Introduction to Reversing Alzheimer's

Well, I'm Doctor Pollock, and this session, this particular episode of the past electromagnetic field healing Summit is titled Reversing Alzheimer's Disease.

And with us today, we have doctor Heather Sanderson. And Doctor Sanderson is an expert in this area. And we're very happy to have her with us to help us, to educate us on Alzheimer's disease, cognitive dementia, brain problems, and etc..

So she's, she's an expert in that and we look forward to that. But but rather than me telling you about her, it'd be actually better for her to tell you about her.

So let me introduce Doctor Satis, please. Hi. Thank you so much for having me. So what I do is help people reverse their dementia. And really, it's a privilege when I have the opportunity to help people prevent their dementia.

Because that is so much easier, and so much less expensive and really a lot more fun. But what we've done is we have realized that people won't do the work that it takes to prevent dementia, unless we can prove that we can reverse it.

It's much more easy to prove that you're reversing something than it is to prove you're preventing it. And so we have designed a clinical trial in my office where we've taken 25 participants through this process.

It's a complex system science, individualized functional medicine based approach to brain health. And we're excited to have those, results published this year in 2022.

And this is very much in line with what Doctor Bredesen does. That was, published last year. They show that 70, about 75% of participants in their trial doing something very similar, reversed their cognitive decline.

So the natural progression of dementia is about a three point, decline, in a on a 30 point scale, a Moca or in many mental status, exam and three points of decline over a year is what's expected.

What we're seeing is even as much as seven eight and nine, points of improvement. So really, really, really exciting stuff that lots of people can get behind.

So many people are told by their neurologist, but there's nothing that you can do for dementia. Or here's some medications like an aricept or an Amanda, and really get your affairs in order, because this doesn't work very well.

So what we've seen is that it works the majority of the time, and especially if people can implement what I was seeing in my clinical practice early on after, study with Doctor Bateson, was that the people who didn't benefit were the ones who didn't have the cognitive capacity or the support at home to implement.

So because of that, I started a residential care facility called Miramar, where we offer an immersive experience in this reticent type of approach. So we in the clinical setting, we see patients who are struggling with dementia or want to prevent dementia.

Here at Salisbury, we have a clinical trial going on, and then we also have the residential care facility. So I get a lot of opportunity to spend time with patients and families who are struggling with dementia, and then also have the privilege of getting to see many of them improve their health and get better.

I totally agree with you. And this is true in medicine in general, isn't it? And you're a natural naturopathy physician. So, what we recognize is that the longer you wait, the greater the pathology, the deeper the damage, the harder it is to climb back out of that hole.

Right. So the earlier you can start, the better. Tell us a little bit about Doctor Bateson and how you got involved in that, and why you've chosen this approach to dealing with dementia.

Yeah. So what happened was I saw Doctor Bateson speak at a conference. As you and I both know, we go to a lot of conferences getting our continuing medical education.

And just because I'm curious, I want to know what other people are doing out there. And so I saw him at a mental health conference, and when I heard him speak about what he was doing, I it meshed so well with my approach, which is basically a complex system science approach that I want to know everything that is affecting cellular health.

I don't want to say like, oh, it's just this one molecule, or it's this one biochemical pathway, or it's this one thing.

Clinical Trial Results and Dementia Reversal

It really is about saying, what are all of the things impacting the way that cell behaves day to day. And Doctor Bateson did essentially that. And he wasn't afraid to say, hey, you need to be comprehensive.

But I think a lot of times as doctors and especially as a younger naturopath, I, I didn't want to overwhelm people. I didn't want to say, oh, we need to do more than one lab, or we need to treat your gut and your brain and the infections and the toxicity.

I felt like we had to simplify things and meet patients in the in this paradigm that we're all stuck in about, like there's one pill for one ill. And when I saw Doctor Bateson sort of unapologetically be like, look, we need to look at hormones.

We need to look at toxins, we need to look at blood supply and the anatomy. We need to look at type three. You know, type three diabetes is one of the things that sometimes dementia is called.

We need to look at diet and blood sugar regulation. We need to look at traumatic brain injuries. So when he started describing his model it overlaps so much with mine that even though I was a skeptic, after being told by many well-meaning instructors and and experts that there was nothing you could do for dementia, even though I'd been told that and believed it.

I was curious enough to go train with him because the model made sense to me. And then when I got back from his training, I was on his list of people who had been trained by him.

And so there were people who had read his book, Patients and Families, who had read his book, who started showing up in my office and saying, hey, I want to do this.

Can you help me? And really, they were the best teachers. They are the ones who inspired me to to commit my life to this, to my career, to this. Because I watched the impossible happen, right?

I watched patients with severe cognitive decline reverse it in just two weeks getting better. And just yet, in less than two months, I mean, just really things that I was in disbelief.

I was seen at first and then when I started to see it over and over and over. I mean, there's so much suffering happening. And I started to realize that it's unnecessary.

So then what? You know, what else could I do with my life other than tell as many people as one person? And, dementia, when people know that they're developing cognitive decline, it's very scary.

Absolutely terrifying. Dementia is I mean, I think this is part of the reason why we don't talk about it much when we're told there's nothing you can do, which is factually inaccurate.

In fact, it's almost overwhelming how much you can do. And then to it's so terrifying. We don't want to imagine that it could happen to us. Right? We say that happen to somebody else, not me. And the the truth is that the moment there's some inclination, some feeling, some insight that my brain used to be able to do that ten years ago, that is the moment to get started.

That is the moment to seek help from someone who's been trained by Doctor Bateson. Let's go back to Doctor Patterson for a second to why is he an expert?

What has he done to become the expert that you're that you decided to go trained with him? Yeah. So he wrote a book called The End of Alzheimer's, and he is he has spent decades studying what he calls a mouse.

Hymas. So looking at what affects the brains of mice in the lab and sure enough, over, you know, over decades, billions of dollars and countless hours of incredibly smart people's time has spent has been spent chasing this beta amyloid hypothesis, right, that we have beta amyloid plaques that form in our brain, and that's what causes dementia.

Well, I am open to that being part of the story. However, there's clear research that there are people who have perfect cognitive capacity at over 100.

And when they dissect their brains on autopsy, there's beta amyloid plaques present. There are Lewy bodies present there to help proteins present, and they still have just brilliant cognitive capacity.

So it's not the entire story. There are also people with dementia and even who have diagnosed Alzheimer's, who don't have a lot of beta amyloid. So we see that there's a lot of crossover.

The the name this diagnosis we've given people called Alzheimer's is really I think dementia is the umbrella term where we lose cognitive capacity. And then Alzheimer's is one type of dementia.

But most people are familiar with Alzheimer's. And use that that term kind of interchangeably with dementia. So the I like to use the word dementia because it's more all encompassing.

And, it's, it it doesn't have the connotation that it's associated with beta amyloid, which I think is kind of a false pretense. Right? It's that's not 100% of the story.

And we've chased it as a society for so long. So doctor, Doctor Bresson, Doctor Bettison is a trained neurologist. He went to Duke. He was at the Institute for aging for many, many years.

He is a researcher. And, he is one of the kindest, most sincere human beings I've ever met who is just absolutely dedicated to changing the narrative around this so that people can get the help they need.

And he's also been, you know, just an advocate for functional medicine and this common sense. How do we you know, when I talk about the brain, it's a complex system.

How do we get the bad stuff out and put the good stuff in so that the brain can do what it's designed to do, heal, and then help you remember? So what we know basically is that tau protein and beta amyloid are in a sense the one of the and signposts of, of a trap of a kind of a condition or a process.

Right. So in other words, that's the end, one of the end points of the process. But what causes the process along the way?

Why a Comprehensive Brain Health Model Matters

What causes that progression of of symptoms along the way, besides just getting older. Yeah. Well so and this is that's one of the things to keep in mind here is that there a lot of the medications, the drugs that have been formulated.

Like I said, we spent billions of dollars and decades of smart people's time chasing this beta amyloid hypothesis. And what we find is that when we take the beta amyloid out, you still get a decrease in cognitive function.

In fact, it speeds up often. And that's because these beta amyloid plaques have antimicrobial properties. They're actually there to support us. And to protect our brains for the vast majority of human evolution.

Everyone had ApoE e4 for status and ApoE e4 copy from your mom and ApoE e4 from your dad. And that was actually the most protective genotype in, in an environment where there were lots of parasites and other infections that were pretty ubiquitous.

Now, as our environments became more sterile, we now expressed about three and two, which are less associated with dementia. The the interesting thing about these proteins is, yes, they're misshapen, they're misfolded.

And so they are, you know, over time that becomes damaging to the brain, but they're really there to protect us from infections, from things that cause inflammation, from toxins.

So when we talk about the why, why is the brain creating these plaques and proteins and tangles and, and kind of perpetuating inflammation in the brain, why is that happening?

Well, we go back to the causes. So toxins are one cause this can be heavy metals. Mycotoxins or mold associated toxins. This can be things like glyphosate.

I was talking to, Stephanie and the other was roundup. Roundup? Yes. And, Doctor Stephanie out of MIT has published extensively on glyphosate and its influence on glycine, which is an amino acid on, on the our brain and protein folding again, and, all of the ways that it interferes with metabolism, both in the gut and in the brain.

So chemical toxins like phthalates and PCBs and petrochemicals and perchlorates and all of these nasty things in our environment that are small enough to be absorbed through the scanner, come in through food, or even be inhaled, they can start to accumulate in and get through the blood brain barrier.

Yeah, especially when there's a leaky blood brain barrier. Right. Because of stress and toxins and infections and all the other things. So yes, that is a piece of this.

So toxins, nutrients, we need enough nutrients, but not too much. Right? We all know that too little vitamin C can cause scurvy and too much sugar can cause diabetes.

But there are even times when we need a bit more vitamin B12 because of the way our genetics process things, or we need a bit more zinc, or we need a bit more glutathione, there's some nutrient that we can optimize so that we can get optimal cell function.

Again, this idea that when we take a cell, what's going to make it work best, work optimally, not get in the way like the toxins to get those out of the way, and then put nutrients in so that the cell has all of the building blocks it needs to make proteins to synthesize whatever, whatever function it has in the brain tissue to fire off those neurons so that they can transmit information.

And you can collect memories. So toxins, nutrients, stress. Again, it's all about balance. Too much is a problem. Too little is a problem in the wrong places.

A problem at the wrong time is a problem. You have probably had this experience. If you're anything like me, of too much cortisol at night, this will keep you from sleeping, not having enough cortisol in the morning.

It makes it really challenging to get out of bed. So stress. One of the stress hormones is cortisol. You don't want too much of that at the wrong time.

We don't want too little of our hormones. Like estrogen, progesterone, testosterone. These send signals to our

brain to create new neural pathways. They're they're signals of growth of youth.

And so if we have too much stress that can reduce our sex hormones, and then in doing so, reduce our ability to think clearly. Many women who have been through menopause know exactly what this feels like when the brain isn't getting estrogen.

You can't think straight. They're also with stress. This is the reason torture doesn't work particularly well. It's very hard to remember when we are under stress, right?

We're worried for our lives. We're we're scared. And, And even if it's rational, whether it's rational or not, that fear, that stress will keep our brain from making memories.

And so balancing stressors where we're getting enough exercise right. That's a form of stress. Even the ketogenic diet, which I'll talk more about, is a form of stress.

This is the idea of premises where we're getting enough stress that the system has more ability to respond to the environment, we're more flexible, more able to absorb changes in the environment or adapt.

This is adaptability. So we want enough stress that we have more adaptability, but not so much stress that we do compensate. Right. So finding that middle ground and things like meditation are extremely helpful.

My bias is that everyone should be in therapy as long as you find it helpful. Everyone should meditate and then getting enough sleep, right? Not stressing those foundational pieces, getting good high quality nutrients so that we're not on these blood sugar swings that can be very stressful.

Finding ways to optimize exercise. Exercise is a good stressor. In some ways. It's great stress relief in other ways. So optimizing that exercise routine in the, in your day to day life.

So toxins, nutrients, stress, structure, structure is and when it comes to the brain it's are we getting enough oxygen to our blood. Are we getting enough.

Excuse me. Oxygen to our brain. Blood to our brain. And then are we getting all the trash out? Right again? That cell. We need to put the good stuff in, take bad stuff out.

Same thing with the brain. Now, if our head is way forward and we're we're stretching those arteries or bending those arteries that go through the spine, then we're not going to get optimal blood flow if we have, you know, if we have pain and our our muscles are really, really tense and squeezing on those blood vessels, or if there's inflammation that's preventing us from getting good blood circulation and blood flow through the brain if we're not getting that sleep.

So we're not getting that good lymphatic cleansing at night, then we're not going to get enough flow out and we're going to have toxins accumulate. So that flow in and out of the brain is absolutely critical.

Now, the other big piece that comes up here is obstructive sleep apnea.

Causes of Cognitive Decline: Toxins, Nutrients, Stress, Structure, Infections

So if we snore at night, if we don't have an open airway at night, if we're mouth breathers instead of nose breathers, this is a huge, huge, huge risk factor when it comes to cognitive decline.

So addressing that immediately really, really important toxins, nutrients, stressors, structure and infections I always put infections last because I my clinical experience is such that if we can balance those first four, you should have a pretty robust immune system.

And as long as you don't go to Mexico and drink the water or you don't, you know, go get bit by a bunch of lime,

Texas lime, in fact, infested Texas, then you should be okay and able to kind of get through your cold and flu season and not succumb to crazy infections.

Now, there are some caveats here, especially in the case of dementia. We know that which can turn into infections in the mouth. Can it directly impact inflammation in the brain?

So making sure that there are not infections in your mouth, whether it's in an old root canal or a cavitation around your wisdom teeth that were extracted when you were 18 years old, or there's not some abscess that you're not aware of that is really, really, really important.

And if I if you had been telling me this 15 years ago, I would have thought you were crazy. But I have seen it now enough times to know clinically that there is a connection between what's going on in the mouth and what's going on in the brain, and really in the immune system in general.

The you hear and adage that good health starts in the gut. Well, your gut starts in your mouth. So making sure that that oral hygiene is really, really optimized is important.

If you see any blood on dental floss or blood in the sink, when you after you brush your teeth, it's time to get to the dentist and up your oral hygiene game.

Other infections that directly impact the formation of beta amyloid, or have been found on autopsy, basically in the beta amyloid plaques are herpes viruses, HSV one and two, which is your oral genital herpes?

And people who have those successive outbreaks, they seem to be at higher risk. So this is a place where I think getting treatment is important. I'm an octopus.

I don't you know, I'm not writing prescriptions all day, but this is a place where if there's a risk for dementia and a history of herpes outbreaks, I do suggest aggressive treatment.

And then the other one is Lyme and the Lyme co-infections. We know that these can cause, a huge amount of nerve inflammation and that even after Lyme is successfully treated, a Borrelia infection is successfully treated.

There can be residual neuroinflammation that sticks around. So my this is sort of toxins, nutrients, stressors, structure, infections and hormones. I would I would argue that that's a pretty comprehensive start to figuring out where someone stands in terms of their dementia risk.

If we can optimize all of those things, then people will have relatively optimal brain function. Let me ask you what you think is the most common infection that people have?

The most common infection? I'm curious. Well, I don't know, EBV, maybe it's EMV, so maybe no, no, no EBV, not EBV. So CMV is very common and we all have we the people who get it tend to get it when their children.

What I do testing and studies have actually shown this by 85 to 90% of the population have are positive for EBV antibodies. But is that because they've been exposed and they have an infection.

They have a previous infection. Right. So having antibodies doesn't mean you have a current infection just means that you've been exposed at some point.

Now having antibodies mean you've had a previous exposure. But if you had exposure when you were a college kid and now you're 65 and you're still have significant EBV antibodies, then is it still active or not.

At EBV has now been found to be actually resident. So once you get it's like like shingles check a box. You got a forever wait what you have other problem is going on in your body.

EBV can reactivate just like Lyme disease or chlamydia or all kinds of other, infections. So EBV is our partner for

life for almost all of us. Right? Right.

And then it can be this reactivation. Reactivation. If there's excess stress, there's poor nutrients. There's toxic burden or Covid or Covid. Yeah. Then you see these viruses that are pretty ubiquitous get reactivated because our stress tends to reactivate, just like it does with shingles.

Shingles doesn't sort of reactivate on its own. Usually there's a major stressor as well. One of the things I like to mention about supplements when we talk about, nutrition is that it's been said that a lot of doctors believe this.

They didn't talk this, that, vitamins just make expensive urine. And I used to tell my patients all the time, I'd rather have expensive urine than cheap urine.

We know that our nutrition is not very good. If you rely on the general nutrition that everybody is, that typically using or getting, it's depleted, significantly depleted.

Not only that and that it's hyper processed. So actually supplements are a former toxicity not supplements, but additives are another ubiquitous form of toxicity.

And like, say, breads from a subway or breads from McDonald's or breads from, you name it, that are commercially available. They're loaded with supplements.

They're low to, I'm sorry, with, additives. And those additives accumulate just like glyphosate to accumulate. So now let's talk a little bit about glyphosate.

How do we get glyphosate. So glyphosate is again ubiquitous. You cannot avoid it 100%. The best way to avoid it, to do what you can, about what you have control over is to eat 100% organic diet.

So glyphosate is sprayed on foods, not just, you know, people will spray it. And especially in planned communities, you know, it's on the sidewalk to keep the weeds from growing.

It's in, it's on watermelon. It's on it. But then you have these roundup ready crops, you know, the ones that are sprayed the most things like wheat and soy and corn.

And what I think a lot of people don't realize is that roundup, even though these are roundup Ready crops, roundup, kind of stresses them a little bit.

So what they do is right before harvesting, they'll spray a ton of roundup or this glyphosate over something like wheat. And it makes the the wheat bigger basically makes it so they can harvest more.

Because that stressor at the end of the life of this wheat, it forces it to make more of basically this is its reproductive capacity, right? So it makes a little bit more and then they can harvest more.

But there that means there's tons of glyphosate in the food supply because they've just sprayed it. This isn't to kill weeds. This is to stress the plant a little bit.

So that gets the secondary effect of a plumper wheat harvest. And so this makes massive amounts of glyphosate in and genetically modified wheat products, and corn and soy.

So the best way to reduce your burden is to avoid genetically modified Roundup Ready crops. And that's, again, wheat, soy, corn. Then knowing your farmer, knowing where things come from.

But this can be kind of a depressing conversation because there's big systemic issues that, you know, each one of us as an individual doesn't have a huge amount of control over, like, the farm bill.

And there are massive lobbies and so many dollars. It's wild to think about that are, being used to prevent things

from changing, right, to support the status quo, which is big AG mono cropping, lots and lots of chemicals.

But what we can do is to eat organic, support your local farmer, and don't spray it yourself. Don't don't buy it. Don't spray it in your yard. It is so toxic.

One of the ways it's toxic is first in the gut. So it's an anti-microbial agent, right. This is part of why it's toxic. And so it will change your flora, your microbiome and your gut.

It also is a chelating agent. So it will rob you of nutrients when it's in your gut. And this is probably part of why we see so much more gluten intolerance, so much more wheat intolerance is not just the gluten or the wheat, it's the pesticides in it.

It's the herbicides in it. So, you know, just making conscious decisions about what you're putting into your body every day. I think it's step number one.

The other thing I tell people is take your shoes off before you go in the house, because we're walking around all day and people spray parking lots and sidewalks are sprayed with all kinds of stuff we don't know about.

Even the petrochemicals, the oil that's leaking, whatever's out there, if you can just leave that stuff outside by taking your shoes off at the door, then you're not taking it inside, and then you're not barefoot later on and then crawling into bed.

And that can really reduce the amount of toxic toxicity in your house. Also, opening doors and windows, you know, when it's not wintertime on the East Coast.

So we can't avoid these things, right. The problem is you can't avoid it's like EMF so you can't avoid. It's there. It's everywhere. So, if you can't avoid it, all we can really do is to decrease the burden.

Now, how do we find out if we're at risk? Because not everybody will show Alzheimer's from all that exposure, right? Some people are more prone to it than others are.

And so how do you assess whether you have that risk. Yeah. So neurodegenerative this is one of the interesting things is that nothing matches according to Stephanie.

So let's set off work. Nothing matches the acceleration in autism rates and neurodegenerative disorders at the same with the same accuracy as the in crease and use of roundup. Right.

So these these lines are just directly correlated. Now the causation is you know the biochemistry the biology of this. But from an epidemiological perspective our exposure to this has gone up exponentially.

And then the incidence of these diseases, especially autism has as well. So when we talk about what to do about this, you can measure I use Great Plains Labs.

I use their, their glyphosate test, and we, we just have people collect urine and we send it off, and then you can know about where your levels are. Now, I see people with severe disease, with autism, Asperger's.

Well, Asperger's not being as severe, but severe autism with, ALS with dementia who are up in like the six and seven range. And then I see people, you know, who aim to eat organic most of the time, and they're down around one, a little under one.

You really, ideally we would be at zero, right. But that just. I don't see that ever. It's just is next to impossible. But what can we do is. And this is true for all, the toxins, for more toxins, for chemical toxins and for heavy metals.

You know, if we can support our natural detoxification pathways, have a bowel movement every single day at least once, drink plenty of good, high quality, filtered spring water or spring water.

If it's coming from high enough up, you probably don't have to get anything out of it. But water is really another one of these things.

Testing and Reducing Toxic Burden

I don't want to be too depressing here, but it's hard to get good water, especially in Southern California, where at the end of the river here. But bowel movement every day, plenty of good clean water out of glass or stainless or healthy ceramic that doesn't have hasn't been, dyed with LED paints.

No red, but good, healthy water source. It's not out of plastic. And then supporting your liver. Things like dandelion and milk thistle and good, healthy amounts of, cruciferous veggies like broccoli and, cauliflower and brussel sprouts.

And then your lungs. So detox breathwork. I think the lungs get overlooked often. They are so good at balancing our our, but they also this is why a cop would use a breathalyzer, right?

To test to see if you've been drinking is because we exhale toxins that are metabolized in the body, through the lungs. And, I've been in breathwork classes, detox breathwork classes where I started, like, who's painting at 7 p.m.?

I have someone outside painting or I the inside. And it was just people starting to get rid of toxins through the breathwork. So highly potent stuff. This is really effective when you use it, to use a detox breathwork practice.

And then it also helps with managing stress, which is a nice two for one there. And then the last organ of elimination, it's kind of again a two for one here though. Lymphatics and the skin.

So sweating and getting rid of toxins through through our sweat and then guiding them to the liver through the lymphatic system. So things like dry skin, rushing sauna exercise helps with this castor oil packs to the liver.

There's really a long, long list of ways that we can support getting toxins out through the skin and lymph. But sweating is by far one of the best, especially if you can tolerate it.

I like a sauna blanket. That's what I have at home. It's really easy. It heats up fast, I sweat quick, it's easy to clean, and then I can fold it up. It's like the shape of a sleeping bag.

My head sticks out so I can tolerate it really hot for a little while, and then I can just clean it out, fold it up, and put it in a closet. And it doesn't have to take up a bunch of space.

It's also quite affordable. So an easy way to have access to a sauna or sweating regularly. Epsom salt baths are another great option. Are baths. Yes.

Bikram yoga? Yes, I love it. Oh, one of the things you didn't mention as a cause is, concussion, TBI is. Yeah. So structurally, the traumatic brain injuries.

Absolutely. I'm so glad you brought that up. So structural issues there. Yes. Can cause all kinds of inflammation and damage. Cellular damage. This is something where if we have the opportunity, getting that treated within a couple months, within a couple weeks of the injury happening, we see the best outcomes.

But there's there's so much that we can do for anyone that has had a traumatic brain injury. And even later on, there are functional neurologists who will see people with decades old, traumatic brain injuries and get really good results kind of retraining the brain.

This is neuroplasticity, right? That even though there's been some damage, our brains have this phenomenal ability to rewire and create new pathways to make up for whatever was lost.

So you can't get smart without exercising your brain, right? You have a natural smartness, but that's only a potential that you have to exercise that potential to to maximize the the function of that brain.

So talk about brain exercise. Yeah, without a doubt. Well, so what I teach my patients is that this whole protocol is brain exercise. We love when, you know, the ketogenic diet, nutrients, our brains, many Alzheimer's brains are not very efficient at using glucose or sugar for fuel.

And so we ask them to switch the fuel to ketosis, taquitos to ketones, which is a burning fat for fuel versus sugar for fuel in the brain. And sometimes just switching the fuel makes the brain run much more efficiently.

Now it's a big ask because it means asking people to stop eating sugar, but it's like I tell them it's like bicep curls for your brain to figure out how to shop differently, to figure out how to cook differently, to figure out you know, what's on the list, what's on the no list than to, you know, prick your finger and measure your ketones and figure out what means ketosis and what doesn't.

This is a whole new way of living and just going through that process, reorganizing your life in that way, going through the the aisles in the grocery store that you might not have been before, learning to do new things that is exactly, I think, what you're talking about now, you can learn to play the ukulele, or you can learn to speak French or Mandarin, and that would be a way to do it as well.

And I encourage my patients to make sure that there's space to do the protocol. Right. So if you're if you're stressed about learning Mandarin, then that might take away from improving your diet or getting the exercise.

And what we see is that the protocol works when you when you apply it. And so I don't want to create too many hurdles, but yes, I you know, with like should I do crosswords or Sudoku if you want to get better at crosswords and Sudoku, but I what I want from my patients is that they maintain independence.

So doing those things that are a little challenging for you, if it's your taxes or whatever it is that's practical cooking new recipes that is so practical, making sure that you stay nourished and fed, keeping your house organized.

Right. These things that maybe take a little bit of extra mental energy or effort, lean into them and do them. However. If you keep pouring gasoline on the fire, and then you throw water on the fire to put out the fire, but you keep pouring gasoline on it, then there's a problem right?

So doing all the plasticity stuff during all the memory enhancement is not very helpful if you continue pouring gasoline on the fire. Right. So some things are more critical than others.

So if you could prioritize what you should do, if you can only do five things, know we gave us we gave you a list of ten things you should be doing or 21 of the five things that you should be doing.

Ketogenic diet if you are postmenopausal or older. Hormone replacement. As long as you've discussed it with your doctor and it's safe for you, then I think hormone replacement makes a big difference for a lot of people.

There's a supplement that I you mentioned supplements. There are some low trophic supplements that combine a lot of the things that are really helpful.

And the one that I really like is called Qualia Mind by Neuro Hacker Collective. It's the one that I've used in my clinical trial and that I have the most experience with.

Although there are others on the on the market. Could you repeat that one? Yeah. It's called and here I'll show it to you because I take it myself. It's called qualia sugar. Lia.

Qualia mind. And this is full of phenylalanine and taurine and theanine and coba and, and C choline and coffee berry. The green coffee berry, whole coffee extract, phosphate, choline.

This theobromine. So many of the hoopers in the list goes on. Ginkgo, of course. So this is and the right doses and and proportions. Yes. So this what I is these guys are my friends.

I make no money if you buy this or not. But people who I trust and respect put a lot of time and effort and, and really genius into formulating that product.

And so they have taken a complex system science approach, which I appreciate you figuring out. How do we increase the state of choline and dopamine in the synapse, but create production, right.

Acetylcholine and dopamine. How do we create more production, increase the amount of time in the synapse where it does, it's heavy lifting, it's work, and then also support metabolism, healthy metabolism so that we're not getting imbalances in neurotransmitters.

Traumatic Brain Injury and Brain Exercise

So what they have done is really compiled a lot of research. They didn't just take one research trial. They took a bunch of them and then synthesize a ton of information.

And so what I noticed is that people get benefit quickly. And so that particular supplement stands out to me because people come back and say, how is life changing?

I can think again. And that that's what's satisfying. That's what I want to see. Right. So ketogenic diet, hormone hormones, exercise exercise exercise exercise maybe that should be first.

Really. A lifetime of exercise. A habit of exercise is critical and the outcomes are just so, so, so different. A lot of this had to do with signaling what is the signal our brain is getting?

Is it getting the signal to grow? Doctor Bateson has this great analogy is if you call this my brain star on the country is you're the country of your brain.

Is it oriented? Is it fighting a war? Is it fighting off a pathogen? Is it having to clean up toxic waste, or is it able to build schools and build infrastructure?

Right. Is it building new pathways and new connections? And what we want in our brain is if right, to get the junk out and the good stuff in the signaling, especially to the brain that says build new memories, build new connections, build more cognitive capacity so that is, tons of that comes from, yes, the hormones, but also from exercise.

And exercise helps again, structurally with blood flow and then also with stress. So if we can bottle exercise, we probably wouldn't be here. We'd be on our yacht somewhere, because it's oh, so, so valuable.

And really, we don't have to talk about dementia. We could be talking about cancer or diabetes. We can talk about whatever chronic disease you want. Exercise is helpful.

I think I get one more. Yeah, there's only four, so I might I might have a bonus in a video. Well, diet clearly is important. So avoiding things but diet clarity is important.

So let's go back to concussion for a second. We tend to think of TBI as a big injury. When I was working with TBI, I discovered as I started asking patients on a regular basis whether they ever hit their head, I would say probably 60 to 70% of the population has hit their head, if not even more.

And I'm not talking about a major fall. I'm not talking about somebody hitting you in the head with a bat. Right. We're talking about small things to the head.

And we often many people will actually report on if we start asking that question. Many people watch or report multiple small things to the head, and each ding to the head causes shifts in the way the brain functions, and that

becomes cumulative.

Now sometimes that that ding to the head causes problems with memory, causes problems with function and sleep and so on fairly quickly. But then you recover from it and that's why medicine tends to not pay a lot of, attention to this, because we recover from these things.

The problem is that every one of those leads, it's scar, every one of those leaves its imprint on the brain. Right? Yeah. Without a doubt. When when I have a mom come in who's had a, child with a traumatic brain injury.

You know, if they're playing football or soccer or something where there seems to be repetitive head injuries, I say you must stop, please. Like, if you make any other decision, I don't care.

But this one, you cannot have repeated head injuries. And we see this is very clear with the football players with CTE. And there's been you know, there's there's some politics around it.

And so you get different opinions, but it seems very clear that there's a type of dementia particularly associated with the head injuries football players get in their helmets that not only has memory loss associated, but personality changes, especially towards violence.

And we see this with Lewy body a bit as well. Like severe personality changes, hallucinations and sometimes violent. So, you know, this isn't just about memory loss.

When we start talking about traumatic brain injuries, of course hearing loss, vision changes, there can be pituitary function that changes, depending on the type of traumatic brain injury.

You can get very different outcomes. And again, kind of like dementia. The conventional world seems to think there isn't much we can do. Now. They say that you don't how they recover, but what we see is that you can recover much, much, much faster and more fully.

I had a patient, a young soccer player who came in and she had been told that she had EBV. She'd been told she was fatigued because she had a virus. And and sure enough, I said, you know what else happened around the same time?

Oh, well, I had a soccer goal fall on my head. Like the goal, the goal, the the medal. I couldn't believe it. And, she's like, yeah, but but they told me I was fine and but sure enough, that was when her fatigue started.

And then she tried to go back to exercising and she would just crash. And so my cocktail that I use is I've had lots of fast fail choline, fast virtual serine, methyl B12, high dose fish oils and and then hyperbaric or contrast oxygen therapy can be really helpful.

And I would imagine the PMF would be very helpful as well. Well, thank you for that segue. So yes, I actually did a study on PMF therapy and concussion with a relatively low intensity band that exists on those portable, battery operated and people who applied it to their heads, front or back or whatnot.

So half an hour, an hour to the sides of the head and then an hour front and back. And we use a device called a brain gauge. And the brain gauge measures, somatosensory function, basically, our sensory cortex function.

And you get an objective measure of how the brain is processing sensory information. And that is a good indicator of the degree of damage to the brain.

It's it's a it's objective. So if you want to look it up it's called brain gauge. So we did that and we did a scale and we had everybody doing two hours a day for three months.

We had, you know, measurements over that whole three months. At the end of the three months we had, everybody stopped the therapy and then remeasured them.

So everybody got improvements in brain function, significant within the first week to two weeks. And that's where the low intensity and obsessive, when we stopped it, they regressed.

They had like 50% loss of the game. So my hope was that doing the study that we would actually show, physical changes to the brain, that would be, more or less permanent.

The regression indicates that basically what we did is we improved function. Right now we done a little longer. Well, that's a that's the question is we didn't need more time with that level of intensity magnetic field or did they need more a longer over a longer period of time.

So these are open questions. But there's plenty of research now using, rtms repetitive transcranial magnetic stimulation. So high intensity magnetic field devices, and there's a substantial body of literature that suggests that people get big time benefits from it.

Ketogenic Diet, Supplements, and Hormone Support

And again, that probably has more to do with a bunch of different things that have to do with the brain improving circulation, increasing ATP, basically detoxifying the brain, increasing, just basically eliminating a reducing inflammation in the brain, stimulating stem cells in the brain.

So recovering all of that kind of functionality, improving sleep helps with memory. And there's plenty of research now that shows that pmfs actually help Alzheimer's as well.

And, and significantly so that you could get a month's worth of benefit from short courses of high intensity magnetic therapy. Or better yet, if you own your own system, you can do it at home on a regular basis.

Because when you're on your own home, system, it's not only helping your brain, but it's helping the rest of you because you can decrease inflammation throughout the whole body.

And we never got into this. But obesity, for example, floods the brain with cytokines. And that leads to brain fog that leads to memory problems as well.

So reducing obesity, reducing weight is clearly a very important way to, to to address the problem, to so magnetic field therapy can become critical not only to the brain itself, but also to the rest of the body, as what I'm saying.

Yeah, there's lots of ways that magnetic fields help with, with brain function, including reducing. And what they found is that if you had mild to moderate MCI and you did magnetic field therapy, the people who, did magnetic field therapy with MCI had responded.

Didn't go on to develop Alzheimer's. Those who didn't respond to F therapy with MCI, mild cognitive impairment, if they didn't, then they were much more likely to progress to, Alzheimer's.

But obviously they didn't do what you do in terms of evaluating them for who responded better, who didn't because they didn't really look at the person comprehensively.

And so you and I, we know that it's multifactorial. We know that it's, you know, complex and PMF therapy. The value of PMF therapy is it goes right through the brain, goes through the body completely, does not stay in the body.

And it's not like emfs which are hard on the brain as well. So emfs are cell phones to your head, Wi-Fi routers, smart meters, all of these things are basically really, really inflammatory, and they cause significant dysfunction.

So you never should have a cell phone by your bed. Never. I think what I love so much about EMF is it sounds like it's the same theory, right? That what can we do to support cellular function?

Well, P emf does that. It gets the stuff out. It helps to optimize all of the organelles, the mitochondria and the ribosomes and everybody in there. It helps them to do their jobs more efficiently and effectively so that you get better function in the organ and then in the body, whether we're talking about the brain or the liver or the kidneys or wherever we are also provides the nutrients support because nutrients get absorbed better, right then it also provides repair and recovery, and it improves function.

So it does all of those things. And that one technology does all of that. And the value, the beauty of Pmfs is it goes right through the brain, goes right through the body.

The body does not stop a magnetic field. Now, Ian naps, on the other hand, are a whole different ballgame. They get absorbed by the body. They get absorbed by the brain.

They've done studies where they show that people who have a cell phone to their heads for hours at a time, hours throughout the day, are more likely to get, brain cancer on that side of the head.

So we again, keep cell phones away as much as possible. And if you need to use it on speaker or you have an air tube, system, but speaker is probably the easiest thing to do, not the wireless.

What do you think of AirPods? I'm terrified of them. Well, it's better than Bluetooth. Okay. Bluetooth is still wireless, so it's not as bad as a cell phone.

Do your hand. But Bluetooth is still wireless, and I see people who have a Bluetooth attached to their ears for hours at a time. Not a good idea. So you use it.

You get off, put it, you know, keep it away from your body as far as you reasonably can. And again, by having it by your bedside, there's a syndrome now that's been described in kids where they have their cell phones on next to them in bed all night long.

They cannot they cannot, not receive their text during the night. And they look at their phones in the morning and they look at what they said during the night.

It's gibberish, but they respond to their cell phones, all their messaging. They can't can't not receive their messages. They have this paranoia about not receiving your messages.

So just craving they can leave them in the kitchen for the night, turn on airplane mode or on airplane mode. Good idea. And then buy an alarm clock because that's what I hear from everybody.

Oh no, I can't. I can't leave my my phone in another room because then I can't tell what time it is. So you're saying you could just put it on airplane mode all night?

Yeah, that's pretty much fine. And then you can use it as your alarm clock. What other then you can use it as your alarm clock. Exactly. Well, my other concern is that it's like the sleep hygiene, right?

If you're texting right before you go to bed or you're reading the news right before you go to bed or checking your email right before you go to bed. And then it's the first thing you do when you wake up is who texted me?

Who emailed me back, right? That doesn't support a healthy brain for other reasons, and they clearly inflame the brain. So I think about emfs. So our cell phone is microwaves.

What do you do with a microwave oven? I don't use one. Wow. But people who do what do you what what do you do with it? You're cooking. So why do why do you why do you cook?

Because the microwaves are so short. The wavelengths are so short. They heat water, right? They jiggle anything. Oh. Need anything. And so as a result, you're cooking your brain.

You're cooking your body in many ways. Right. And and it's not just one big cook. It's all the little cooking that goes on all day long that basically you're exposing, whether it's the environment or whether it's your cell phone yourself.

And then again, if you have a Wi-Fi, system and the routers are broadcasting all night long, people should turn off their router. So anybody with MCI early on in the process, one of the first things to eliminate is as much Wi-Fi as you can in your in your environment.

You can. We used to have, cell phones. We have telephones. Right. And you didn't talk to anybody. I tell you, use the telephone. And what happened with between calls?

We got by? Nothing.

PMF Therapy, EMFs, and Practical Brain Health Tips

Is that important for most of us. Nothing is that critical or that important. But you have to be there on top of it all the time. This is a another sort of neurosis that we've developed in our society, that we have to attend to our messaging immediately.

Right. So I think that's that's a that's a bad one. But pmfs that are supportive as opposed to emfs MPs are destructive, but pmfs are constructive. It's good to make that distinction that they're they're different.

And also I appreciate this message listening. It's like this habit. It's there's there's decisions we make every day, even though they're small, about where our phone is at night or whether or not it's on airplane mode, those decisions are really accumulate over time and and determine whether or not we're healthy or not.

At the end of our lives, and we're adding that stressor on top of all the other stressors that you discussed as well. And it's just one more stressor.

It's a modern stressor. I think as people get sicker and sicker, they're more and more sensitive to their phones. Right. So those small triggers may, if maybe for someone really healthy and really resilient, their phone doesn't bother them at all.

And so they think it doesn't bother anybody. But as we get sicker, as we age, we're more and more sensitive to those things. Yeah. So can you build that sensitivity because, emfs are basically irritate, right?

They demand they are a stressor. They demand a response by the body. And when the body is already sort of on edge stress, as you said, then that's a, that's a response that your body can't tolerate.

So again it can put you over the edge essentially. So if you have if you have an infection, EBV or Lyme or Covid and then you're recovering from that, you don't need another stressor on top of all of that.

And if you haven't recovered completely, which often happens as well, right then what you're doing, you're not. It's another chronic stressor that you're adding constantly to your to your system.

So avoid it. But again, pmfs actually mitigate emfs because they strengthen the body. They actually help the body's natural health systems to be much stronger.

And when you're stronger, you can resist better. So it helps with detoxification and helps with nutrient absorption. And it just the list is on and on.

So people want to find out more about that. They can go to doctor com or they can read a book called Supercharge Your Health with PMF therapy. That's so exciting.

Doctor Holly, thank you for sharing all of that. My pleasure. And likewise, thanks for the opportunity to share with you as well. Do you have any final comments or final thoughts?

No, I think this I think good dive, at least a quick one into, how people can support their brain health through and, and some other things that what we're doing in our comprehensive clinic.

And, I am looking forward to having you, the reverse Alzheimer's summit. So that'll be something that's going to air in June as well. Yes, we look forward to that as well.

All right. So the key here is that and one of the things I say about PMF therapy is you can't build a house without bricks and mortar. You need to put in a comprehensive approach.

Because if you try to stimulate a body to be healthy when you're pouring gasoline on the fire, it's not going to work. It's just not going to work because pmfs don't do the job.

All they are is a stimulus. They encourage the body to be better. They encourage the body to be healthier. And one of the benefits of pmfs, too, is they cross the blood brain barrier.

They go all the way through the body, right? All the way through one side, out together. It's like the body is like air to a magnetic field. It's like there's no body there at all.

And the key is that pmfs also don't cause problems. They reveal problems. So if you have a reaction to a PMF there's a problem that needs to be dealt with there.

So that's actually it can be used that way diagnostically as well. It's so interesting. I've had patients. You just made me think that patients tell me they feel better after an MRI.

Is that similar to. Yeah. Is that part of what's going on. Well there's two parts to an MRI. There's a huge static magnetic field. So the static magnetic field in a sense by that having the magnitude of that field just basically stops everything.

And so you get a rest in a sense, from that magnetic field. On the other hand, the other part of the MRI is radio frequency. And radio frequency, like microwaves, is extraordinarily agitating to the body.

So the one causes you to relax and the other one causes you to be stimulated. So some people will respond either way to an MRI. But magnetic field therapy is not MRI because it's only a very low frequency that's designed for therapeutic purposes as opposed to EMF, which is very high frequency.

Got it. That's really helpful I think. So I, understand more biochemistry than electrophysiology. AG geology. Right. Yeah. Electro medicine. Well, and that's also, again, they work together.

One controls the other. What controls chemistry. Right. Yeah. Well, I mean, like, light therapy changes how enzymes function. They're they're so interrelated.

And like, as someone who appreciates complex system science, you know, I want to I want to know about each of these pieces and then put together the, the optimal plan for a person that's going to get them the best results.

While we are a light body, right? Yeah. We are an electromagnetic body. We are we feel that we're tissue. Right? We can take tag on that tissue, we slap ourselves and then we slap the tissue.

But what's tissue? What makes tissue molecules, which is what you one of your major strengths is molecules. What controls molecules? Physics. Electromagnetics. Yeah.

You can't dock sodium with a chloride without the physics telling you you can't. So it's subtle. It's behind us. We don't feel it. We don't touch it. We can't see it.

But it's controlling everything below that level. You're working at the level of challenge. Yeah, I those protons and neutrons and electrons that I haven't thought about in 25 years.

But we're going to get you to go that way. Go in that direction. It sounds like an exciting trip. Let's go. All right. I'll we'll be talking heads a big doctor Pollock.

Thank you. Have a thank you very much for joining us and sharing your wisdom. And hopefully we'll be able to help a lot of people, prevent their Alzheimer's, prevent their cognitive decline, and, maybe even recover from Alzheimer's.

It's certainly. It's been such a pleasure. Thank you. And enjoy the rest of your day. You as well. Be well.