An interview with Dr. Robert J. Hedaya, MD, Clinical Professor of Psychiatry, Georgetown University School of Medicine Faculty, Institute for Functional Medicine The Whole Psychiatry & Brain Recovery Center

Interview by Sheldon Baker

Robert J. Hedaya, *MD, ABPN, DLFAPA, IFMCP, has been at the forefront of medical practice, psychiatry, and psychopharmacology since 1979. With the publication of his first book, Understanding Biological Psychiatry (Norton, 1996) he pioneered the use of functional medicine in the psychiatric field. He is now pioneering the use of HYLANE technology in the treatment of neuropsychiatric disorders. Dr. Hedaya is a clinical professor of psychiatry at Georgetown University Medical Center, where has been awarded the "Teacher of the Year" on three occasions. In keeping with his ability to move the field forward, he was first invited to teach PNIE (Psycho-neuro-immuno-endocrinology) to Georgetown Psychiatry Residents in the early 1990's. He is a faculty member at the Institute for Functional Medicine, author of two additional books (The Antidepressant Survival Guide, and Depression: Advancing the Treatment Paradigm), and the founder of the Center for Whole Psychiatry and Brain Recovery in Rockville Maryland. Dr. Hedaya is an editorial volunteer for Advances in Mind-Body Medicine and Alternative Therapies in Health and Medicine. He has been featured in the local and national media (20/20, 60 minutes, Vogue, The New York Times, and Washington Post) on many occasions and is a frequent, nationally, and internationally recognized speaker. His website is www.wholepsychiatry.com.* (*Altern Ther Health Med.* 2023;29(6):6-10).

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***Alternative Therapies in Health and Medicine* (*ATHM*):** Did your relationship with Georgetown University School of Medicine help you start your own practice?

Dr. Hedaya: Well, you know, I was trained at Georgetown and the National Institute of Mental Health, and it's very funny, really because when I came out of training in 1983, I was thinking about going into private practice. But my mentors, the psychiatrists, said, don't go into private practice because Blue Cross Blue Shield is only paying for two patient visits a week, and they used to pay for four visits per week. You won't be able to make it. So, I went into practice anyway, and fortunately people knew me, and I knew them, and we continued to develop relationships. So yes, it helped. My training was instrumental, I would say, in preparing me for what I do.

***ATHM*:** How did you get involved with functional medicine?

Dr. Hedaya: I was doing functional medicine before I really knew it. I had a woman back in probably 1985 who had a panic disorder that went on for a year. Panic disorders are very easy to treat, but unfortunately, she didn't get any better. After about a year, she pages me on a Saturday night. I found a phone, and I asked her what's going on and she says, "I'm having a panic attack." I realized that shouldn't be the case after a year. We had tried everything during the year, so I went back to the drawing board in my office Monday morning and looked at her chart. I had one lab test, a complete blood count, which is the CBC. The size of her red blood cells was somewhat large. I had ignored it. I didn't know what it meant. I was also trained that if it's a little bit out of the range don't bother. So, I went to the National Library of Medicine and looked it up and found she could have a B12 deficiency. I worked her up for that, and low and behold she did. I gave her a B12 injection, and her panic disorder disappeared. It just disappeared overnight. Her panic was gone. And then I thought, what else am I missing because people who are in the psychiatric system are kind of in a revolving door system. Once you're in it, you kind of stay in. And that was the big clue. From there I ended up getting involved in hormones and nutrition and eventually in the mid-90s, after I wrote my first book, *Understanding Biological Psychiatry*, I was on the edge of chronic fatigue syndrome, quite exhausted, and dug into it and found functional medicine,

which at the time was called metabolic medicine. So, I applied it to myself and learned from it, spending several years learning it. Once I had an understanding there really was no turning back. I still use psychopharmacology and psychotherapy. They most definitely have a place, but I really am very strongly adherent to the functional medicine model.

***ATHM*:** Do you feel that the rigorous application of functional medicine fully heals the brain?

Dr. Hedaya: I would have said yes to that 10 or 20 years ago, but about five years ago I found evidence that that is not the case. I had a woman who had early, very early mild cognitive impairment with high risk for dementia. She was apolipoprotein E 4 homozygous, so she had was in a high-risk group, strong family history, suffered from head injuries and a history of toxic exposures, hormonal problems, and she was menopausal.

I treated her with functional medicine, and she was very adherent and after six months she was significantly better. And then at that point I decided to do a quantitative eeg, a quantitative electroencephalogram to see how her brain was. I was just actually beginning to use it in practice. And lo and behold, her brain was not doing very well, probably a lot better than when we started, but there were lots of abnormalities in her brain, and that was really a shock.

***ATHM*:** How much of what you consider as a health professional, we consider psychological in mental health, is psychological at its root.

Dr. Hedaya: It's a great question. I would say that we overrate the psychological for a variety of reasons. I think our psychology is largely made up of temperament and character. We're born with temperament. Temperament is inborn. It's comprised of harm avoidance, which is conflict avoidance and fear, reward dependence, and novelty seeking. Novelty seeking is how much you need new stuff to feel good. Reward dependance is how easily you get hooked and addicted to things. You know, something feels good in the beginning, you might say that's great, so I'll do it again. But maybe it doesn't feel so good after a while, and yet you keep doing it. And then there's impulsivity. Those are the main constituents of temperament. You're born with that. And now next to that, making up your personality you have character. Character is something that's developed and can always be developed that has to do with your ability to cooperate with people, your ability to know who you are and what you are and what's integral to you. So, you kind of want to balance self-direction and cooperation. That's kind of a short description of character. Character, I wouldn't even call that psychological, that's kind of a training thing or value system. It's not psychological. Now, there are psychological factors. There are habits of thinking, cognitions, schemas, automatic assumptions, and paradigms. Then there is trauma, episodes of trauma that can cause behavioral abnormalities. And I think they're significant, particularly for people who have been traumatized as children or had relational trauma or PTSD or things like that. By and large, we rely too much on psychology. On the other hand, I'm going to tell you that the mind is extremely powerful, and it has tremendous sense. If you look at a person who has multiple personality disorder, their immune system in one personality could be perfectly normal and could be dysfunctional in another personality. So that tells you it's a very complex thing. But I would say overall, we don't consider head injuries and all kinds of things. My impression after 40 plus years is that if the brain is working well, and the psychosocial-cultural-spiritual milieu is healthy, the psychology will generally be fine, or will heal relatively easily.

***ATHM*:** Let's get into some good stuff. Everything you've just said is good stuff, but let's get into qEEG. You've been using qEEG for a while in your practice. How do you get started with it?

Dr. Hedaya: It's a brain imaging technique. You know, it's just kind of a funny story. I was forced to take a vacation and I ended up lying on a hammock for several hours reading *How the Brain Heals Itself*. I had just done a meditation session the day before, and I was very relaxed. So, I'm reading this, and I'm like, wait a second, qEEG could really give me a window into the brain. I had no training, but it could really give me a window into the brain. And then, I was reading about laser and its effects on mitochondria, and it's use in Russia years ago. I realized this could be a powerful way of localizing problems and treating them directly. It could have a major impact.

In any event, this whole thing came into my mind. And then when I left Arizona and came back to the office, I started researching, and did some training, and was so impressed. It's a very difficult tool to learn how to use. I've been learning how to use it for five years and I'll continue to learn how to use it till I stop using it. It's an amazing, fascinating tool.

***ATHM*:** What is its purpose and how does it function?

Dr. Hedaya: What we do is put a cap on someone's head. It's painless, has 19 sensors. Nineteen electrical sensors that record digitally the electricity coming from different parts of the brain and head. And then through something that's called the inverse solution, you can take those numbers from that digital information and reverse engineer it in a sense and know where the signals are coming from in the brain.

You can see the pathways in the brain, the nuclei in the brain, the surface of the brain, in very fine detail, much finer detail than a SPECT scan for example, in real time. I can tell if someone's salience network is functioning properly or a particular area of their cortex that controls language or speech is working, or an area that might be involved in sleep. I have tremendous detail, and I can do this in patients from home or in my office. It takes about 45 minutes.

***ATHM*:** Based on what you've just said, how has qEEG helped change neurological treatments?

Dr. Hedaya: It's a very good question. The neurologists have fought qEEG tooth and nail. They're the ones who started doing EEG. That's electroencephalogram. That's kind of where you do the same thing. You put the cap on your head, but you just eyeball the tracings that you get-its primitive compared to the qEEG. With the qEEG, we're using a really sophisticated computerized analysis. It's something you can't ever assess with your own eyes. In a way, it's early artificial intelligence. So, the neurologists fought this and they're still fighting it. But the quantitative qEEG correlates very well with many forms of imaging, and it's very well founded and accepted.

***ATHM*:** Previously, what imaging techniques did you use prior to qEEG?

Dr. Hedaya: Prior to qEEG, occasionally I'd send people for a SPECT scan. I never found it that helpful, but I used to do that occasionally. Certainly, MRI's, neuroquant, which I still use, which is a volumetric MRI, occasionally a functional MRI or PET scan.

***ATHM*:** Are you using other tools now to help heal brain issues beyond qEEG?

Dr. Hedaya: Yes. qEEG is just really a diagnostic tool that points us to what might be going on and where we want to work. We correlate that with the patient's symptomatology and other imaging. But in terms of what do we do about it, there are lots of tools. Sometimes we use neurofeedback where we can say this network is not functioning properly, let's strengthen it. It's kind of like weight training for the brain. Let's strengthen those muscles in the brain. Those muscles of the brain are overworking so let's kind of quiet those down. Sometimes we use photo biomodulation. For example, we have a couple of patients who had expressive aphasia where they have trouble speaking. Using the qEEG, I determined where to apply the laser light, which is painless. It's not heat. And then they started speaking. We reversed two cases, a 75% reversal, improved vision problems, and things that I never would have thought of. In fact, the first case that I published was that of facial blindness, called acquired prosopagnosia. This is where someone can't remember other people's faces, and we treated that. With one treatment, her facial blindness was reversed. But it doesn't work like that for everybody. But when it works, it's quite amazing. For most people, when it works for example for depression, you might be using it for 10 sessions or some people who have a chronic depression might use it once or twice a week on an ongoing basis.

***ATHM*:** How do practitioners implement this into their practice, and do they have to have a background in functional medicine before they do that?

Dr. Hedaya: Another great question. What I'm doing is cutting edge, and it's permitted by the Helsinki Accords because I'm treating people who have had no other treatment for them. They've failed all treatments. There's no treatment for prosopagnosia or facial blindness. So according to the Helsinki Accords, you're permitted to use an experimental treatment. But there is a growing literature on photobiomodulation and neurofeedback. There's plenty of neurofeedback literature. So, people can implement these things by learning the technologies. It does take work, and I would say if it's too much for someone, then the best thing for them to do is refer to somebody who does this. We also use hyperbaric oxygen, which I think many people are starting to use, and that's quite helpful for patients as well.

***ATHM*:** There have been studies using qEEG and its effectiveness?

Dr. Hedaya: Oh yes. There are many studies documenting the accuracy and utility of qEEG. In terms of neurofeedback, there are many studies showing its effectiveness as well. And with photobiomodulation there are many studies. And now we're using qEEG pre- and post-ketamine for people who have PTSD and high levels of anxiety, complex PTSD. And we see that the qEEG, which has a certain pattern, is markedly abnormal in these people. After the ketamine, it normalizes, and that normalization sustains itself. Although there's a decrement, it sustains itself for 9-12 days at 50%. We often repeat treatments once or twice or once every four to five weeks. Patients, if they're having psychotherapy, respond beautifully.

***ATHM*:** You gave some examples of patient's interaction. I don't know if that was with Q EEG, but are you able to share specifically at least one example of how qEEG has helped one of your patients?

Dr. Hedaya: Yes. There are many examples. Going back to the first woman that I mentioned, she came in, with a history, a genetic vulnerability to dementia, APOE4 homozygous. She had absence seizures, which were never diagnosed. She had facial blindness, also never diagnosed. She had a history of head trauma and unconsciousness and toxic exposures. The qEEG made all the difference because I did the functional medicine and she benefited very significantly. But the qEEG showed a lot of abnormalities. One of them was that her hippocampus was 2.7 standard deviations from the norm. You want it to be normal. The hippocampus controls important aspects of memory and is involved in spatial memory and Alzheimer's disease. The qEEG showed she had an abnormality affecting her facial blindness, and then I could pursue direct treatment of that because I knew what was going on and where.

I have other patients, one woman who I mentioned in an editorial, who I really thought she was just what we call in psychiatry, a *help rejecting complainer*. I would tell her what

to do. She complained and she would never do what she was supposed to do. And then when I saw her qEEG, I knew exactly why she could not do what she needed to do. She could not really carry out her best intentions.

She was not able to connect a certain part of the parietal lobe to the frontal area of her brain, which is your executive function. You keep things organized and plan with your executive function, your frontal lobes. There was an informational disconnect you could see on the qEEG. I knew what was going on with her and then I had to dig deeper and solve the problem. In her case, we used neurofeedback, and it was very helpful.

***ATHM*:** Of those two examples you shared, where they are today, are they still functioning properly, if that is the right word.

Dr. Hedaya: With the first woman, her business thrived. She was doing well, and she didn't really require any additional treatment. I have not seen her in a while. I think the last time I spoke to her was about six months ago, and so she seemed to be fine. I didn't take a complete history, but she seemed to be fine, and was heading off to Europe. The other woman was severely depressed when she came to me, she was on multiple medications. We were able to reduce her meds by roughly 40%. She was bedridden and now gets up and goes out of her home, gardens, and cooks, but is still not working. She is functioning on less medicine.

I have another woman worth mentioning, who came to me with a movement disorder, and she could not even turn the directional signal on her car. She had such a tremor and trouble with her walking. Her neuroquant showed that the size of her basal ganglia, which controls movement, was in the second percentile, meaning one part of the brain that was controlling movement shrunk and we treated her and repeated the neuroquant, and she was in the 48th percentile and movement problems were gone. I then did not see her for about a year and a half until recently, and she's doing just great. No movement problems, fully functional and retired. So, I would say some people do great and they are good to go. Some people need maintenance.

I had a guy who is about 42 now and he had 28 years of depression. He tried everything. We did all the functional medicine, and he got a little bit better. We then went to the qEEG-guided laser treatment two to three times a week and he has not had any depression in a year and a half. So, he needs maintenance. I can't tell you why, you know, but he needs maintenance. It doesn't work for everyone. But it's no question these are tools that put my practice in a different place than it was five years ago.

***ATHM*:** Would you say the same thing for other health professionals if they were to implement qEEG.

Dr. Hedaya: Yes. I think honestly, knowing what I know now. Of course, it's always easier, 20-20 hindsight. I can't believe neuropsychiatrists are practicing without qEEG and without functional medicine. It's like living in the dark ages as far as I'm concerned.

***ATHM*:** Your examples were three to one, women over men. Does it make a difference whether you're male or female or it doesn't take sides?

Dr. Hedaya: I don't think it takes sides. But most of my patients, probably 60-70% are women, and I believe depression for example, psychiatric problems, are more prevalent in the female population. Even dementia is more prevalent.

***ATHM*:** Could it be that women tend to come out and talk about a health issue versus males?

Dr. Hedaya: Yes. I think women are more tuned in to where they are emotionally and physiologically than men. They say, I don't know if it's true, but they say that men will act out more. For example, men have more alcoholism. They won't go to see the psychiatrist or the doctor. Instead, they'll go to the bar.

***ATHM*:** Have I missed anything or anything else you'd like to add?

Dr. Hedaya: I'd like to spend a little time talking about ketamine assisted psychotherapy, because this is a dramatic breakthrough. It's relatively new. But in the initial stages there is strong evidence that in people who have complex PTSD, PTSD, and anxiety disorders, ketamine assisted psychotherapy can cause what I call a *soul level* change.

I used to call it *Warp Speed Psychotherapy*, but then I thought I'm not the biggest believer in psychotherapy, so I don't even want to call it psychotherapy. I do believe in cognitive behavioral therapy and there are specific therapies that are very useful. Then I started to call it *soul therapy* because what happens when you do this therapy is that people resolve issues on a very deep level, a deep emotional level that they normally can't access.

I can give you an example, and I could give you several. There was a woman who had severe PTSD, 70 years old, a math teacher, never married, and her PTSD was so severe that she was diagnosed by others as having multiple personality disorder. I treated her with functional medicine for about 18 months.

And she got better, but still was having depression. Her anxiety was getting better, and we remediated the mold in her home, and her physical health improved dramatically. We decided, based on the qEEG, to do treatment with ketamine assisted psychotherapy, and the effect was dramatic. When we did this session, she now has had three of them, she started out talking about how disturbed she was, that they were building a pipeline on the edge of the three acres she owned, and she was very disturbed by this. She is an

environmentalist. I said to her, and remember she's undergoing ketamine, it's probably not an accident, there is an irony, that they're building and digging ditches and putting in pipes next to property because, we're kind of putting in ditches and pipes and new connections in your brain.

I said, in Judaism, we believe that what happens on the material realm is reflected in the metaphysical realm. So, now she's under the ketamine influence. I can talk at this level. I would never talk to a person like this, normally. She went through doing all the work for about 90 minutes, and at the end with just great sadness said that she tells me she never had children and that pains her very, very deeply.

At the end of it, I said we're all in this world with a mission. We each have a specific mission, each one of us. Your mission is to heal the planet. Your conservation is loving the planet and you work hard at it. All your trauma that prevented you from being a parent, you're putting all your energy into conservation, and you're fulfilling your mission. Perhaps guardrails were put around a relationship so that you wouldn't have children and you would help heal this planet, which she believes in. And she believes in Gaia. She found that so profoundly helpful because it reframed her life and she said with a wide-eyed smile 'Wow. I'm fulfilling my mission even though I don't think I am.' And now her depression is lifting and it's quite remarkable. Now, I say it, and it may sound a little hokey. But just to reframe this, when the patient goes through this in an experiential way, it changes their perception and the reality in themselves. It is so powerful. Among other things it does, ketamine normalizes the thalamus in the brain. What we can see on the qEEG when the thalamus is malfunctioning and not regulating the signals it is sending and receiving from the cortex it gets disrupted. You can have abnormal movements and have abnormal thoughts. But when you normalize the thalamus, the cortex, where you do many higher order processes, normalizes. A qEEG two hours after her ketamine session showed that it was completely normalized.