would see sort of philosophers talk about is why is it that these diseases affect certain systems where certain functions of the brain preferentially, at least early on.

And then there's sort of that all things lead to the same mountaintop, of course. But I would sort of, you know, you were saying fight and flight for the sympathetic nervous system, but where my brain immediately went was fight, flight or freeze?

Oh, yes. Yes. You know, freeze is is is indeed I usually say freeze. So thank you for for adding that because indeed, that is very typical. And victims describe that often as a reaction.

Sadly. So so yeah. Thank you for, bring up Sapolsky is work, you know, so, it seems that now I'm. I'm focusing on Parkinson's today, and I and and thank you for, you know, the other difficult things that we that we as as neurologist, address in the clinic, but, Parkinson's, it seems to be exclusively a human disease.

So what, you know, and so that's another. And I still get goosebumps at, at the, at the thought that we're looking past this, like how how do we experience stress as opposed to a dog or cat or a horse?

And so, you know, it might not be we might find another species that that has this, but it's, it's, you know, thought

maybe be a function of this, you know, evolution of the brain where we have, an increased demand, and, and, midbrain structures, not known, but, so how this plays out in people then the, people who have Parkinson's are, under stress because they have have the disease, of course.

But and and then they have this reaction, this stress reaction to events, whether it's bodily events, changes in the body or external events. And I think what is important here, and it sort of ties back to this idea of, of being human, and, and having this ability to cognate in the way we do, with certain degrees of abstraction and, and so what is it in there that might be different?

Maybe. Is this idea of perception. So we perceive things as humans and that perception, can be a neutral event, but we may attach some sort of valence to it.

So something we perceive, some just input that we're having. Like I'm looking at this light that I have on, you know, can be perceived in different ways by different people.

So and it's in that, it's in that personal experience of perception that in mindfulness, we start to, shed light on, uncover, discuss with people to see how we react to events.

So. Yeah, we thank you. Yeah. I didn't invent it. But but, you know, it's a it's a, a tried and true, way that people study more in, in, perhaps in eastern philosophies than we do in the West. But, so we work with people and we actually, in a structured manner, have them explore for a week long.

Yeah. In between, our sessions, pleasant experiences, like, every day. Document a pleasant experience and document why, it was pleasant to you. And what did you feel? What were the physical sensations?

And, you know, it's, surprising the Dubliners, have a, have a line saying, you know, so-and-so walked, so many meters in front of his body, right? The people people aren't inhabiting the body.

So just having people experience and this is a classical one that people use in mindfulness is, you know, washing the dishes and the feeling of the warm suds on your hands.

But we we pass by so many pleasurable things, in, in life, in our daily life. Because we have to I mean, we have to be judicious with our energy and our attention.

But, as it pertains to stress, we we guide people in, examining how they have judged events. So this automatic judgment. Right. This is good. This is pleasant.

I don't want that that, so do want that. This is unpleasant. Don't want that. So these, these sometimes unrealistic desires in wanting to escape, causes some cognitive dissonance.

So we look at the unpleasant experiences and what they do in the body. And this ties back again to that seesaw, in the autonomic nervous system, you know, what did you feel in your body?

You know, did you have a gut feeling? Do you, you know, does your. Oh, that's a heart opening experience or, you know, any number of these whatever people bring.

And the fantastic thing about working in a group is that, people pull from each other, people learn from each other, and, you know, there's, there's this idea of wisdom of the group.

So and every group is different. But so we work with people with these experience and we share them in the group. It's homework. People are given this homework.

So one week is that pleasant experiences. The next week is the unpleasant experiences. And we help people, we inhabit the body, so that they can use the body as a measure.

Of how they're taking in any given experience. So, yeah. So you now this is all experiential, what you're sharing, and some of it is, observations gleaned from studies you've done as well that, going back to more formal studies where there are things like hypotheses and so forth, I wonder if you could, you know, because you are in academics, you do do research.

You're connected to other people who do research. Some of the things that have been more formally learned about mindfulness in the context of Parkinson's, what are we?

What are we learning in a more formal, scientific way? I think we're still looking at the epidemiological data, and there are hypotheses, and I think that they are based in this idea of the stress response. And, the idea that people who seem to have and this comes out of the bloom group in the Netherlands, you know, the people, they're people who have some sort of practice and have some sort of grounding that they tend to fare better, when under stress.

People with Parkinson's, as opposed to people who, who don't have, either good social support or some kind of, training, some kind of, stress mitigation and and it could be exercise.

I mean, there's a lot of things it doesn't, you know, it's not just mindfulness. Of course, there's there's literature on a number of activities, and tai chi and ballet and, it just as it happens, though, now that the literature is growing around, mindfulness and there are still high prophecies as to how this may be working.

And so we we're gaining on epidemiological, numbers. More than, an actual mechanism by which this works. If I were to, make a guess, I think it has something to do.

I think the fact that Parkinson's is primarily a human disease, and we have this evolution in, in our, in our free frontal cortex, that, you know, other species don't have, what does that mean?

And is there an A and an increased bio energetic pull on the midbrain as a function of that? These are all hypotheses, but I think we don't know.

Mindfulness Practice, Perception, and Resilience

But the fact is experientially, me, myself as one health care practitioner who's had, had hundreds of people with Parkinson's and, and their caregivers in class and continue to have, there are many people who gain some degree of freedom from, anxiety, freedom from negativity, and Find some decrease in their level of stress as a function of participating in the weight class, but also the community that we've built that we meet, monthly with, and, so it's, it's a community support and, you know, isolation.

And, doctor Submarine speaks about isolation and, you know, the conditions of Covid and what that has done. And, very interesting research in that area as well, so that the idea of community and in our modern.

I would even argue that it's sort of inherent within some of the biochemical, imbalances that is Parkinson's disease, that it it does tend to drive isolation.

It's by, by the very nature of the disease because that sort of lack of prefrontal, even though we're talking primarily about, you know, the midbrain, again, we tend to over focus on the movement component, you know, and I know that that initiative, the drive, the desire, you know, I'd rather sit and not rather, that's probably not the best word, but there's a tendency to sit and do less.

The apathy. Do more. The apathy. Apathy. Yeah. And that leads to disconnection, you know. Have you called from groups? Well, they I don't want them to see me like this or, you know, I don't I'm afraid they won't accept me or they'll treat me like I'm, I'm handicapped and I just want to be friends.

I didn't want to be thought of that way, you know? And so it sort of becomes a self-fulfilling prophecy of sorts. Yes. Yeah. Apathy is, is a is a very difficult, state for human to be in.

And, I've seen that quite a bit. And it's not just a dearth on on dopamine. Right. It's not just it's not just dopaminergic. So, you know, I think that really needs to be looked at at an individual level.

And, I think psychiatry is making, advancements in that field. But as in the, in the realm of mindfulness for Parkinson's, you know, I think the most people who participate just by the simple fact that they sign up and show up, apathy is less of an issue.

I still do see it in some tasks, in some ways, as we have, couples that join, you know, we have a caregiver and, and the person, the identified patient or the person with Parkinson's.

And, there's sometimes there's seems to be a little reticent, reticence to share, information. But even that seems to soften over the eight week period that we're together in group.

Yeah. So I think that the, the, you know, biological psychiatry is growing and, a very interesting field. And I think it can add very much to, to this work and to try to understand, you know, what is it, in the human brain that, causes those cells.

And we'll learn more at the, movement Disorders Congress upcoming. There's going to be some incredible talks, in this area. So in the interim, what, my focus remains on is this idea of Brazilian and stress resilience.

You know, why might, why might I find this interview stressful? And and you might not find it stressful? You know, what is there in our character, that that we have access to, that we can understand that we can talk about and overcome to become more resilient.

So in part of that is, this idea of perceived what we perceive. Yes. And, so there is a scale for this, and that's a perceived stress scale. And it's, widely used and it's validated.

And, so if, if people are followed over time, what with mindfulness as an intervention, what is seen is that the capacity to be mindful. So mindfulness let me stay very clearly is a human capacity.

Right. Everyone has it. And it's sort of an innate capacity that can be trained. And I often liken it to learning to play a musical instrument. Right.

So, we, we learn together, we identify what it is, and, and we hone that. We practice there people who participate in the inner eight week group sessions get homework. And they and they practice at home.

And in most studies on mindfulness this is documented like how many minutes or hours did people practice. So this capacity for mindfulness has to, is there and what we see is there's an inverse relationship between the trait mindfulness.

However it's measured. There are different scales for it. But, however it's measured, there's a, an inverse relationship between that and perceived, stress.

So the higher the mindful skill, the lower the reporting of perceived stress. So that is, something that we focus on, in the training. And where are you seeing then again, just your observation and working with folks that in addition to building resilience, and feeling a little more back in the driver's seat, that the disease doesn't control you, that you have more capacity to sort of control the disease and to be more self deterministic.

I'm just wondering if you are seeing improvements in tremor or improvements in gait or improvements in posture, just as a consequence of being more practiced in mindfulness.

Yeah. There. Well I there's there's data on there that we've published on that. We saw a decrease in tremor and study that we did where we also had pre and post MRI brain scans on population with a waitlist control.

So some methodological, improvements could have been done. This was back in 2013. So, you know, we should

have had an active control, but we didn't. But anyway, the results that we found were very similar to the results that, were found in, by Britta Halsall shortly before that, after an eight week intervention.

So, my question was at the time, and that may seem, very, naive, but, my ask myself, you know, could it could someone with, neurodegenerative disease, could their brains change in the same order of magnitude as someone who was had no identified disease?

So age matched, sex matched, socioeconomically matched, in this in this study. So, there is, there is this degree of brain change that happens after eight weeks that's measurable, measurable on various, clinical rating scales that have been validated.

So in our study, we saw that there was a clinically significant change in the uptake motor, scoring. And that's there are there's a and one other study, it was a large study by quack, who, also reports an increase in, an improvement rather in the, motor part three.

In her study. So it's, You know, we need more than that. We need not all the studies. There aren't very many. There's a good, article, put out, by, Gosh, I might have to slow things down.

There's an article that came out and the movement disorders, volume 36, in 2021, where there is a, 2468. Eight studies, that were, specifically around a Parkinson's and mindfulness interventions.

And you see, methodologically, there is, misses, in the Movement Disorders Journal, volume 36, number one, from 2021 that, and I would strongly agree, there's, methodological differences between the studies, which makes it difficult to judge them in the aggregate.

So more work needs to be done. But, and I think that's happening, I think that we're seeing that, mindfulness is a, a reporting and seeing that those of us who have experience in the field, that it does, improve quality of life through this skill of honing mindfulness and, this idea of re inhabiting the body, using the body as a measure to determine how stressed one is in any given moment, and to learn techniques such as breathing.

So, you know, mindfulness gives you're inhabiting the body, gives you, an opening to the physiology of what what's going on right. You can you start to feel when you're stressed out or getting stressed out and can take action through the portable, reliable tools that you've learned to use in mindfulness.

So when you start, you know, when one starts to feel that, you know, I am getting I feel that, you know, many people don't feel their heart beating. For example, many people aren't aware of their breath, how deeply they're breathing or not or how shallow they're breathing.

So we we learn these techniques that help us have an influence on this automatic autonomic nervous system. So if, you know, breathwork is very important and certainly not well, just like meditation is not, you know, owned by mindfulness, yoga is not, you know, just a part of this.

These are huge, huge disciplines. But breathwork is another one. And that's one that we use, in, mindfulness. But, as opposed to some forms of breathwork that where, you know, you learn the physiologic breath or, any, any number of other ways of accessing it. But, mindfulness is, is gentler, certainly for people beginning.

And, and what we do is we learn to follow our own breath. We become intimately aware of how our body is breathing in any given moment. You can tap into that.

Am I breathing, you know, fast, shallow, or is that a sign that this is a stressful think? Does it have to be? I mean, do I have to be experiencing this moment as stressful or can I show up in a different way?

Or should I? Right. So it is the body, you know, maybe giving you signals before, you actually have the cognitive awareness of, of your state at any, at any time.

So it's a, you know, is it real being able to check those thoughts against where did they actually come from? Did I create them? And if I created them, I can create other thoughts as well.

Right I can yeah. Change change the narrative. Entirely. Yes. There's a great degree in freedom, in that, you know, it's easy to accept this the following sentence.

You are not your thoughts, right? It's it's that's easy. I think we can, you know, we can understand that. Right. Then the next one be are all, you know, our thoughts are harmless.

You know, that's a big one, you know. Yeah. Maybe that's not true, right? Maybe, and then to learn that we have this degree of freedom in thought to to learn that we, you know, that it's an amazing thing that we have cognition.

But to to have some space around that, to be able to examine it quietly and, you know, and to see how often am I ruminating, how often is that just that program just running unpredictably and using energy?

Right. So there's a whole lot of discussion around these things. And I, I find that people with Parkinson's are very loyal as they are in many studies. Right. And study populations.

They're very loyal and, and, very compliant in, when they're in clinical studies and, and, and take studying of mindfulness, when we do it together in group, they take it very seriously and show up.

Yeah.

Research Findings and Quality of Life

You know, back in 2018, I published a journal article with Dale Bredesen and some other, authors, and it was entitled Reversal of Cognitive Decline 100 patients, about a at least a third of those that 100, about 35, 36 of them were our patients, from our, Shoreline Health neurology functional medicine clinic from a brain tumor program.

You know, at the time, we were still we were using biomarkers for diagnosis of Alzheimer's, but they were either, amyloid Pet scans that, were still considered, research oriented, that they there was no reimbursement structure, there was no way to order and amyloid Pet scan, for, a regular, you know, office clinic patient as opposed to a clinical trial or study.

So primarily I was doing spinal fluid testing, and now today, we're doing blood testing, to look at Alzheimer's biomarkers. And my point is that at the time, though, we knew that if we worked on sleep, if we worked on nutrition and anti-inflammatory diet, you know, nutrient density, things that, you know, really made a difference in terms of brain health.

If we worked on, we had a, a medical fitness, a neuro fitness program, if we used mindfulness and we weren't teasing out the individual effects of each of these therapeutic lifestyle factors.

But collectively, we were aware that it would improve cognitive function. And we were certainly, I think, really actually at the time there was the largest case series ever published.

But, you know, even, since then and separately, other people have looked at this sort of thing and shown that cognition improves and Alzheimer's. But what I'm really getting at is that more recently now, because of the ease of measuring these Alzheimer's related biomarkers, we can even show that sleep and nutrition and movement and mindfulness, and relationships are connection.

The the foundational lifestyle factors, actually have a direct effect on, you know, the pathophysiology, the, the levels of biomarkers to the point that, you know, Dean Ornish could publish his recent paper and show that in a controlled trial, he actually reversed Alzheimer's disease.

You know, Richard Isaacson gets on CNN, he's, of course, you probably know him as a neurologist down in Florida

who used to head up the Alzheimer's Prevention Center at Cornell in New York and anecdotally has, you know, a case of using biomarkers to track reductions in amyloid and tau burden in Alzheimer's.

So where I'm really going is, you know, we're not really in the same place exactly. With Parkinson's. There are it is possible we think, and there has been publication of a number of biomarkers, but the main ones that, you know, get looked at, especially the main one being alpha synuclein, right now, in order to really quantitatively measure alpha synuclein, we have to get a spinal fluid sample.

As far as I know, I could be wrong. I do a lot of skin punch biopsies, but that's not quantitative. It's more qualitative. It's there. It's not there.

But we want to track it over time. I'm only asking, I know the research isn't there, but I'm only asking the speculate. Are we sort of, you know, here we are in 2024 talking about mindfulness and Parkinson's.

And the whole theme of the summit largely revolves around therapeutic lifestyle factors and we show we've shown repeatedly that all of these sleep and movement and nutrition and mindfulness and relationships have a have a very direct impact and impact on function and Parkinson's.

I'm just curious if you have any thoughts. Again, just speculating. If you think if we could measure biomarkers, would we see changes in the positive direction?

I think we don't know. Well, we do. You know, if you consider imaging. Yeah. You know we certainly I have personally seen it in imaging. I think the other thing that we have our hands on that we could be looking at is cortisol.

But that's tricky. You know, that has to be done. Well, you know, you know, whether you decide to do it here and what time of day. And are you going to do you know that it's tricky?

So, you know, I don't know outside of that, I'm, I'm looking forward to, to the Congress that's, that's coming upcoming to see what the latest is in that, in that realm, for my part, for my working in this field since 1992, part, I am pretty much dedicated to serving people using, mindfulness training, using the meditation and yoga and the body scan to keep people, as healthy as they can be by their own choice so that they can participate in these clinical trials that are happening now.

So I hope that sort of it's sort of a roundabout answer to your question. But I think, you know, I think, you know, looking at brain volume over time, you know, not just, pre and post, you know, pre eight week and post it mindfulness intervention, but, you know, sequential scans and following these people longitudinally that we don't have in the mindfulness literature, good longitudinal data.

You know, there is some placebo effect from you know, being in this group now is it, is that so or is it the social, aspects of, you know, what makes us human?

What makes, you know, how we are, group beings, actually, and and and group support and how isolation is deleterious to our health. So I think there's a whole lot of things to measure.

But in the literature up till now, it's basically been, cortisol and then clinical measures. And then there's only one imaging study that's what I published in 2013, which is similar in order of magnitude of change as compared to the, to someone who measured that, in a non Parkinson population.

I think that's important to know that, neuroplasticity seemed to be just as robust in people, who have Parkinson's but longitudinal. We don't have the data, we don't have the data. So, but would you suspect that we might use as, as biomarker in this paradigm?

Well, I, I do think it would be most interesting to be able to track alpha synuclein levels. And I know that Octave Bioscience, which is a company I've had a lot of interaction with, and we especially, use them with our M. S.

patients through M. S. disease activity test. They are they got, $10 million grant from the, Michael J. Fox Foundation to do for Parkinson's what they have done for multiple sclerosis, which has really transformed my, my health.

How I help people with Ms.. It's just been a game changer. So I'm really looking forward to seeing, which biomarkers they find most practical and, and that it will be all blood based biomarker, which is, you know, it's just so much easier, obviously, to draw a blood sample.

But in the broader sense and again, of course, just speculating. But I think that we will see that these modalities have a direct effect on what is happening in the brain in Parkinson's, and that it either slows or potentially even reverses some of these pathological biomarkers.

Right. We've seen it absolutely with Alzheimer's. We've seen it with multiple sclerosis. We've seen it with ALS. You know, diets rich in antioxidants.

You know, nutrition makes a huge difference in our ALS patients. There is no reason to believe that it would be any different, you know, for for Parkinson's there there are, of course, as you know, are measures of neuronal injury and degeneration, like neuro filament light chain, which has been used pretty widely in the neurodegenerative, you know, research fields.

It's not exclusive, Dennis. It's not exclusive to Alzheimer's. But, you know, is it a sensitive enough measure so that if you do an eight week mindfulness program, you're really going to see, you know, the needle move and NFL?

I I'm not sure I will say that about the NFL became commercially available as a blood test through lab for, a few months before I started using the octave test.

And octave incorporates NFL into. There are 18 biomarker panel. And so I started drawing NFL levels on my patients. And I had drawn NFL levels for a long time.

On the research side, we have a, an entity, Charlotte Health Neuroscience Research Center. We're up to about 53 trials now. So we do quite a bit of work.

And for years we've drawn NFL levels. But you know, it's a double blind, placebo controlled trial. And you don't really have access to what normal is.

You just get a number and then, you know, you don't really know what that means. And now we have reference ranges and things that we can track. But again, I, I can't say that just in the clinic on a day to day sort of practical roll up your sleeves level, that looking at NFL levels in my patients, the the limited amount that I did before I started using the Ms.

disease activity test, I, I just didn't find it to be especially helpful. And maybe other clinicians, have drawn it quite a bit and find it more helpful than I did.

But I don't even know where LabCorp comes up with the reference ranges. You know, that's always another challenge. You know, how do you decide what normal is and what normal is?

And, you know, I, you know, it's makes sense. I will say, too, though, that I really align with your thinking, about where does all and when we, you know, there's, of course, a lot of people have been trained in functional medicine out there one way or another.

But in reality, sometimes, in my own experience, I see that when we say, well, I, I'm a functional medicine practitioner, that people sort of automatically assume that the person down the road, say, who says I, I offer functional medicine.

My clinic as well is is doing the same thing as I'm doing. And that's just not the case at all. So what we have

created here, and I've come to look at it as more just integrative therapeutic lifestyle medicine with systems biology.

I prefer not at this point in time to use the term functional medicine, because I think we can say it on the summit. It's become kind of bastardized in a lot of ways, and I think it doesn't carry as much scientific legitimacy as saying I'm interested in therapeutic lifestyle medicine, which a lot more, of the mainstream community that you and I also, you know, you practice in, I kind of have one foot in each, you know, camp.

But I find my colleagues much more accepting when we talk about, I'm interested in nutrition, I'm interested in sleep and so forth. But I will say that in that context, we use, a four point salivary cortisol test with all of our patients, who participate in my brain tune up program.

I personally think it's probably the most important test they get. I just, I, you know, and it's. I believe it and well know that that's incredibly powerful if it's done well.

Biomarkers, Lifestyle Medicine, and Clinical Limits

And from preservation to, storage to analysis. Right. And some of our Parkinson's patients just have trouble spitting into the little two. Yes, you know, it does.

It's practically speaking, it can. You know, if it's not timed properly and so forth. Yes. But we have to understand, there is most definitely that top down hierarchy.

And, you know, you referred to the HPA axis as and if we don't understand what's going on there. So you know, when you're in fight or flight, nothing else matters.

When your brain is in fight or flight, nothing else matters. You know, you can take all the magnesium or, you know, eat all the kale or whatever it is.

But you've been hijacked. You've been hijacked. We have to understand that. And what blows me away. And again, I'm just curious about your personal opinion on this, because I love I love the fact that you're talking about this is it's just my, you know, sort of very biased impression that, I would say the vast majority of physicians, including neurologists, have no idea about any of this research about what the HPA axis actually is about it.

It's important in our health and and in brain health and neurodegeneration in particular. I have talked to fellowship trained, you know, autonomic trained neurologists that have no idea who hand sell you is have no idea what the general adaptation, syndrome is.

And yet that's the Bible as far as I'm concerned. And yeah, I read and I read his book as a teenager. You you, you know, and I sometime lately I've been see, you know, it's almost a shame and I don't I don't want to insult anyone.

I that's not my approach, but, you know, and I know you're a couple of years older than I am, but still, when I went through medical school and I think still today, they talk about, you know, how do you set yourself up as a college student to be in the right place so you can even just get accepted to medical school?

And they said, well, you should be a math and science major, right? Biochem chemistry, you know, physics, whatever. And I love it. I don't love biochemistry.

I have to be admit, but I did well in physics, I like biology, I was pretty good in math. But the point is that being a physician is not equal to being a biochemist, right?

Being a physician is being able to take the the scientific principles, but also the, the, the human principles. You know, the Joseph Campbell, those of, you know, mythology and narrative.

Right. The ciliates work and you know, everything else. Sapolsky who's who we've touched on, I think even though he's more of a contemporary and and and to be able to integrate this and do something, that is exactly what you've

said in using your words, this is the human experience, right?

We put on that white coat, but we engage people in the human experience. And the human experience includes this unique thing called Parkinson's disease.

And we have to embrace them as a whole person and not just, you have, you know, loss of dopamine producing cells in your substantia nigra. And my job is to give you L-dopa so that it's for as long as possible, all that machinery, what's still working can still produce doubt to me and in your brain.

And then come see me in six months, right? Yeah. I have to do way more than that. We certainly do. And, you know, I think that there are a lot of young colleagues who, start out with, with, admirable intentions and, and, and laudable that deep, deep desire to help humanity.

But and, the system within which we work is, not always generous to people who, you know, identify with, you know, healing aspects of our profession. And that's a sad thing.

So, you know, it squashes, and, and, and unless someone is very strong or very lucky or very persistent, you know, a lot of, of good, intentions get, put by, put aside, because there's no time for them.

There's no money from them, there's no funding for them. And the next patient is ready to see you, doctor. And the time the clock is running, you know, people actually get timed.

And with the EMR, with the electronic medical record, you know, they know how long you're busy with your patient. So it's, so, you know, it's wonderful that, that you do what you do.

And I know it's backbreaking and, and being a physician, I don't think anyone chooses this profession. Because it's easy. Right? And, so I think it's wonderful what you do. And.

Yes, cortisol, we did measure it in our, in one of our studies, but, it wasn't, stored properly in the lab, and we lost all that data. So. Yeah. Yeah, that was, and I remember you, I said we you did what?

It's to remember. It's an awful thing, but those things happen anyway. We get interesting imaging data and so there's one thing that I would like to share still, from my end, and that is, how people should prepare for, the mindfulness training so people can find us.

The website is simply Parkinson's mindfulness.com. And, some of the things that people should consider is, you know, check in with your health care provider if you have a serious depression or serious anxiety, you know, check in with them and make sure that they agree, that you follow this eight week, course that meets 1.5 hours a week.

And, if you don't come to our mindfulness because there are others out there, I would, suggest that people look into the credentials of the person who's teaching.

It seems very simple to teach mindfulness. You know, you are not your thoughts. And we're going to do yoga now. But but there's more than that. And that is, when we start meditating, sometimes we discover parts of ourselves that, we, you know, we talk about the dark night of the soul, and things of that nature, the occurrence of those are much more rare in mindfulness training.

Much more rare. It's considered by many Institutional Review Board as to be of, you know, very low risk. And they approve these studies with without anything.

But it can happen. And so I think, it's important for people to seek an instructor that is well grounded in the material and has has been able to guide people through some difficulties, such as that.

So, and there are qualifications now, there's, you know, the, the University of Massachusetts has a, had a very good program. A lot of those instructors have moved to Brown University.

So there are people there are certification programs are qualifications for teachers, and that includes a personal practice and practice with the material.

And when you're in the classes, just, for your own, comfort, it's probably good to somehow time it. So with the medication. So that you're in mode or on that your medication is working, as well as, as you're accustomed to have it have at work.

People who may have sudden off phenomenon in their, clinical, expression of Parkinson's, might want to have rescue medication business at hand if it's necessary.

Good point. Yeah. And then, people, show up and be fully present. So, you don't have to participate verbally, but being there in the group and showing up, is very important.

And having a quiet, comfortable place to, to do this hour and a half together and a chair for the chair yoga. Those are the things that I would but, yeah, people can check us out on the website and, I hope, it would be nice to have questions from the audience at this point.

I've enjoyed your questions very much. Ken, doctor Charlene, and appreciate your time on. Most definitely. You know, I can't I just want to emphasize for folks who are either watching or listening to this interview, how important the information doctor Pickett is sharing is in your life.

You know, sometimes I say this to folks in the clinic, I say, look, you know, this stress resilience practice is as important as breathing itself or just sustaining us as human beings.

And if I told you in a clinical scenario, if you were coming to see me and you're sitting in the exam room and I'm the doctor and I say, okay, now the treatment for your Parkinson's disease is to never eat, just stop eating.

Or the treatment for a Parkinson's disease is just don't sleep. Just quit sleeping. Drink all the coffee. Which is never like, would you like that? That's crazy. That doesn't even make sense.

And you do 180 degree turn and leave the room right. We must sleep. We must sleep. And we know that there's a certain amount of restorative sleep that's critical.

And fortunately, we have lots of tools to track sleep and make sure it's of the best quality and to improve sleep quality, even through mindfulness and through other strategies like cognitive, behavioral therapy, which overlaps tremendously with mindfulness.

And then nutrition. We know lots about nutrition and what you can do to improve the health of your brain.

Getting Started with Parkinson's Mindfulness

So all I'm asking folks is if you embrace exercise, if you embrace food as medicine, if you really wholeheartedly understand that sleep really is medicine and that we know that studies again, I'll just use Alzheimer's because those biomarkers are so much more accessible now that one good night of restorative sleep clears the amyloid beta from the brain, sleep clears amyloid, the pathological biomarker of Alzheimer's disease is reversed by sleep.

So why would it not be reversed by creating this stress resilience practice in your life? And then imagine when you can combine these together sleep and nutrition and movement and stress resilience practice.

And then we can take a microscope and get into all those fancy labs and folks do love and they have value, but they have value only when we're also willing to work on all of those other things as well.

Because because those tests I tell people tests are information, right? They don't fix you. They are information. And if you can then take action on that information, great.

But when you're practicing the things that Doctor Pickett is talking about, that is medicine right there. And I have confidence that we are going to see as our technology advances and there are proposed, I'm sure she and I will hear about them a lot in this coming week.

Proposals out there for staging systems of Parkinson's. So we can then, you know, adopt these disease modifying therapies and know that they are really making a difference, not just improving symptoms.

Well, I think we're going to see the same thing for mindfulness as well. I'm looking forward to learning more. It's my $0.02. It's my two. Cents. The only support I ever got in the States was from, Trinity Health.

But that was just a one time grant to do, the research we did on the focus group. And the other moneys came from, back in the day in Belgium, which is worthy, which is where the imaging studies were done.

The head of the department said, sure, Barbara, here you can use the camera on the weekends and in the evening, and I'll give you a tech. Nice. Yeah. And I really want to make sure is that your, mention of what I know you're you're creating a website and evolving it and building, you know.

Yeah. So I'm ready. So right now, I the right the mindfulness that I teach currently is supported through foundations. So the Michigan Parkinson's Foundation and the Parkinson's Foundation of West Michigan is paying for so people can attend classes free.

So I'm not sure how long that's going to last. So what I'm this is between me and, you know, I'm that's why I'm creating, A pathway of my own with my own website that people can sign up directly with me.

Right. To study mindfulness also with the possibility of doing one on one training. But we look forward to seeing that come to its full fruition and learning more about it as as time progresses, and hopefully even as soon as the Parkinson's Solution Summit 3.0, which okay too.

So Doctor Palmer Pickett, thank you so much for being part of this summit, being co-host with me, sharing your knowledge and experience of mindfulness of science and neurology and the human experience that is Parkinson's and helping so many people.

And, and I thank you, Doctor Charlene, for this engaging conversation and your understanding and the enormous work that you have done in the field of integrative, medicine to, to serve, people with Perkins and, in your clinic.

And it's incredible, how up to date you are on the latest, technologies and therapies and how dedicated you are and serving these people. And it's, it's been my pleasure and my honor to have spent this time with you.

Thank you very much. Thank you. We'll look forward to seeing you soon.