Introduction and Guest Background

Welcome to Mold, Mycotoxin, and Chronic Illness Summit. I'm your host, Dr. Ann Shippy. And today we get to talk with Dr. Hemal Patel. He's professor and vice chairman of the research in the Department of Anesthesiology at the University of California, San Diego.

His research in the area of cardiology, cancer and neurodegeneration, pulmonary hypertension and has been groundbreaking. And now he's really focusing on the research to discover the molecular and biochemical signatures generated during meditation that impact human potential for health optimization and disease management.

So we're going to dive into the profound impact of deep meditative practices on health and disease. Thank you so much for joining us today. I just can't wait to share the revelations that you're making on this really amazing path to healing.

Yeah, no, we're looking forward to sharing some of this amazing data we have. Yeah. Do you mind just starting out a little bit about your story? I mean, you've done such incredible research at the molecular level of how things really work in the body to understand important illnesses, And this is a whole new area for you and those last couple of years that I.

I know you're super excited about. Yeah. So, I mean, I grew up with the notion that I've become a physician. Interestingly, as I went through college, I decided that's not the path I wanted.

So I'm the only PhD in a family of MDs, and so they all work with patients. I work with mice and cells and now human samples in the lab as well. The I trained as a cardiac physiologist, pharmacologists and then this was at the medical college was Wisconsin moved to San Diego.

My wife did her medical training through the Navy, which is why we ended up in San Diego. And this is one of the most amazing places in the world to do science.

And so as a postdoc here at UCSD, the goal was really to move outside of large physiological systems and start to learn more about molecular and cell biology.

And so we hit upon this idea that the membrane of cells has unique structural properties that then create resiliency to stress adaptation, as we discovered that this adaptation is really amazing for heart and neuronal cells that don't survive stress stimuli like heart attacks and strokes and things.

But it becomes sort of this double edged sword where cancer uses the same mechanism to grow out of control. And so the research then really focused on these membrane micro domains called lipid rafts and caveoli.

Well, my lab discovered and this is how I started my independent career at UCSD, was that the membrane becomes this conduit for regulating energy balance in a cell.

And so how the membrane ultra structure behaves sits really in close proximity to mitochondria. And this relationship becomes the key to stress adaptation.

So for the heart and for the brain, this relationship becomes key to maintaining energy balance. When you're deprived of resources, when you have a ischemic event in your heart or we have a stroke, this relationship creates a protective element.

What we then figured out was that this relationship is augmented in cancer, so cancer cells use the membrane as a

way to store oxygen and potentially adapt to hypoxic environments.

This is why cancer is so resilient, right? It grows in crazy, weird places where it shouldn't and doesn't have the resources to do it. So the research in this two areas is really the lab focuses on two main sort of topics is how the cell survives.

And once we figure out that survival process, how can we kill cells that we don't want to grow?

From Cell Membranes to Meditation Research

And so that's been the large molecular focus is cell adaptation that this esoteric level of the membrane. About three years ago, we started moving into this new area, this meditation research, and so on campus.

I shared an office with a pain anesthesiologist for almost a decade, and the idea at the time was a Ph. D. in the same lab or office as an M. D. At the end of the day, you talk about your day.

You start working together, invent some crazy amazing stuff, and off to the races. Toby and I became really good friends, but we never worked together.

And so then he left the university, started his own pain service, and was very successful when the opioid crisis hit, he people stopped prescribing opioids, right?

And so then they had to come up with alternative ways to manage pain. One of the alternative practitioners in his clinic, Hilary Hamilton, was really proficient at Joe Dispenza's meditations.

And so she said, Do you mind if I try some of these with our patients? And they saw some really amazing benefits. Toby then went to a week long event, was completely blown away and saw some stuff that you just can't explain, right?

I mean, it's people walking out of wheelchairs. Cancer is disappearing. Just amazing, amazing stuff that at this week long intensive event. And so we went up to Joe and said, we need to study this and Joe's course.

Yeah, we do. And Toby is like, I know God. So you remember all this stuff. I would tell him when we were sitting in our office late at night after a long days.

And so that's how it all started. And it's crazy. It seems like it's been 20 years that we've been working on this, but it's only been since the pandemic started like March of 2020 is when we really started engaging in some of this work.

And then it was slowed due to the pandemic. And now it's just taking off astronomically. It's been so fun on my side to see it work. You know, I knew about Dispenza's work because I've been hearing from patients and friends that had done it, and I personally didn't really dive in until April of 21.

And I think we were at the same event that it was in earlier. I got to meet you for the first time then. Yeah. And of course now I've been to five week long, so I.

Think and I resisted for quite a while as well. Joe had called me multiple times, said, Dude, are you working on this stuff? You should really come experience the event.

And being a busy academic just couldn't find the time to do it. Seven days is a huge long time. But then we saw the summary data and it was unbelievable what we were seeing in the blood of meditators.

And then this is like, I got to go see what's happening at an event. And so I went and it was transformative that week long experience too. And I've been a long term meditator, you know, I've done I would say at least six or seven other different kinds of meditation.

So I've been a strong believer. I just didn't think, Oh, I need to take a week to learn how to do this particular type of medicine. But I'm so committed now because of what I've witnessed, both in my own body and then my patients that have done it, you know, some incredible stories and then just the people around at the conference.

And then now both of my children went on their own accord, just what they witnessed from, you know, the changes that they saw in me. And I mean, one of the things we're learning is that it's not really the the standard run of the mill meditative experience.

Right. There's something unique that we still haven't figured out that's happening at these events that goes way beyond just closing your eyes and mindfully meditating.

I think it has something to do with the environment that's created there. Yeah. And then the level of teaching, like not just having the experience of meditation, but the teaching that Joe does to help to explain how it's working.

He's teaching quantum physics to a, you know, a group of over a thousand people and, and helping people understand what's possible, right? And saying.

Yeah, it's not one of these things where it's like, go in the corner, close your eyes and something will happen magically, right? That you're taught the process and how to go through it.

And then the process is really different than I think a lot of other things is there's a lot of introspective components to it. And the ones that really go deep into this, they have a mystical, contemplative experience that leads to really a reimagining of who and what they are.

So you started the experience about the same time as me, but then you have this data in hand that you're like, Wow, there's something here. There's lots of data out on meditation and the impact of it.

It used to be thought as something really, well, it's not real, but now you've even accelerated that scientific understanding to even a greater level to share a little bit about that.

Yeah. So I mean, for me it's been this, this curiosity, right? I've, I go to events now and I just sort of I meditate once in a while just to sort of stay balanced and everything.

But a large time, a large portion of my time at these events has been just observing my thinking about what people are experiencing and how I could get a better handle on that from a biological perspective with the idea that it would satisfy my curiosity of what's happening.

But then also, can we learn from this to help people who can't achieve, won't achieve? Were there some barriers to that achievement in some unique kind of way?

Right. The goal ultimately is to scale. It's tough to get to an event. Like you said, seven days is a long time. It's tough to get, you know, they sell out very quickly.

And so there just isn't that that scalability that we would want. And so the idea is could we use this research to really think about chronic diseases from a perspective where we could potentially identify control points, where we could go in?

And that's what we're all after about the research, is to really understand mind body connections and see if there's a unique approach to taking this to the next level.

I truly believe that there is that this can really help the individual down into their innate ability to heal. Yeah. Yeah. So if you want to dive into.

Yeah, let me show you some I think it's, it's for, for a scientific sort of analytical mind like mine. It's good to see some visual data to, to sort of wrap your head around what we're thinking and where we're headed.

Why the Meditation Work Began

So let me share some of that so we can just get a sense of where we're at right now and what we're sort of thinking about. So I'm sort of tongue in cheek title.

These talks that I give this evolution of species, right? This this idea that the thought can empower who and what we are. And if you would have asked me this three years ago, I would have said no way, right on this really thing.

That's a puzzle for all of that that it creates. There's problems in the world and these are ways to solve these external problems. I would have never thought of the mind as a way to solve an internal problem that you're having with your body and those kinds of things going through all of the data that we've captured over the last three years, I think my mind has shifted to this idea that the thoughts that you have really create the body, that you have.

And I think there's a way to to really take control of that. And we're looking at it from a very molecular sort of level, but also this high 10,000 foot view as well.

And so Tobi has been quite involved in all of this. He's the clinical arm of everything we do, and then we're the sort of the basic science arm. So he's involved in helping set up the clinical elements of all of this.

And then we do all the work at UCSD with lots of collaborators that we're looking at. So this. Is a massive undertaking like. It is. And believable. The amount of data that you're able to collect through this, it's it's just it doesn't exist any place else because you have.

And I'll give you a sense of the scope of how many people we've done. Right. So before the pandemic or around the pandemic, that first year of 2020, we were looking at maybe 150 subjects that we were looking at from then till now.

I think we've probably done experiments in some capacity on over 6000 people. And so the data from all of those individuals is going into a larger database that will be mineable.

Right? And so we can look at all conduits of that data and really look to see how meditation and mind are impacting body in unique ways. And each data set creates other end points that we can then incorporate into the system.

So this is one large data set that we're working with right now. This was part of this. Imagine a study we did in San Diego, and this was to integrate a structural, functional understanding of the brain and how it connects with the body.

And so being in San Diego, we had access to have MRI machines on campus as we brought 20 people onto campus, did MRI imaging with them before and after the event.

And we saw some amazing things. And this is not meant. So you can actually understand what I'm showing, but it's just the enormity of the data sets that we're looking at. Right.

So there are truly effects of meditations that were were coming out of our dataset. And the most exciting is this notion that there are regions of the brain that shut down when you go into a weeklong experience.

And these are regions that look like they should shut down when you're on psilocybin. So by closing your eyes and going into this deep meditative state, you're actually creating a state that you can create by taking an exogenous substance.

The big sort of conduit for this is that you can do this yourself. You don't have to rely on something from the outside to change who and what you are.

You can actually functionally create this yourself by going into this contemplative state. There are truly effects of the retreat as well. So it's not just that you can meditated away, but if you're in the presence of other individuals like

you talked about, there is something that happens, right?

There's a community of individuals that develops in this community. Effect is dramatic. This is something that I've been really curious about, whether you have to be at an event with a couple hundred thousand other people to get that effect, or can you get this effect if you're sitting alone in your room at home going through that same experience?

We've got some interesting things that we're dreaming up to do and test this next year. And so early next year, we're going to put this to the actual test.

What happens when you're experiencing the week long at home versus when you're doing it in a room with other people? Oh, that's great, because it may be kind of like the four minute mile, right?

Once you see some one person getting up from their wheelchair walking after ALS or a chronic neurodegenerative disease, and then that might even just open up the pathways and you don't have to be there.

Yeah, true. And then what we were really shocked at finding were these sort of foreign things, right, that there were whole brain changes that we were observing.

So it's not just one part of your brain that's being engaged or altered, but the fact that you're regions like the default network shut down seems to alter every aspect of your brain connectivity.

And this is something we're interested in looking at. And then the other sort of thing that we were shocked to find is that there's actually changes in people who are advanced meditators.

There's a region in their brain that has a higher volume. So they're it's like any muscle, right? So if you exercise it enough, the muscle grows. And so there's a region of the brain in these advanced meditators that they use day in, day out that actually starts to grow.

And interestingly, it's a region that controls their perception of their body in space. And so one of the big things that a lot of these experienced meditators go through is they have these mystical experiences where they have these out-of-body kinds of things.

And it's curious that it's that region of the brain that that has this larger volume. So this is something we're very interested in following up on. The big question for us has been, I think the brain is important and we're studying in a unique ways.

In every group that's looked at meditation has looked at how the brain is impacted. This is, I think, a known and a thing that everyone's interested in or we want to expand is we know that the brain is impacted.

But then what does that impact of this expansion due to the rest of the body? Right. And really creating this brain body connection kind of stuff. In order to get to this, we had to look at it from a larger scale than what people are looking at.

Most studies that you'll see in the published literature have maybe 100 subjects in it, and they're separated either through a retreat or they have unique interventions that they go through in separated time.

So they're not in a community experience. We designed these quantum studies, and so they're called quantum studies because their quest to analyze a thousand humans meditating, we did these smaller studies at events and they cost a lot of money to do, and they have a lot of resources that that need to be presented do it.

And so our initial studies had 30, 50 at most 60 people that we were looking at. We had this Joe dispenses communities. Absolutely amazing. Right.

Brain, Body, and Community Effects

And I think he creates this amazing environment for people to come together and to to learn and grow and to become the best of themselves that they can.

When we solicit for a study, we would have six, seven, 800 people volunteer to be in a study. We'd have to turn the majority of them down and they were pissed, right?

They come up to me and I knew I needed to do to get into your study. I've tried three times now and so quantum was really designed to cater to the larger group, given that we had this outpouring of individuals that wanted to be studied.

But let's design a study where we turned no. One away, right? And so Quantum sort of was born. The only buy in you had to have was you had to agree to wear a biometric device for the week.

And so 978 people agreed to do this in our first quantum study, which we were just floored at. And then they gave us self-reported health surveys before and after, and then to look at their biological input.

We did microbiome and epigenetics. And so this. Is like I think it's pretty amazing when you get that many people to give and start to sample. And so sample my I was actually at this event with with my 25 year old son.

And at first he was like, Oh, I don't want to do that. But then went see, like heard what was going on. I was like, Oh yeah, I'm in. And we, you know, we were taking beds.

How many people would give us microbiome samples? And this was not some, you know, this was not a time when you just this was a routine part of clinical practice where you just get a stool sample and look to see what's there.

This was a couple of years ago and we got 800 matched samples before and after the event, which we were Florida, that the majority of individuals agreed to give us this sample.

We're starting to we have all the sequencing done and the data is astonishing. The predictive ability of the microbiome before the event to tell us what diseases you have is insane, right?

It can predict anxiety up to almost 70% confidence. What's even more exciting is that when you look at the microbiome at the end of seven days, it's completely transformed in these chronic diseases.

This shouldn't happen. Most outside interventions suggest outside of antibiotics, which would kill your gut and really change it in days. A lifestyle intervention like diet, exercise, new environment.

It should take about 3 to 6 months to see a dramatic shift in your microbiome. And we're seeing this at Joe's events in seven days right? So something is happening where your brain is now communicating with your body.

And and we've got some ideas of what that is. Right? We think it's really tied to bagel nerve stimulations. The Vegas goes into the heart and it goes into the gut.

And so by creating this element of higher mental activity, we think you're impacting those two organs. There's a huge connection between all of the meditations that you learn between heart brain connectivity.

Well, we're starting to learn that when you get that vagal stimulation, we think you're probably altering your gut dynamics as well. And so we've got some cool studies planned in the next year to look at those three organs and their electrical activity and how it's altered by meditative states.

So the first quantum really stopped here. It was Garman Survey's microbiome and cheek scraper epigenetics. We then started to think, if this many people are really interested in doing this, how could we evolve quantum to the next level to get more information about an individual?

It's all we'd learned in all of our assays is the blood really carries a lot of information. And one of the thoughts was

when someone has these elevated emotional experiences throughout a week long experience, they're changing, right?

And they're creating new information in their body. And is there a way to track that new information and really move it to other systems and see if there's a way to to harvest and mine that information in a unique way?

And so blood becomes the conduit to do this. And so the second quantum, which we launch later in 2022, we asked people if they would agree to do blood collections.

And now we're getting more and more invasive in asking people to do their time, effort, resources, those kinds of things. The Second Quantum had about 810 people that signed up to do the study.

750 agreed to give us blood samples before and after the event. They're sitting in my freezer right now. We're salivating at what's inside them, and I'll show you why we're so interested in this, because we have a paper that just came out that just blows the doors off of what potentially possible.

And then we're starting to capture these video diaries at these events because we're very interested to see if and we talked about the scalability is could we learn from something that's very easy to capture, like someone's use of words that are their facial features and their intonation and their sound and connectedness to global change as we see in microbiome, in their blood factors and other things.

So then we can move away from doing these expensive things and we can just record a video diary and get them insights into what their experiences are like.

And then while we're at it, we're like, Well, let's just collect some tears. We have lots of tears in the lab from an emotional experience. We're starting to do studies with continuous glucose monitors and diabetics.

Urine contains a lot of information as well. And so we have bags and bags of tubes of urine samples stored away from this second quantum study where we think we're going to get a lot of ideas from.

And then eventually the idea is as we expand quantum and we think about the next phase of this is to incorporate large scale brain mapping into all of this analysis as well.

So that's coming. So where has Quantum sort of led us? Right? So we have about 1800 subjects that have enrolled in Quantum over the last year. The happy sort of thing that we came upon is, is we're looking at 60 diseases that are represented.

I knew that we were going to get a pretty deep capture of what the human condition is and what we're dealing with. But I never thought we would have 60 diseases represented.

And so this graphic looks at some of these diseases. The bigger and redder or something is the more people we have that are represented in the population with that disease.

And then as it gets smaller and different colors, we have less and less of those individuals. And so these are the biggest sort of things that we see are depression, anxiety, PTSD.

If you look at mental health, 50% of quantum has some sort of mental health issue that they're dealing with. I think this is on par with what the world population is facing.

I think especially coming out of the pandemic, we're in a different world. I think there's so many more stressors that lead to anxiety, depression that we're suffering from and, you know, our children and others and even work habits and other things have completely changed.

I think that leads to this. The thing that we're interested in is, is are those diseases, the mental health components really tied to other chronic diseases that we're suffering from? Right.

And we're certainly I mean, we really this is so relevant for this summit because these are all things that we see with the with the small mycotoxin exposure to especially, you know, the the brighter the category here, the more often we see it.

So this is perfect to be talking about this. Yeah. And so I've jokingly said, right.

Quantum Studies and Large-Scale Data Collection

So most drug studies that run clinical trials, they'll look at one drug in potentially a thousand people or so. And we're added at Joe's events with really a lot of help from Joe to get a lot of this infrastructure and stuff put together.

We're looking at one intervention and how it impacts 60 diseases at one time. Right. And so this is, I think, the the holy grail of finding out how the mind really impacts the body.

So there's two sort of possibilities that we've been thinking is that all of these individuals that come to an event that have all of these things that they're dealing with either are having unique experiences and you're changing something unique in every single individual to create an effect that then leads to an end point kind of thing.

Or what's happening at these events is there's something common that's happening that then is impacting all of these diseases. My bet and I'll show you data for I'm sort of hedging it, right?

I know that it's I think it's a common feature that's happening in all of these things that's created that then leads to this end point of fact. The positive element of that is if there is a common feature, then there's the potential to create ways to stimulate that endogenous effect in a much more profound way across these chronic diseases.

And so where this information really sort of came from are these self-reported surveys that we had. Lots of these individuals do. So 1800 people responded before the event of what they were dealing with, and then 1800 people responded at the end.

When you started analyzing this, something unique comes out of this. So one of the surveys we do is this SRF 36 survey, and we're looking at the differential change between what they reported pre to post.

It looks at eight parameters of physical, mental and emotional health. One of the things that I'm happy to report is if you're a healthy individual and you come to Joe's seven day event, you leave as a healthy individual, nothing changes.

Right? That's important. For this. One of these things is is people worry about these intensive meditative experiences and will that leave them with this notion of sort of this uneasy feeling of who and what they are?

And and the evidence suggests no. If you go to a plant medicine retreat, ayahuasca, you know, psilocybin, some of these other things, there are side effects, right?

You are going to sometimes see things that you don't want to see. Even if you're healthy, you're going to get these negative experiences. It's amazing to see that all of our healthy subjects have no reported major changes and they basically sit in internal circle.

What was shocking to me is that these are, you know, diseases that we see a really high level in our population that we're looking at in quantum. But irrespective of disease, where you would think some of them do have lots of pain modalities that they're dealing with, others not so much.

Every single one of these diseases has this gigantic shift in body pain as a conduit. So what this suggests to us is that what this global experience is doing in a common way for every one of the individuals that's there, it's it's impacting their perception and their feeling and intensity of pain.

This now starts to get us thinking about what is the common feature. So we think that this meditative experience,

this immersive, weeklong experience, that's profound, right?

It leads to brain changes that look like you're on psilocybin. It leads to changes in your biology that that are just amazing in terms of microbiome and everything else is you're creating an internal pharmacology and an internal change in molecules that target pain and pain becomes a primary feature of all diseases.

If every disease, I would suggest has some component of pain and fatigue that's tied to it, if you can eliminate pain and fatigue, your perception of your life dramatically improves.

And this is what we're seeing in this large population of 1800 people that everyone is seeing this dynamic shift in that one category I want. The data is coming out hopefully very soon.

But we actually have data to suggest that there are not just molecules that track with this phenotype that we're seeing and that, you know, we had sort of predicted, but it was unexpected that we saw such high levels of these things in in circulating blood samples.

So where this has led us to is I want to reveal and we've started revealing this so we had a paper that was published last week. First one on the work we've been doing with Joe at his events.

Congratulations. This is really amazing. And what number of paper is this for you? Like, I know you're highly, highly published. This is almost this is almost 250 and one of the hardest to publish.

But at the same time, one of the ones that I think should and will have one of the largest impacts, right. This is the the primary paper that we were working on that builds the groundwork of what we're trying to show, this idea that the brain can impact the body and that that information we can actually trap and capture and study and identify.

And so what we did in this paper in the title sort of tells this is that meditation induces a variety of factors in your blood that work as a way to treat COVID 19 disease.

And so the big highlights from this paper are we did a global survey, so we asked people who are in the Jodi Spencer community to respond to surveys and their experience with COVID during the pandemic phase.

And what we noticed is that if you are an experienced meditator, so someone who's been meditating more than six months, your diagnosis of COVID was 50% reduced and someone who's never meditated.

That's pretty profound. It was like that's like the most impactful statistics that I've heard. It was it was nuts. And the other aspect of it was the more you meditated, there was a dosing effect, right?

So if you meditated once a week versus twice a week versus every day, there was a bigger effect of meditating every day than than once a week. This suggests that that you're creating an environment that then needs to be maintained.

So just like you would in normal traditional 3D medicine where you're taking a drug to treat a disease, if you don't take that drug and you're supposed to take it every day once a week, you're not going to see the same effect as if you take it every day. Right?

So the dosing effect was really dramatic as well with the really profound stuff that came out of the surveys was that we know that it doesn't work for everyone, right?

So people meditate yet you're in an environment that that really is toxic and you're surrounded by people that may have COVID and you may get infected.

So in meditators that were infected, we saw that there was less symptomology, so they had less brain fog, it less congestion, they had less loss of sleep.

More striking is there resolution of disease was completely accelerated. So if they were meditating, they had the COVID 19 positive diagnosis, but they resolved their symptoms very fast and the disease sort of escaped them.

And so what we then thought was if this is happening in a global population, in a practical setting, could we identify something in the blood of meditators that that limits this infectivity the creative biology around this?

And so the rest of the paper really focuses on the blood plasma from these meditators we had during the pandemic. So we looked at three events. It was Indian wells before the pandemic started, like literally a month before the pandemic started.

And then the events that we were at, the Orlando 2021 event, we had about 30 or 40 subjects that we looked at. And then a couple of months later, we looked at a cohort in Denver.

And so it's about 111 people that we looked at controls and our controls in this population were people who were at the resort site but not actively participating in the meditation retreat.

Microbiome, Blood, and Biological Shifts

They were spouses of those attending. So they were true relaxation controls, right? So they they were not working, they were not stressed that they weren't doing the meditative retreat.

And then we had novice meditators, these people who were first time to one event, and then we had these experienced meditators who've been to multiple events and know what's up.

And we saw that compared to controls, both novice and experienced individuals created stuff in their blood that prevented virus from entering a cell. And we identified this factor in a five that limits critically this virus from entering the cell.

And so it is a the biological function of this enzyme that we discovered is completely in line with how COVID enters that SARS-CoV-2 virus enters the cell, it creates disease, and magically a meditator elevates this specific factor in their blood that limits this infectivity.

And so full circle, Whatever the community is experiencing at the global level, we see that there's a molecular explanation for this as well. And so this is why this paper really becomes important.

I think that people are going to spin this to think about it as a COVID paper. But I would hope that what they do is they really think about this as a paper that that enlighten us on what meditation actually can do.

COVID is one of the stories that we're telling around this, and it gives us an opportunistic thing to talk about a meditation aspect of modulating biological processes in a living system where we're heading with this is if this is true for COVID, we think that we're going to be able to mind factors in that blood of these meditators that could potentially create the cure for cancer, which we have a lot of data for right now.

And we're working on the paper for this, that there may be elements of neurodegeneration, autoimmunity, anxiety, depression, PTSD, all of factors meditators are creating and they're creating a resiliency by the end of that week against a lot of these diseases.

And it's just a matter of setting up biologic systems to test these things and then isolating those factors to say what's the causative element of all of that? And that's what we're really.

I think that's a really important people for our listeners to a point for our listeners to understand is that the things that you're looking for are not like what you get if you go to do like your annual blood test or if you're sick with something.

These are things that we don't have access to testing in our general laboratory. So maybe at some point we will be

able to test the 75 and say, Hey, we need to get this build up because it's really important.

But I just so I'm so impressed with the things that you're discovering and how you're making it all happen. Yeah. Knowing the goal really is this integrative approach, right? That this meditator is, is a conglomeration of all of these different aspects.

And to really get at the answer of how to study that experience of the mind to body, you have to break it apart into all of these things, study all it together, and then start to put it into a some conduit.

And then the big aspect is the individual versus the community. And all of these changes that occur. And I think you're going to see differences, but there's also going to be a lot of similarities.

And then the goal really becomes how do you scale those similarities to identifying products that will bring this to the masses? We suspect that will eventually be at a stage where we'll be able to identify factors in the blood that could be targeted.

Right. And so the far out thinking of this as if the mind creates the body, can you create the body to then recreate the mind? Right. So we'll know probably in about two years what how to target what the brain has created in the body through a meditative experience.

We're already starting to get to this, right? We know probably four or five control points of metabolites that we could give people supplements that would recreate the entire blood environment in terms of the metabolic state, we know bacteria that the gutter making after meditative experience that we could repopulate that gut with those bacteria.

If you then create that body, will that then send a signal to the brain that says, hey, this no longer looks like cancer, I need to fix cancer, and will the brain do it right?

So just the thought of where this could head is just insanely exciting. Well, and with what we're seeing, you know, I think more than anything what's happened the last 3 to 4 years has really just shown us how broken our medical system is and the trouble that we're in, like there is the chronic diseases are just escalating.

So it's a you know, there's I don't think there's going to just be a drug that fixes any of this. And so your research is really profound. And and what is starting to show what some of the answers are that are affordable and doable, like we can all learn to meditate. Oh.

Yeah. Yeah. And then different ways, you know, hopefully have, you know, the additional supplements and probiotics and things that will augment the the results for the meditation is super exciting too.

Yeah. I mean, I think one of the big questions I get is that people don't think that they can achieve what we're saying they can achieve, right? So a lot of people are like, Yeah, I sat in on that meditation.

I didn't feel anything. I don't think I'm any different right now. And I think one of the things that our study is are showing is that even if you don't think you're changing, you are changing.

And we can quantify this. So where we see the biggest shifts in metabolites and genetic factors and other the things we're seeing are in the novice meditators and these are the ones that are the skeptical people that go into a week long event with Joe.

They they're they're they're kicking and screaming because someone's brought them and they've said this is going to be transformative to your life. You have to go, you have to experience it.

And they've gotten so sick of saying no, they finally just said, all right, let's do it. So they shut up and then when they're there, they're really nit picky in questioning everything that's happening. Right.

Why are they doing this? What is this about? What is that about? And they don't really go mercifully into this. But

what we see is that when they do and this typically happens midweek, is they have these deep, profound experiences that change about their blood chemistry and their their biology.

And we're tracking this. And it's not one person that's doing this.

COVID Findings and Blood Factors

We see this in a large majority, 80% plus individuals have these shifts in their biology, even if they think they're not having these ships. And this is where I think a lot of the stuff that we're working on is, is can we come up with ways to to provide some biofeedback to individuals who are working on ways to come up with markers that we can test and we can do?

You know, we can tell you if you've had that experience or not. One of the big questions has been this mystical experience, right? Some people see visions and other things, but is it truly mystical?

Some of the the algorithms we're developing may get to this right. We will be able to tell you if you had a mystical experience by just looking at your blood.

And that's where we're headed with some of the marker testing that we're doing. I'm curious about that. Can you elaborate? So we so we've we've done so imagine was the first data set where we collected a mystical experience survey that was tied to F, MRI, EEG, bloodwork and those kinds of things.

And so now we have their self-reported ideas of whether they saw visions and other things. Right? And so what we then did is we went into their blood and looked at a correlation between who said they had a mystical experience and various aspects of blood chemistry and biology that we could test.

One of the things that that the ephemera reveals and what the default mode network reveals is so the default mode is was actually discovered by mistake, right?

So they were looking at this system of integration in the brain and it was only discovered like in the early 2000. So it hasn't it's not even that old and it's this exactly what the name sounds.

It's this default mode that's constantly working in the background. So it's like when you're working on your computer, you're like, Why? What is this battery drain that's sucking all my energy on my battery?

You open it up and there's some program running that you didn't even know was running that's sucking up all this energy. And so the default mode was discovered when people were asked to do nothing.

And it was determined that their brain was still consuming a lot of this energy. And so there is this network that's constantly running in the background that's creating this loss, this use of energy.

The brain is a glucose sync, right? So it's using glucose as the fuel to do all of these things. Well, we've noticed in the blood of meditators is when they have these mystical experiences we see, we see these dramatic shifts in metabolism and in their blood.

And so we think that by coupling a blood test that looks at their metabolic fate, that really ties to how the brain processing energy we could get at this mystical experience.

So when someone has a mystical experience, their default mode network essentially shuts down. And so we're trying to build the conduit for doing that.

So the correlation is not great. I think it's about 50% right now, but we think that if we can time it right, it gets even better. That's beautiful. You know, I just I had one of the most amazing moments of my life on the beach in Marco Island doing a walking meditation.

You know, there's, what, 12, 1500 people out there walking on the beach and I very clearly heard the words and the standing part of the meditation team humanity is assembling.

And I just felt such and a cry audible relief. Yeah, I was just bawling. And I opened my eyes and Joe standing in front of me, it just grabbed me and gave me the biggest hug.

So was like, oh, to me vanity. And I really feel like the work that you're doing and you are definitely part of team humanity, like really helping to understand what our human potential is with this mind body connection.

I feel like we're still in our infancy and. I so, I mean, this is, I think, truly evolution of species, right? When we get this right and figure it out, we're going to be something completely different.

Yeah. And I really like the way that you are developing technology and using technology to better understand this mind. Body connection is just such a guest.

Yeah. Now it's been, it's been a fun ride and you know, every time I think about this from my mind perspective, seems like I've been working with Joe Toby for 20 years and with the time scale, it's literally three and a half years max.

And what we've done that is just it's been amazing. It really is. It really is. And I think for our audience today, just, you know, the the hope and the healing and that there are some, you know, just simple, straightforward things that we can be doing to have massive alterations in our bodies.

Capacity to heal. Yeah, Yeah. I mean, the take home is I think Toby says it best at these retreats is negative thoughts lead to negative emotions, lead to negative body kinds of things.

And so why can we think of the opposite? And this is what we never really think of. Positive thoughts lead to positive emotion, lead the positive benefit for health as well.

And I think this is the message is go do things that lead to these positive thoughts that then will lead to a transformative element. And that's what we're after.

Anything else that you want to share about what's coming up with your work or not? I mean, stay tuned. We've got lots of papers we're working on The goal of our work is to really create this body of science that starts to really get the skeptic to understand that something's happening, right.

I think there's a lot of noise in people thinking that this is woo woo still, right, That that you that there's all these meditation practitioners and there is this stress and immune effect.

But beyond that, there's nothing that the body's impacting. Where we're headed is to really create a body of literature that suggests that the mind can truly impact the body and we can teach people how to do that in an effective kind of way. And so I think the best way for people to follow along with what's happening is obviously to Dr.

Future Directions and Closing Reflections

Joe But in our science research, it's all of this research is being done on donations of us that are seeing such profound impacts in our lives, in the lives of our patients and friends.

So I just want to make sure that people know about innerscienceresearch.org because so that if you want to follow along, join the newsletter. And then if you want to donate, there's options to donate on the page because this may move human health along faster than anything I've ever seen.

Yeah, no, and Inner Science has been absolutely amazing and they've given us resources that everything we publish will be made freely available to the world.

That's incredible. I guess because of this type of research, to have so much data and like I know you double, triple, quadruple, like everything is your, your standards for research.

But yeah, I think it's. It's slow but it's we want to be careful, right? I think we're in a space where lots of critics are going to come at this. And so we want to make sure we get it absolutely perfect.

Yeah. And, and do you want to talk a little bit about the challenges with getting anything about COVID or cancer? Yes. I mean, this this initial paper, there was a lot of, I think, political issues that go around this.

And it's understandable. Right? We were saying that this was a potential way to to to solve the problem in a way that other people are not thinking about.

The message in the paper is not that this is the only way that this is one to do this. We actually looked at a lot of vaccinated individuals in the paper that are non meditators, and what we discovered was that there's a completely different pathways that are activated in those two systems.

Vaccines do something, but they don't do it by mechanism of creating this resiliency. And meditators create the Serpin A5 to create a work around to create this non infectivity potential.

And so I think one of the things that we're hoping with all our research is that there isn't this this antagonism with Western medicine that I think alternative medicine really should go hand in hand.

You know there's this old story in this joke about God not listening to people. And so there's this person who is in a flood and there's a guy that comes by on a boat and says, Hey, come on, I'll save you.

And he's like, No, no, don't worry, God's going to take care of me. And then he there's this helicopter that comes and says, Hey, we'll will rescues and not worry God's and take care of me.

Then something else happens and then the guy ultimately drowns and is at the pearly gates and says, I trusted you and you didn't come to save me. And God's like, I sent you a boat, I sent you a helicopter.

And it's this perception of what we don't see. Right. And I think that what we need to do as a society is take ahold of every resource we have available to increase our health.

And this involves not only alternative medicine or Western approaches. And if we don't, it's our own fault, right? We have lots of things that are available, lots of knowledge is out there and it's our sort of job to learn what is best for our bodies and how to sort of navigate diseases that we're dealing with.

So I think that's the message, is that there isn't this antagonism, but we really want to try to bring everything together and give people as many resources they have to improve their health.

Well, beautiful. Well done. Thank you so much for everything that you're doing. And I, I feel like there's such an acceleration going on with your work, like we're just since I've met you, I think what you've created is just amazing.

And I'm so excited to to get to be part of it as much as I can to get the word out because I think it's so important. Yeah. No, we're excited about the future of all of this.

Well, thank you so much. Yeah, I'm I look forward to more conversations and continuing opportunities to share what you're up to and really leave hope with our listeners.

Now, that sounds great. Thank you so much. All right.