



Your Functional Medicine Expert®
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[#89: Dr. Jill Interviews Dr. Robert Hedaya on Healing Your Brain From the Inside Out](#)

Dr. Jill 00:13

Hey everybody! It is Tuesday afternoon here. Wherever you are joining us, thank you for joining us today. I'm super excited to have a longtime friend and colleague, Dr. Hedaya, here with me today. We are going to dive deep into some new therapies for functional medicine, treating brain disorders, and neuropsychology. We are going to dive deep. He's even going to share some slides. I know my audience really loves those technical tidbits

Dr. Jill 00:40

I know a lot of physicians listen and watch too, so we are going to probably be speaking at a pretty high level. Hopefully, those of you who are not in medicine will enjoy it and find it relevant. And of course, if you are a physician or a practitioner of any type in functional, integrative, precision, or personalized medicine, I'm sure you will really enjoy Dr. Hedaya's presentation.

Dr. Jill 01:02

Just a little housekeeping: If you want to find any of my information, we've got 10 years of free blogs online at JillCarnahan.com. It's all free. I still write a blog every week because I really love to educate. You can find anything there. If you want to find any products, my store is DrJillHealth.com.

Dr. Jill 01:21

If you haven't been following on YouTube or the podcast, you can find this anywhere you listen to podcasts—Stitcher, iTunes, etc. You can also find all the reruns and the other interviews I've done on my YouTube channel, which is under my name, Jill Carnahan. I think this is almost the 90th episode, so we've got a lot of free content there if you like this. There's also another episode with Dr. Hedaya. If you enjoy this content, you can go and find that one as well and watch it there.

Dr. Jill 01:50

One other update. You heard my last podcast called "After the Fire", which came out very quickly. Many of you have heard; it's been nationally covered. The Marshall Fire on December 30th really affected my hometown of Louisville and Superior. It caused the loss of over a thousand homes and many businesses. We're fine. We were located right smack dab in the center, with literally the loss of homes and neighborhoods all around my office.

Dr. Jill 02:17

Number one, I'm super grateful to be here. Dr. Hedaya and I were talking right before this. We're scientists first and we're in medicine, but we both believe that there are a lot of things we don't always see that really matter in life. And for me, this was just one more confirmation—not that I'm more special than anyone who lost their home, but I'm grateful for the fact that my office is still standing. I feel there's a great meaning and purpose in that. One of the things I'm going to keep sharing with you is that I've been partnering with air filter companies and we're going to do our best to bring donations and resources to the community because, as you've probably heard me say before, clean air is so foundational to mental and physical health. And we take it for granted until we can't breathe.

Dr. Jill 03:02

I just noticed that in the last several weeks, one of our biggest problems is that all of the VOCs, benzene, toluene, and chemicals from the burning buildings have really affected our air quality. So, I am dedicating any resources that I can gather to my community to improve the air quality. And, like I said, if you want to partner or if you want to learn more, just stay tuned. If you do want to be updated on any initiatives in our area, we've dedicated an email, and we'll be sending out updates on that. It's cleanair@flatironfunctionalmedicine.com. You can just email there and say you would like more information, and we will be sure to include you. Or if you'd like to donate or help with the cause, that'd be great.

Dr. Jill 03:44

Now, without further ado, I'm going to introduce my friend and colleague, Dr. Hedaya, to you and then I will jump right in and let him present. Dr. Hedaya, who has many, many initials behind his name, has been practicing at the cutting edge of psychiatry, clinical psychopharmacology, and neuropsychology since 1979. He pioneered the use of functional medicine in these fields in 1996. He is a Clinical

Professor of Psychiatry at Georgetown University Medical Center, where he's been awarded teacher of the year on three occasions while teaching courses on effective mood disorders, cognitive therapy, and PNIE, which is psycho-neuro-immune-endocrinology, all of [which explore] how these systems interconnect in our bodies.

Dr. Jill 04:28

He's also the winner of the prestigious Vicennial Award at Georgetown. He's an educator and faculty member at the Institute of Functional Medicine. He's the author of three books: *Understanding Biological Psychiatry*, *The Antidepressant Survival Guide*, and *Depression: Advancing the Treatment Paradigm*. He's also been featured in the local and national media, *20/20*, *60 Minutes*, and many other places. If you want to find more information, I will repeat this at the end, but his website is www.WholePsychiatry.com. It is absolutely an honor and privilege to talk to you again, Dr. Hedaya! Welcome to the show.

Dr. Robert Hedaya 05:06

It's a pleasure! Call me Bob. Yes, it's great. It's been 42 years since I've been doing this; I guess I'm going on 43. I'm listening to you read all those and I'm like: "I've done a lot of stuff. I've been busy."

Dr. Jill 05:20

I know. It's like, "Wow, that has actually happened!" Let's go back really quickly before we dive into the topic. You probably said this the last time you were on but tell us a little bit about: How'd you get into medicine? And then, how did you get into functional medicine?

Dr. Robert Hedaya 05:36

I got into medicine following my older brother. I was always interested in science and curious about astronomy, biology, and that kind of thing. But it was the thing to do in the '70s. The truth is, I think I was being guided. I didn't really know what I was doing. I was very immature. Extremely immature. I got into it. I was always curious about trying to find the truth or the bottom line and get to what works and what doesn't work.

Dr. Robert Hedaya 06:14

I think it was in '85 that I had a patient... I was doing standard psychiatry. It was kind of cutting-edge. I had trained at the National Institute of Mental Health, so I really knew what was on the cutting edge. I was doing cognitive behavioral therapy, which was cutting-edge at the time, etc. I was treating a woman 50 years old with panic disorder, which was easy to treat: Cognitive behavioral therapy, imipramine, Xanax—whatever it is, it's easy to treat—Nardil, phenelzine, or whatever. She didn't respond for a year.

Dr. Robert Hedaya 06:47

I've told this story so many times. She paged me when we had beepers those days, no phones. I was at a wedding and dancing Saturday night. My beeper goes off and I've got to go find a phone booth. I call her. I said, "Joanne, what's going on?" "I'm having a panic attack." I'm like: "What is going on here? It's a year already. A year!"

Dr. Robert Hedaya 07:08

I went into the office early Monday morning. The only thing I had was a CBC. The CBC showed the MCV—the size of the red blood cells—was 101. The normal [range] is 80 to 100. I ignored it because I was trained [to think], "Eh, it's just a little bit out of the range." I didn't even know what it meant and it wasn't my domain. I ended up doing some research. I said, "It could be a B12 deficiency, macrocytic anemia." So I did a Schilling test, which was available at the time. B12 deficiency—B12 injection. Panic gone. I was like: "Oh my God! What else am I missing here? What else?"

Dr. Robert Hedaya 07:47

From there, my mother-in-law was ill and she died of myxedema. The internist didn't treat her properly. In those days, with the highly sensitive TSH, the same test we're using today, the upper limit—you wouldn't believe this, Jill—was 10.

Dr. Jill 08:02

Oh my!

Dr. Robert Hedaya 08:03

She was myxedematous and kind of demented. When I convinced the internist to treat her, he got her TSH to 9. She was a little better. I said, "Can we give her a little more?" He said: "No! She's normal." She died of myxedema, and I feel terrible. I

didn't have the confidence. I'm a psychiatrist; I'm not an internist. Well, now—Mark Hyman says accidental psychiatrist—I'm an accidental internist.

Dr. Robert Hedaya 08:34

It was things like that. As you dig deep, you learn that the brain and the body are one thing. And then [you learn] that the spirit, the mind, the psychology, the social, etc. are one thing. It was very confusing because everyone said that they had the answer to mental illness: "It's cognitive therapy," "It's psychopharmacology," or "It's family systems." It took me a long time to figure out that they were all right—it just depended on the lens level of magnification that you're looking at. That's why I came up with Whole Psychiatry because I like to look from the molecular or sub-molecular to the spiritual and everything in between. That's how I approach it.

Dr. Jill 09:21

Bob, I love that story! There are a couple of things that are so relevant. Number one, truth seekers. You, I, and anyone in this field went into medicine, not just to be doctors. That's an afterthought. It's great, but the truth is, we want to know answers. I think that's the difference between someone who gets their medical degree and then stops learning and you, me, and anyone in our field who's continuing on: "I want to know why." I'm always asking: "What else?" "What else is possible?" It also opens us up to stuff we weren't taught in medical school or that really blows our minds sometimes, like, "How could this be possible?" But it does seem to show a pattern, and then we look further. And not that we have all the answers but we're willing to ask the questions. That's the difference with someone who's continuing to learn and grow.

Dr. Jill 10:08

We talked before we got on about some miracles that we've both seen that don't have any logical explanation, but that's a kind of wonder. We have the science background but it's the open right-brain creative [side] that gets the creative solutions that aren't always thought of. You're in this field—we're going to talk today about some of these creative solutions—you really need the left and right brain. You need that ability to think outside the box because that's where we get these new solutions and these things that sometimes energetically don't make sense but start to fall into place.

Dr. Jill 10:36

The other thing you alluded to is "accidental internist" or whatever field we weren't trained in. In our system of conventional medicine, we're trained in silos. We have the rheumatologist, the gastroenterologist, the neurologist, the psychiatrist—and then me as family medicine, which is the least respected of all of them. What happens is that we all have our own silos and we don't go outside there. And the truth is, the body is one. Whether it's your joints, your brain, or your mental health, it's all connected. You and I have learned that we have to know a little bit about all these areas and then know the people that we can connect with. As a psychiatrist, I would send someone to you if I need some deeper health on mental disorders, and we can collaborate. But it's not silo medicine, is it?

Dr. Robert Hedaya 11:19

No. It's systems biology. Everything's interacting with everything.

Dr. Jill 11:25

Yes. And like you said, you got into the whole body. When I remember hearing functional medicine, it was like, 'Aha!' When we first hear that, it's usually what our heart, soul, and mind have been seeking, but we didn't have a title for it. I think both of us got in right at the groundswell. I know that for me, it's been 20 years. For you, maybe even a little longer. You were probably in some of those original groups with Jeff Bland. But when we find that—this systems biology that seeks to find the root cause—it really resonates with why we went into medicine, doesn't it?

Dr. Robert Hedaya 12:04

Yes.

Dr. Jill 12:06

Let's introduce what you're talking about now with this new HYLANE technology. I'm going to confess: I don't know a lot; I'm here to learn, just like everybody else listening. Tell us, what is this? How did you get into it? And let's go from there.

Dr. Robert Hedaya 12:17

The first thing is that when I got into functional medicine, I was blown away. I wrote my second book. It was a bestseller. I was bombarded because we had four pages in the Washington Post, and we had thousands and thousands of calls for months because it was a way of treating depression without medication, or using less

medication and avoiding side effects. I couldn't treat all these people. So I looked for people who would do a very, very thorough and comprehensive functional medicine program—treatment-resistant depression. As you may know from the start of the study, only 25% of people with treatment-resistant depression with conventional treatments of anti-depressants and psychotherapy will respond within one year—only 25%. That's worse than a placebo.

Dr. Robert Hedaya 13:17

I started treating everyone. I'm trained as a psychopharmacologist so I was using medications like crazy up until the mid-'90s. Then I took up functional medicine and then I wrote the book. I said: "Okay, these people are ready for it. So let me do it." Very thorough. I like to dive into all the systems. That's the way I do it. I dive in all at once. It's a lot of work, but it really works. And after about three years, I was like: "I'm not even prescribing medications anymore. And I think everybody's getting better."

Dr. Robert Hedaya 13:46

Then I thought, "Maybe I'm lying to myself." I hired a statistician who took all my cases of treatment-resistant depression for that period of time, let's say two years. It was 23 people. The mean Beck depression inventory score was roughly 34 when we started and by 10 months, they were all normal—100%. Not only that but diabetes was gone. In one woman with MS, her MS lesions were gone. Osteoporosis gone. Quality of life and energy [improved]. I was like, "This is mind-boggling!" That's what I was doing from, like, 2002 until 2017.

Dr. Robert Hedaya 14:38

I actually retired in 2014. I didn't last very long. [laughter] I went back into practice. Then I took a retreat somewhere. I was just lying on a hammock for hours, reading, and thinking. I don't know how I got into it, but I started thinking about lasers. It was like 2017 or 2018 or something. I was thinking, "How do you know where to apply the laser?" Then I thought about QEEGs. I had an epiphany. I was like: "Oh. I think I need to learn QEEGs. I need to learn about lasers," etc. So I started to dive into that.

Dr. Robert Hedaya 15:25

HYLANE is hyperbaric oxygen, laser, and neural exercises—brain exercises. That's HYLANE. I developed this technique—it's patent-pending—to guide the laser onto the site based on my QEEG analysis. I've been studying the QEEG now for about four years or so. I can't believe I practiced without it. What I learned—this is how I got into this—in the first case that I did this with... I'll share my screen here and show you. I'm excited about this. I just got an article accepted for publication today. It's this article here. "Reversal of Acquired Prosopagnosia Using Quantitative EEG-Guided Laser Therapy". This just came out.

Dr. Jill 16:24

And for our lay audience, go ahead and define prosopagnosia.

Dr. Robert Hedaya 16:29

Agnosia is when you can't recognize something. Prosop is the face, so you don't recognize faces. This was a woman who was in her 50s or so and she had acquired it, meaning she wasn't born with it. She had something that happened and she acquired it. There's no treatment for this. She also had mild cognitive impairment. She had a family history of dementia that was very strong. She also had temporal lobe seizures. She had [inaudible].

Dr. Robert Hedaya 17:08

I'll skip through this but I'll show you some images. I'll show you this on a different screen here. This should be a little better here. This is a QEEG. This is one way of looking at a QEEG. There are many aspects to it. Anything that's gray is normal. Anything that's yellow or red is overactive. Blue is underactive. Here the eyes are in the front. Do you see my cursor? You can see my cursor here. Here's the right ear and the left ear. We see that the red crosshairs are pointing at the area of maximal instability, or abnormality, of the brain.

Dr. Robert Hedaya 18:00

This is the hippocampus—the memory center for formulating memory. Her hippocampus was 2.7 standard deviations from the norm, meaning it's malfunctioning in a very significant way. And it's overactive. This is the funny thing: The brain spends most of its energy keeping the foot on the pedal, inhibiting neuronal function. That's what takes the energy. She doesn't have the energy or processes to keep this stable for a variety of reasons.

Dr. Robert Hedaya 18:41

Here's her hippocampus before the treatment. You can see there are abnormalities in different areas of the brain. And this yellow stuff here is information flow. We can expand on this. That information from the Brodmann area, this particular area here, is excessive information flow. That's like me yelling in your ear really loudly. You would know I'm saying something but you still couldn't use it. The blue is poor information flow. It's like me whispering and you know I'm maybe saying something but you still can't get information. This first image here is after functional medicine. That's what blew me away.

Dr. Jill 19:36

So the importance of that, Bob, is that you were doing [work on] nutrition, the diet, the infections, and the toxins—all the stuff that I do in clinical practice—and you still had this massive abnormality.

Dr. Robert Hedaya 19:45

Yes. And that's what blew me away, because clinically, she was doing better, not perfect. She was still having some memory problems. She was still having some absences. She still had prosopagnosia—she couldn't recognize faces. There was still some stuff, but she was working out in the gym. She was doing better in a lot of ways. Then I did her QEEG. This is my first QEEG. And I was like: "Whoa! I can't believe this. I've been treating people now with functional medicine for 20 years, and there are no brain problems." I couldn't believe it.

Dr. Robert Hedaya 20:19

Then we did laser treatments to specific areas on the left side of her brain, the areas that I mapped out based on this. Here, she's basically normal. Her hippocampus is now normal. Everything's normal here. There's a little information flow problem here but it's very minor for sure.

Dr. Jill 20:41

Much less than before. Unbelievable.

Dr. Robert Hedaya 20:46

Yes. There are a few points here, because remember, we're applying light. There's debate about LEDs, whether they penetrate the skull or not, etc. But we do have

evidence with cadavers that the laser light is more coherent and that it penetrates. But I don't know that we know that it penetrates to the hippocampus. We don't know that. I think that basically, by applying the light, the brain has its energy and then it can do the processes it needs to do. And then it translates down to deeper structures.

Dr. Jill 21:24

Bob, a couple of questions come to mind. I'm just wondering: Number one, you showed this woman who had a really good functional model and care and it was improving. Yet you show us the images of the EEG and they're dramatically off. They're abnormal. I've even felt this in my own life with mold exposures: I can function on a high level, even if I'm quite affected neurologically by the mold. Maybe no one would notice. I can still solve problems. I'm guessing that you see that people can function pretty well when they have pretty significant impairments due to toxin, infection, or inflammation. Is that true?

Dr. Robert Hedaya 22:04

It's 100% true. We know in dementia that the higher functioning you are... Let's say you're a multilingual professor or something like that. You could be developing Alzheimer's, for example. If we looked in your brain, you'd go, "Oh, this is terrible," but in the world, you will be functioning fine. And when they discover you have Alzheimer's, your brain will look a lot worse than other people's because you've been able to function so much longer because of your capacity. So I think that's definitely true.

Dr. Robert Hedaya 22:37

The other point on this one is that we showed continued improvement [after] one month without treatment. In other words, the brain continued to assimilate the treatment. After three months, however, there was deterioration because she has the ApoE4. There are other processes, so she needs maintenance on this. It's not that much maintenance, but she needs maintenance. This is the QEEG objective test. This is objective testing—the Cambridge Facial Recognition Test. She scored really well.

Dr. Jill 23:17

Wow, unbelievable.

Dr. Robert Hedaya 23:19

[inaudible] the case. That's the first case. The latest case, I'll tell you, is a woman who's about 72. She has dementia and all the stuff we see in dementia—the diabetes and toxins and the mold, the whole thing. The most important thing that I'm going to tell you is that she had some aphasia. She couldn't really speak a full sentence. Then we did the QEEG, etc., and then lasered her. She started speaking full sentences after the first treatment—not normal [sentences] but full sentences—like two or three full sentences in a row. Her husband and I were both crying. That's not going to happen for everybody. Obviously, the sooner you get to something, the better it is. We know that an ounce of prevention is worth a pound of cure.

Dr. Robert Hedaya 24:23

This is a case here. This is a guy who had schizophrenia. He would see people's faces as hostile to him. He was paranoid. And I found this tract here. This is the vertical occipital fasciculus and the superior longitudinal fasciculus, I believe. We lasered him here and right here. It cleared up. His distortion went away. And interestingly, his reading ability improved. And this tract here has a big effect on reading ability. I didn't know that, but that's what happened.

Dr. Robert Hedaya 25:19

Anyway, I could go through cases. I don't think you want to hear more cases. If you want, I can. But you see, it's a clear thing. The main idea is to use the functional medicine and then layer onto it the HYLANE. Sometimes you use hyperbaric. Sometimes it's the neurofeedback. Sometimes it's laser. It's different things.

Dr. Jill 25:40

It's like you have more tools in your toolbox. First of all, you're sitting on this retreat—back to our first start there—we are scientists (left brain), and we were trained that way, but I feel like the real brilliant inspirations come from that right brain place when we're resting and we're open. And you and I have a belief in a greater power. Often, I find that those miracles come from this place that we can't always explain. And when you told your story, that was my thought: "You got a divine inspiration, Bob." I just love that.

Dr. Robert Hedaya 26:14

I really did, because it felt that way. I was moved. I felt like I was in a different place.

Dr. Jill 26:24

Yes. And it's always that place where we really surrender. We were talking about that before too. The world, the chaos, and the pandemic keep going. But part of the lesson that we're all learning in this, and it's probably the same way for you listening, is this surrender. It's unexpected. It's not the way we would have planned it. We let go of control. But the outcomes are often way more miraculous, unexpected, and beautiful than if we were to plan for them, control them, and all that. So I love that story. I have lots of questions.

Dr. Robert Hedaya 26:55

Let me just say one thing. I just want to underline what you said for people. I really believe, and I know you'll agree, that healing occurs physically and spiritually. It's a bimodal thing. It's an interactive thing. We are connected to the metaphysical realm, whether people want to believe it or not. There are facts that show this to be the case. We just have a narrow view. We're in interaction like a bilipid membrane. There are interactions between this domain, the quantum domain, and the metaphysical domain. There are interactions. And when you ask your higher power for health, you get help and protection. And so you need to always be looking at healing. Where's the healing? Where's the gratitude? Where's the good? There's always good stuff coming. Even out of corona, there's good stuff coming. And you're going to get more good out of the bad, usually. You just have to be in that framework where you open your mind out of the physical and heal on both levels.

Dr. Jill 28:02

I love that synopsis because that's what I believe too and I've seen it in action. I love thinking about [the differences between] the left brain and the right brain, analytical versus creative. I was kind of born an analytical engineering scientist. And God has really opened my eyes to the intuitive and this other realm. When I'm trying to explain it to patients or other people, it's almost like our left brain is an analytical computer that's analog. It can take hundreds of pieces of data, process it, and come up with a solution. But when we are open to the creative, intuitive, and more spiritual realm, we can subconsciously process—in seconds or milliseconds—millions of pieces of data. And we can come to a conclusion that—even according to good science—it's more right on than our analytical mind. So it's using both of those.

Dr. Jill 28:50

I always say that I'm more open to that realm for answers now than ever. And then I prove it with science. I use both, just like you do. You took a statistician and took your data and said: What's the science behind what I'm doing? And you proved it. But some of the most beautiful things that we see happen in that realm of being open to intuition. And I love that because I'm learning to trust it more and more than I used to.

Dr. Robert Hedaya 29:14

Jill Bolte Taylor wrote *My Stroke of Insight*. I don't know if you've read that. It's a phenomenal short book where a lot of her left brain was wiped out, so she has a right brain experience. You won't be able to put it down.

Dr. Jill 29:27

Oh, I'm going to go get it right away. *Stroke of Insight*, you said?

Dr. Robert Hedaya 29:32

My Stroke of Insight.

Dr. Jill 29:34

Oh, great. As I'm listening, a couple of things. First of all, what I wanted to emphasize for those of you listening is that functional medicine is still the basic. It's like the foundation—diet and nutrition. You're still taking that approach, looking at infections, the gut, toxins, and all those things. But what you found and what I found too, is that there's a limit. There's a wall you might hit, and there's a certain place you can't go beyond. And that's where you're finding these extraordinary therapies of hyperbaric and lasers.

Dr. Jill 30:05

Let's talk really briefly. Say one example there. What would a typical treatment be like? How many sessions of hyperbaric would that take?—like maybe case one or case two. And then what would the laser sessions look like too? What amount of time or effort would this take?

Dr. Robert Hedaya 30:19

The standard hyperbaric [treatment], if it's indicated, would be a minimum of 40 sessions. I use soft chambers. I think that in [terms of] brain injury, that's pretty

good. It's accessible to people. They'll do an hour. I have them use an oxygen concentrator. I don't have them wear a mask and breathe 100% oxygen. I am really uncomfortable with it because of the counter-regulatory mechanisms and the lipid peroxidation. But having oxygen coming in, so you're getting more oxygen at pressure, you do that daily, if you can—five days a week, 40 sessions. Then you recheck and see how things are going. And it depends on the condition. Some people use it as a health maintenance measure, and some people are done at 40 sessions.

Dr. Robert Hedaya 31:10

And then, with laser, it varies. I treat a woman with treatment-resistant depression. She's young—30 years old. We did the functional medicine and worked on all this stuff and then we did the laser. I feel the brain is like a plant: Get the soil in order, make sure there's water, then give the light. Sometimes you can't—you have to give the light right away. But in her case, it was 10 treatments—fine.

Dr. Robert Hedaya 31:44

I got a woman who's 80 years old with treatment-resistant depression. She wants to get off her Effexor. We're treating her and she's coming off her Effexor. She's doing better than she's done in years and years. No depression this winter for the first time with the laser. But then you have someone like the first case with prosopagnosia, where she's going to need maintenance.

Dr. Jill 32:07

This is amazing. One thing I have a question on is hyperbaric. Are there any contraindications or any patients that you would not give hyperbaric to?

Dr. Robert Hedaya 32:16

Yes. With hyperbaric oxygen, first of all, if you've had pneumothorax in the last year or maybe two years, you're not going to do it. There's controversy about seizures. Some people say it can promote seizures. Some people say no. I haven't seen it promote seizures. We have a lot of people who have pre-seizure activity and there doesn't seem to be any problem. If you have a sinus infection, you can't clear your ears—that kind of thing. I think those are the high-level contraindications, I would say.

Dr. Jill 32:52

That makes sense. And with the laser, you were talking about the controversy, but it's clearly getting results. It's interesting because I have heard the controversy. I read it. And back five or six years ago, when I really had the mold issue, I was using a device that goes on the head and does the red light. It's very controversial because it can even go through the skull. It has one prong that goes up the nose. You know which one I'm talking about. For me, it was profound. I think it was 40 Hz, so more alpha. In fact, if I have a day where I need to be focused, that really works for me. But it's so funny because it's very generic, the placement. Who knows where it's going? What are your thoughts on that? It's not even close to what you're doing with the precision. But to me, that was an aha, personally, to know this light really does work.

Dr. Robert Hedaya 33:45

I've been in debate about this with some people and looking at the literature. Here's where I'm at. Does it penetrate? I don't have any evidence. Could there be remote effects? There could be remote effects. I'm not doubting that it worked for you, by the way. I think it worked for you. But the history of psychiatry over 250 years is that there's always a paradigm. Everybody's excited. The [inaudible] says, "Isn't it great?" They used to take psychiatric patients and put them in these centrifuges to spin them. And they were like: "Wow, this is really working! The psychosis and the neurosis are going away. Why don't I build one for 10 people?"

Dr. Robert Hedaya 34:39

All the mental health institutions had these carousels, centrifuges, for 10 people. People were making money. And then the research was not so good. That's 50 years right there. It takes 50 or 60 years a cycle and then: "Oh, it doesn't work." "Oh, but there's insulin coma! Insulin coma really..." There's always the fad. And the people who are marketing these things and doing the studies—my concern is that I want to see studies from objective, non-interested parties.

Dr. Jill 35:13

Not from the company that makes the device.

Dr. Robert Hedaya 35:16

Yes. I don't have any questions about the light being effective. And I'm going to say

your device is effective, but it's not as targeted as my device. Mine is much more specific for specific conditions, etc. And I hope it's true that it works.

Dr. Jill 35:38

I'm saying that because I agree with you. What you're doing is on such a different level. And interestingly, for me, the pulsed electromagnetic frequency, the PEMF, which does have decent data, I found just as good a benefit with that. It's something energetically. Like you said, it could be non-specific. It could just be the light energy of some frequency that is not at all specific. I believe that. And the more it's been since that time of those devices coming out, the more I doubt: "Is that really the way to go?" What I love is that you're doing this very targeted and specific [treatment]. And are there other people interested in what you're doing and learning it? Can we multiply what you're doing, teach, and share it?

Dr. Robert Hedaya 36:22

I'm open to teaching it to clinicians. It took me a lot of time to learn and figure this thing out. And I'm still learning, obviously. But yes, I'm happy to teach it. I had to put the whole treatment on hold initially—the laser treatment, not the hyperbaric or neurofeedback. We have figured out how to do neurofeedback in people's homes. That was the advantage of COVID—now we can do it anywhere in the country.

Dr. Jill 36:52

That's amazing. That's even better. So you can do it remotely. Getting your book, going to the website—how can people get more information about what you're doing and not overwhelm you?

Dr. Robert Hedaya 37:07

I haven't published except for this article. I just found out today that if I want it to be open access, it's \$3,200.

Dr. Jill 37:15

Maybe someone can donate to the cause, Bob. I'm going to put that out there because I love your work.

Dr. Robert Hedaya 37:19

I was like: "Really, nobody's going to read this. This is terrible." There are people

with prosopagnosia and now nobody's going to know about it. So that was news to me.

Dr. Robert Hedaya 37:30

I guess if you need treatment or have some serious interest, contacting me through the website is the best way. I have started writing a book. I want to write about this and get it out there. It's got to get out there. I'm open to training physicians because this is a class for a medical device and you really need to know what you're doing. Say goodbye to psychiatry. I don't mean psychology, but medicine and therapy. I'm not anti-therapy. I think there are specific places for therapy and even medications. I'm not anti-meds. There are specific places for medicines, for sure. But the data and the science are so [far] beyond what people are practicing that this is 50 to 70 years ahead.

Dr. Jill 38:24

Yes, there's something called the standard of care that we all know about in medicine. If you're listening and you don't know, it's like: What's the standard of the average doctor of what they do in their office? We are all set up against that standard of care. The problem is that it's 30 years old or maybe 50 years old. It's not at the bleeding cutting-edge of what advancements and good science are showing us as possible. Bob and I are pushing that edge. We're always trying things. My theory is that as long as there's very little risk and I understand what I'm doing and I give full informed consent, I'm willing to push that with patients, of course, with their permission, with stuff that has decent, early preliminary data that is safe and effective. And I believe this kind of stuff with light and with hyperbaric and with some of the new things that we have, and more in an energetic realm too, is where medicine is headed because it's so much more powerful than the old pharmaceuticals, like one receptor type of medicine.

Dr. Robert Hedaya 39:23

And speaking of safety with the laser, we're very careful. Obviously, you don't want to heat anything. We always do an MRI to make sure there are no lesions in the brain, etc., before we do anything like this. We want to know what we're doing and where we're doing it. Safety is number one. So that's what we're doing.

Dr. Jill 39:47

One real quick question, and this is me just wondering: I've done some

NeuroQuants, but I haven't found them super helpful. And for anyone who doesn't know what they are, this is just volume metrics of the brain portion. Say with the hippocampus, it'll tell us the volume—an average volume compared to average populations. What you can see is the expansion, atrophy, or shrinkage of different regions, and maybe [you can] make assumptions. I don't know how much clinical application we have for that. But I'm curious, do you think the EEG findings will sometimes correlate with that?

Dr. Robert Hedaya 40:20

They correlate. The EEG correlates with the MRI. It correlates symptomatically. It correlates with the DTI, which is in the literature. And it correlates with the NeuroQuant. I use the NeuroQuant here and there. I like it. I just ordered one today on someone. I don't think she has Parkinson's, but she looks like she has Parkinson's. I think it's a traumatic head injury. For example, about two and a half years ago, I did a NeuroQuant on a woman who had motor problems and some cognitive problems. And she had shrinkage of various areas, the putamen, etc. It was really subnormal. Then, when we repeated it two years later, she was normal. That's powerful. She couldn't even believe it. She said, "I don't believe it." I said, "Well, you have to believe it." [laughter]

Dr. Jill 41:05

Yes, "We have this data." That's how we can find out: What does that really mean?

Dr. Robert Hedaya 41:12

The brain grows back.

Dr. Jill 41:15

Yes. If that's the one message we leave people with, the neuroplasticity, which is... You know this better than anyone. Do you want to describe to the general person listening, what neuroplasticity is? And what does that mean for you if you're ill, or for us as physicians?

Dr. Robert Hedaya 41:28

We are neuroplastic. We learn and we change. That is always reflected in changes in the brain nuclei, the groups of cells or nerve tracts, the highways of the brain, and the information highways of the brain. If you have PTSD, certain ones get bigger and others get smaller, and the information flow is routed down the wrong

highway. The brain is morphing slowly over time, all the time. So it has that ability. Cindy Baker said: Take the bad stuff out, put in the good stuff, and then it heals.

Dr. Robert Hedaya 42:04

One thing to talk about is chronic Lyme. Chronic Lyme is much more ubiquitous than people think. Something like that is going to impair your plasticity. The way we've been testing—this is interesting—is doing a challenge test now. What we do is put people on antibiotics—or herbals, but generally antibiotics—for three or four weeks, and then do a very, very thorough panel with IGeneX. Then we're more likely to see a positive and when we don't see a positive [we say], "Okay, you don't have it." But to overlook that could be a big problem. But the plasticity is amazing. It's a lot of work. It's a lot of work.

Dr. Jill 42:50

It is. And you describe it—all your protocols and everything—so easily, but what Dr. Bob does here is phenomenal and at a level that's probably in the top 0.1% of our colleagues in the whole United States. It is just a pleasure to hear about this. I can't wait to read your book and to hear more as it comes out. People can find you at WholePsychiatry.com. Is that correct?

Dr. Robert Hedaya 43:12

Yes. And if anyone knows a good author who can help me write it, let me know.

Dr. Jill 43:17

Ooh, I'll be in touch after. Thanks again for your information today, Bob. It's a pleasure, as always, to talk to you.

Dr. Robert Hedaya 43:23

Great. Thank you so much for all your great teaching, great work, and educating the public. You're doing such a great service. And I see you on your retreats that you're going on and I'm like, "Oh, I want to go."

Dr. Jill 43:36

[laughter] Thank you. Thank you. We'll keep talking. We'll have you on again and talk some more. Thanks again, Bob.

Dr. Robert Hedaya 43:41

Thank you.