AI Brain Mapping Meets Functional Medicine Transcript

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Opening and Podcast Introduction

I had to get to a flight from Dallas to California to go to Dr. Holtorf's clinic. We're going to shoot podcasts and work together. So I show up at his clinic and there's still this feeling of, I need to be like the ultimate healthy person.

I'm in front of practitioners. I'm talking on things like this. It's almost like a pressure that if something happens to you, it's like, we'll look at you.

Welcome to the Peptides and Longevity podcast. Each week, we'll dive into groundbreaking science, innovative therapies, and the future of health and longevity.

Alongside visionary physicians and experts, we'll explore how peptides, cutting edge medicine, and lifestyle strategies can redefine the way we age. Get ready to transform your health, optimize your vitality, and unlock the secrets to a longer, healthier life.

Let's get started. Awesome. Well, I want to welcome all of you guys to the bioregulators and peptide summit. And joining me today is one of the most incredible minds in our industry.

Defining Health Beyond Disease

We have Dr. Miles Nichols with Medicine Heart Clinic. I got to know Miles, it was probably about nine years ago. I was working in a functional diagnostic type of company and ran into him at a conference and he impressed me because I had practitioners who practice with heart and they took the spirit, soul and body principle very seriously.

And in my story, the fact that I had someone who cared about the traumas I went through and the nature of my being itself, not just trying to get toxins out or get me to use organic toothpaste.

When I heard Miles speak, I was like, he's right in line with that. And he's bringing sort of his own unique dynamic approach to how he treats patients.

And so Dr. Miles, thank you for joining me today. I'm stoked to get to talk to you after nine years. It's a treat. Yeah, Michael, it's great to be here.

Looking forward to diving in and sharing with the community. Thanks, brother. I think my first question is, where did you start with your approach to functional medicine, integrative medicine?

There's so many names out there for it, but what does healing and practicing medicine mean to you? It's a great question. I have a philosophy that might be a little different than some.

When I think of health, I'm not really limiting it to being free from disease. I'm really looking at a bigger kind of a picture. I have a friend, he was in college.

I was at a place called Ghost Ranch doing outdoor adventure and the director for that program, he was in great physical fitness. He did outdoor stuff.

He did cool work in the world. He was in great physical health, you would say from the perspective of absence of disease, as far as I was aware, he would have met that criteria.

A few years after that, he was, he would call me periodically, ask me some things, especially spiritual kind of conversations and dialogues we'd have together.

And then, and then I got a call, but it was from his phone, but it was, I answered and it was his, his mom. And she said something's happened and Connor's committed suicide.

And so, I, from that time really started the question, what is health? Because it looked physically like he was in great health and how could health without happiness?

What, how, how valuable is that? So to me, there's this. greater sense of a mind-body-spirit kind of a health picture that's been really important. And that also started for me when I was growing up.

My father, he was a doctor, and when I was 15, he had passed on suddenly and unexpectedly. And when I got that call, And I realized what had happened, I had to work with a lot of my own stuff coming up mentally first and looked at, it was sudden, it was unexpected.

I had to look at stress in my father and see how that played a role in disease also that it wasn't. As simple, there was no, he didn't have, he wasn't taking any medications.

He wasn't diagnosed with anything. He was, you know, it was sudden. It was a cardiovascular event, but it was unexpected. And, and there was a lot of stress.

He was a, he was a doctor. He was a legislator. He was director for a rural health office. Actually at the time he was a state senator. He had been a legislator and then became a state senator.

And so he had a tremendous amount of. stress, I really had to look at the mind, mindfulness, stress, where that plays a role. And I had to do a lot of that work on myself just with my own history and the tragedy that occurred with our family and grief work for myself too.

Brain Mapping, Trauma, and Environmental Illness

So all of that's just my path has fit into when I'm working with patients in the clinic that we're really looking to We're really looking to help people to have, for me, it's not enough to just have the ability to have enough energy to get through the day and sleep well and be able to exercise and those kinds of basic things are important and to feel good is important.

And to be able to do the kinds of things people want to do is important. And it goes a step further for me as if someone's not really feeling like they're just beaming with.

love and just feeling absolutely incredible that it's not good enough to say that, you know, health is just a base level. And I also want to sympathize that there are a lot of people who are so far from that, that that might be hard to even imagine as a possibility.

And perhaps it's quite rare even for people to be in most of the time experience, I'm not talking about 100% of the time, but most of the time in an experience of love, of flow, of dynamism, of really enjoying life.

And so to me, it's more than just freedom from disease. And even some people might have a disease, but be amazingly functional and enjoying their life in great ways.

So it's a hard question to answer, but hopefully that gives people a sense. Yeah, that's beautiful. I think it's truly the hidden epidemic of our culture is we're underlying, or I'm sorry, there's an underlying kind of theme of stress that's plaguing us.

And I like what you're talking about because it's sort of like mold or it's like lime. It's like things that if you went into the Western medical culture, they don't, they disregard it.

They're like, oh, just, you know, you'll be fine. It's one of those like they dismiss you And they don't even recognize that it exists. And I find even when I was practicing in clinic, so many male clients too, it's almost like we were bred

to just disregard the stress or our health.

And if I ask my male clients, are you stressed? They're like, no, everything's good. But their markers weren't showing that they were good. And I think kind of like you, where you put in the work on the trauma side, on the grief side, and really take into account the emotional state of your being to come to a true homeostasis.

My life too, I haven't really hit the pinnacle of healing or health. didn't come from taking more supplements. It didn't come from running more labs. It actually came from confronting trauma and from dealing sort of like what you were just talking about, grief and the things that were plaguing me.

And it took me being in a near-death experience to sort of unravel the position I had placed myself in where I had like had an accumulation of pain from stress and it just took one thread to get pulled for my whole body to crumble and then all of a sudden I was confronted as someone in the integrative coaching world and supporting docs like you to be humbled and that experience was profound but it opened up this other opportunity to actually take my health seriously.

And for me, it was sobriety. I like never touched alcohol again. It was sort of making lifestyle changes that I was actually supplementing my destructive lifestyle with health biohacks and supplements.

And I was living a dualistic life. And I think once we get out of that duality and we get into heart center, we're really free, you know, but there's very few people that I hear here other than you and some colleagues in the industry that actually talk about that.

So I'm curious on when a patient comes to see you, Dr. Miles, and you take an account, maybe health history, and you run some functional diagnostics and different things, how is there any tools or anything that you touch in are utilized with like HRV or stress testing or bioimpedance.

Is there something unique that your clinic does or that you do that patients would find, you know, fascinating that we haven't heard about before? Yeah, thanks for that.

I mean, this is hard stuff to measure sometimes, especially when we're looking at something that's a little bit different than direct lab marker. There's a bunch of labs that actually give us clues though.

We like to look at an MRI of the brain and when we're looking at an MRI of the brain, we do an AI analysis on it and that AI analysis tells us this exact precise volumetric analysis of each brain region.

It's fascinating because we get a radiologist look at that MRI and send a report. Sometimes they find something, a lot of times they find nothing and they say it looks normal.

We run it through this AI analysis and there's such a precision in the data set that we know, for example, the amygdala. which is that fear center in the brain.

We know how that compares to other age match control. So for example, other people who, let's say it's a 37 year old patient who's a female, we can compare that amygdala to other 37 year old females on average.

And if we see a significant enlargement, we know that associates with trauma. There's a questionnaire, a lot of people may have heard of it, some haven't and some don't use it in clinical practice, but I believe every provider should.

It's called the ACEs Questionnaire, Adverse Childhood Experiences. And there's actually a huge data set that looks at the number of adverse childhood experiences that are associated with things like autoimmune disease, who would have connected those two without the data, but it's very connected.

That just a couple of adverse childhood experiences, divorce of parents or someone, a family member lands in jail or some kind of emotional abuse, these kinds of things can, you know, or physical abuse.

And how many of us have had a couple of those kinds of experiences? You know, for me, death of my father, there was an abuse issue with the babysitter.

There's, there's some things that I mean, I considered myself for a long time having come up with a family that was very well adjusted. I had loving parents.

I had loving siblings. There was a lot that was so, so amazing and incredible. But when we dig in, even those people who think that not a lot's gone on in their childhood, really digging in and seeing often there are some experiences that do lead to, for example, that amygdala enlargement.

And that amygdala enlargement, will predispose towards there being what we call a generalization where other similar situations that are safe are interpreted by the brain as a threat and are activating that amygdala, that limbic response.

And this especially occurs when people are dealing with chronic health struggles like environmentally acquired illness. And we do a lot with environmentally acquired illness and it's way beyond just mold.

There are gram-positive bacteria, gram-negative bacteria. There's a lot in the environment that can actually contribute to and even cause chronic health concerns.

And when someone's not safe in their home, that can become generalized to other places, to travel, to a new home. Even if it's safe, it's hard for the brain to calm down when there's been such disruption in a person's social life, ability to feel okay in themselves, ability to have enough energy, the metabolism can be impacted.

And we see brain deterioration that's too quick compared to age also. So when we do that AI analysis of the brain regions. in environmentally acquired illness, we're seeing three, four, sometimes five brain regions atrophied like 20 years later than we would, or earlier than we would expect.

So it's almost, we especially are concerned with the book campus because that's the memory center and we'll see. I can't tell you how many times I've seen someone in their 20s or 30s with the hippocampus that is about average for a 70 plus year old.

And so this kind of thing is really giving us a lot of data that People are surprised by even who have been to other functional medicine clinics, integrative clinics.

Nervous System Recovery and Breathwork

We'll do some of the imaging with AI analysis and some of the questionnaires and we'll be able to understand a bit more about some things that might be going on for them, especially brain side of things.

Wow. That's powerful. I'm correlating it to so many patients that I've seen. Even my journey, part of my journey was functional neurology to bring me back.

I had two TBIs back to back. one when I was 12, one when I was 13. Both of them led to me developing what would be a trauma-induced form of Tourette syndrome.

So I had all this autonomic nervous system misfiring dopaminergic just madness in my body. My brain was completely shutting down. I had post-concussive syndrome.

I was just in this constant state of a sympathetic storm. I couldn't get my nervous system free from it. And there was a practitioner in Dallas where I'm at, named Peter Gillay.

And Peter was one of Carrick's kind of OG guys. And he was the first one to talk to me about vagal toning. He was the first one to use like cold laser therapy or flower essence therapy or these different things that I guess in our culture of functional medicine, would almost be considered woo-woo or like too far out there.

But I think it should be a core of the marriage of East meets West. There's the AI brain mapping, which is like sounds fascinating and super powerful.

I wish I had that back, you know, 17 years ago in my healing journey. I'm sure it would have expedited my reality. I also saw a functional medicine doctor at the same time.

He's doing live blood microscopy and toxicity testing and that type of stuff. And it was really that balance of having two different, you sound like a mix of the practitioners that I saw that took in account my nervous system's state of being.

And it wasn't just trying to kind of fast track me into a healing, it was more about integration as I got familiar with what healing feels like. And I feel like for patient journey, it's so powerful to hear you say that because you've walked through it, I've walked through it.

So the way that we treat patients is so different, I feel like than what they would even expect at an average functional medicine clinic or an average chiropractic clinic where I don't feel like there's a integration into realizing that it's a super overwhelming journey for a patient to come in.

Like you said, they have multiple areas of the brain or they have multiple co-infections or comorbidities and they're sort of in this swirl of a dysregulated state.

And it's not about trying to force them in the journey, it's about trying to slowly integrate them over to healing. So I just appreciate the approach, Miles, because it's like even your energy through the interview and the way that you speak or the calmness about you, even that alone is healing.

So I just really appreciate your approach because I find that doing something like that type of diagnostic work is so powerful. And so let's use an archetype of a patient.

Let's say there is that firing, the swelling of the hippocampus, you see that they're in that state. Where do you start an approach in your clinic? How do you help?

your patients, like, is it looking at varied things and then getting a blend of treatments and supplements, things to do at home, things to do in your clinic?

What's the miles approach to healing? There's so much there. I'll touch on a few aspects and your journey is incredible too. And it's great that you found providers along the way and you've been doing things yourself in relation to, it sounds like, you know, not only healing work, but cleaning up too.

And, you know, if we're able to, on top of working towards taking supplements, peptides, medications, also, you know, of course doing the diet lifestyle pieces, but then, then really cleaning up, growing up and, and working on ourselves.

Cultivation, purification, these are really important things. Finding some good, wholesome fun. Play is really important. A sense of purpose and doing some work in the world that's meaningful work.

These things are not always talked about, but there's actually a study that showed that people who are doing service work in the world have better handle stress better.

Stress basically increased all-cause mortality for people who didn't have a service kind of work they're doing. It didn't have to be their primary job.

It could have just been caretaking for someone or something on the side. But if they had a service-oriented passion project, even that that decrease the impact of stress on the disease processes, which is fascinating to me.

And so there's a lot there. I'll just give a couple little things. One of the little things that people can do at home is

what's called a control pause, and that's with breathing.

And it's breathing in and out normally and slowly through the nose, a little slower than normal, or just regular, just natural. And having been sitting down for about five minutes, or so, so not exerted at all.

Control pause is on the exhale, in, out, not all the way out, just natural out, hold, pause. For how long, start a timer, for how long until the first desire to take a breath in, the first urge to take a breath in or the first diaphragm contraction, which would signal a body urge to take a breath in.

A lot of people when they do this will find that this may be three seconds, five seconds, maybe 10 seconds. Anything less than 30 seconds is actually an indication that the brain is shifted out.

The chemoreceptors are hypersensitive to carbon dioxide or CO2. This is, it's a very rough estimation, but it's actually pretty good at telling us that the nervous system and the sympathetic drive is ramped up a little bit.

that by increasing carbon dioxide tolerance through breath practices can actually do a lot for helping people to be in this more relaxed kind of a social kind of state that isn't on overdrive or ramped up.

Another one that's a little more advanced that we'll do with people when they come into the clinic is a gene expression test. This is different than a genetic test where we're looking at SNPs or gene polymorphisms or whole genome analysis.

Those are great, too. And we'll look at those, too, in some cases. But the gene expression test is looking at actual up or down regulation. So it's something called transcriptomics.

Transcriptomics or DNA methylation are the two methodologies to look at the actual expression of genes. And so, we're actually seeing, for example, if there's an up or down regulation in gene like mito-large or mito-small, which is a mitochondrial-related gene.

So, we'll see if there's a hypometabolism, a sluggish metabolism. We'll also get some gene expression that does relate to central nervous system injury or CNS injury.

So, there are some clues. If we have toll receptor 2 upregulated, there are a couple other genes, these tubulin gene upregulated expression that tell us that there's some kind of damage to the, sometimes it's microvascular damage.

Sometimes there are microclots damaging parts of the brain, but that that there may be central nervous system impacts to that.

Peptides, Methylation, and Cardiovascular Repair

And so there's even a gene that relates to PTSD that can upregulate during the expression of PTSD. A lot of people have complex trauma, not as many have full-on PTSD.

So it won't show complex trauma, but it will show severe PTSD when it upregulates. So there are some gene expression that give us clues. And one of the best parts about The gene expression testing is that we can identify or hone in on some causative agents.

For example, if defense in genes are upregulated, we think there's an active infection. If there are gene upregulations in two casp genes and one other that indicate mold or mycotoxin is really the only thing that we know that does that pattern.

There's a pattern related to Parkinson's. So there's a pattern of gene upregulation and coagulation genes and other genes that are related to what we know it's called a fingerprint, a DNA fingerprint.

There's a paper that says, okay, we had this cohort of people with Parkinson's. They had this genetic expression fingerprint. So if someone who doesn't have Parkinson's expresses, and we've had some people in their 20s and their 30s who are expressing this same fingerprint that we know that people with Parkinson's are expressing.

So we theorize and wonder if that would develop in the Parkinson's if left untreated, but we're able to treat and help those genes to down-regulate that are up-regulated.

And some genes that are down-regulated, like metabolic genes, we can see them up-regulate so the metabolism works better. And we can also identify if there are bacterial causes or exposures to endotoxins and gram-positive bacteria.

There's a whole class of gram-positive bacteria that's underappreciated that's actually causing a lot of chronic illness right now and causing brain degeneration and contributing to nervous system issues.

And so we get a lot of data that's really, I mean, it's a Sometimes I look back I think of 100 years ago or 150 or 200 years ago and you know it's almost crazy like if we said okay we can take a little blood and we can tell you you know what a bunch of stuff about what's about to happen to you if you don't you know make some changes and we can make some changes and what might happen then and we can tell you so much I mean it's incredible what we know what we can learn so I'm just fascinated by what we can learn so often when patients come into the clinic we'll learn so much about the brain, about the nervous system, about the body, and about the causes for what's contributing to inflammation, inflamaging.

Even people who are in pristine health, I love working with people who their attitude is an optimization mindset, a mindset of wanting to live long and die strong.

We have this whole live long die strong program in our clinic. And this live long die strong program is about this this mindset of I'm not trying to reverse disease.

I'm looking to become strong enough that I age gracefully, healthfully, that my golden years are positive, productive years where I can do things with my grandkids and I can go out for hikes and travel and do the things that I want to do in those years.

And what we know about the way in which the body and brain deteriorate is that if we can create a buffer, if we can have more muscle than we need, then if muscle deteriorates 20% we still have enough to do all the activities we want to do if we can work on the brain we actually we can see in these brain imaging sometimes people think oh well why would I do that why I don't want to know if my hippocampus is is atrophied and deteriorated and degenerated I'm on my way to cognitive decline you know do I really want to know that well we actually do see that there can be and there has been a published study on regrowth of gray matter in the brain.

We know meditation can help regrow some gray matter in the brain and then peptides, actually there's a peptide that has a peer review clinical trial that showed that it was able to regrow actual regrowth in gray matter in the brain from areas of the brain that had been degenerated that the person who had that hippocampus that looked 20, 30 years older than them, we can actually sometimes see regrowth in that brain region.

And so we can see this modulation. The body has this incredible potency and potential to modulate and to heal in a way that can create a buffer. So my, really who I love to work with are the people who aren't just trying to get to a base level of functioning.

But I mean, I don't really care where a person starts. If they start feeling horrible or if they start feeling great and they want to feel even better, that's less important to me.

But what I, what I really don't like as much as the person who's really just trying to get by, I'm really wanting to work with people who want to test the limits who want to see what are the what's possible with consciousness?

What are the frontiers of consciousness? What's possible? How much joy can I feel? How much love can I

experience? How much energy can I run through my system and these kinds of that mindset is really interesting to me and how how much can I maintain that into the older years into a couple of decades from now those that mindset is very interesting to me to work with and then we can really not only look at getting back to feeling good and being able to do what people want to do but we can go towards experiencing and getting towards the limits of what's possible.

And that is powerful. I freaking love that. Miles, that was incredible. And I love that approach. I love that you're taking something as complex as genetic expression and something as simple as a control stop from a breath work and a brain perspective.

It's like, I love that you're marrying those two aspects. It's like two dynamic extremes. Breathworks is just as technical as AI brain mapping is to me.

Because it takes a lot of discipline and neuro power. You know, I think meditation's helped heal my body more than anything that I've done in the biohacking world, quote unquote, like red light therapy and cold plunge and sauna.

And it's more just about stilling the mind, getting rid of the stories that don't exist and getting into the presence of being present. And even like an interview like this, it's like, I love, because I'm a musician as well, I played music so long, it comes from my soul.

It doesn't come from my brain. And so I can play music from the heart and move a room. But I never looked at a chord chart. I never read a sheet of music.

It was just a pure expression from the soul itself. And that's why I love interviews like this too, because we just get to express without a pre-written thing that locks us and makes it feel like some sort of rigidity or stagnation.

And I'm all about like right brain activation when it comes to like a creative flow. And I used to tell patients, I'm like, man, if you just, I like what you said too about getting into like the desire of your purpose, the passion, living passionately.

And I'm going to use, not that I'm going to, you know, but I'm going to think about that, you know, Live long, die strong. That is such a powerful statement.

What a cool, never heard it before until this interview, but it is so true that it's like I didn't know until I started working with Dr. Holtorf like how much peptides could influence the ability for my body to heal.

Because I'm still working on a path of neural restoration, even for myself, even years later, there's layers that come out over time. And if you look at practices in medicine, like traditional Chinese medicine and different things, there's a grace and a beauty to the way that we age.

There's a grace and a beauty to the way that even taking certain herbs or different things, they would say that, like 20 years if you're on goji berries, it would unlock a different genetic potential of you after those polysaccharides flooded your cells for so long.

They had this innate wisdom that there's a correlation of something that's more bioaccumulative. And even in my healing journey, when I started working with Dr.

Holtor, I had this kind of a, it was like a vagal freeze moment. I went through something like a re-traumatization of something I had already experienced.

I wind up feeling like I was falling in bed. I kind of thought it was a pot. sort of situation that came out of nowhere, really. And I had to get to a flight from Dallas to California to go to Dr.

Holtorf's clinic. We're going to shoot podcasts and work together. And so I show up at his clinic and there's still this feeling of I need to be like the ultimate healthy person.

I'm in front of practitioners. I'm talking on things like this. It's almost like a pressure that if something happens to you, it's like, we'll look at you, you know.

And so I show up at his clinic and I'm pretty weak. And he immediately knew what to give me. So he did an IV. He gave me 10 milligrams of cerebral lysine in an IV.

And cerebral lysine in about 30 minutes of that IV, all of the stress feeling behind the eyes, all of the tension in the weight on my chest, all of the neurological down regulation, it was hard to talk.

It's hard to like have energy to like function and process after getting off the flight, disappeared. And it's really powerful when you get into neuropeptides.

I love that you brought up one that can actually reverse gray matter because even for my parents right now, like stopping dementia, Parkinson's in their tracks, getting them on a neuropeptide spread, ones for cognitive enhancement, ones for vascularity on the bioregulator side, things like cerebral lysine, which can completely heal neuronal tissue and start to stop age-related diseases that are hitting us, but also feed the brain really like what I consider is the raw material for it to function correctly.

Those structures just come in and start to bring a balance to that neurochemistry. So I'm curious on more of if I go down the solution path and you're marrying like breath work with, you know, genetic expression.

Let's say I'm the patient, you find like, you know, I'm expressing some genetic alterations that don't serve my body well. I think the one that everybody knows would be like MTHFR, something simple like that, where my detox pathways maybe are not as open as someone else.

What or how, if it's peptides, I'm kind of curious on the peptide space or the supplement space, if we can delve into it for a minute. What would be an approach if someone was like MTHFR or they have that fear and anxiety state?

Are you marrying a multi-supplement peptide, IV? What's your clinic's approach? Because if you go to a whole tour of clinic, they're doing like six different things for everybody walking in the door because we are in this multi-complex state of, you know, disease and co-infection and all this.

I really think it takes things like peptides that are pleiotrophic or things like humic and fulvic acids or different things that have a multi-positive effect to restore the body back to homeostasis.

But then like you say, kind of push us into a super physiological ability to have more than what we need. So we feel in a way that we've never felt before.

Like you can tap into mitochondria so good that you have energy that you feel like you're on the Limitless pill from the Limitless movie. Like your brain functions at all cylinders.

That's to the point where I'm getting now. Now that I've worked with him and I've gotten into these unique formulations. So I'm curious what maybe what are some of your favorite peptides, favorite supplements?

approaches for someone with, you know, kind of genetic expression issues, they're stressed out, and how would you treat them? Miles, I'm curious.

Treatment Phases and Long-Term Healing

That's why you mentioned the limit was I was chatting with a buddy I had just met a few months back in Austin and he was, he has a, he does a lot with peptides and he was saying that he was telling me about his journey where he was severely overweight and significant alcoholism and depression and he was facing death's door and decided to make radical shifts and he's like, cerebrolysin was like limitless for him.

And he was like, that's the closest thing I've found to the limitless. Oh, very true. I can see that. Yeah. I mean, and

sometimes people ask, well, do peptides really do anything?

And, you know, it's a funny question because it's, well, okay, you know, if we inject you with insulin, is that going to do something? Because insulin is a peptide.

Right. You know, does a type 1 diabetic, does insulin do something? Right. So of course, you know, peptides do things. And, you know, some of them are subtle and some of them may not do a lot of good for an individual depending on when it's used.

And sometimes I see it used at the wrong time for getting the level of benefit that someone might expect or think. And then they spend a lot on a lot of peptides and they're not getting the benefit.

And I understand and sympathize with that scenario because there's a time and a place. And like you said, there are so many different modalities to use at the right time in the right place.

And so often we're sequencing people through a series of things that they're doing in their environment, they're doing with their lifestyle, they're doing with breath work and practices and supplementation, specific dietary changes, things with circadian biology, IV therapies, injection therapies.

We're doing a whole host and variety of things. And some of it is very step-by-step. depending on that gene expression piece, the gene expression may say, hey, the active infection really needs to be taken care of before you're going to see a lot of benefit from trying to do repair with peptides, if you're going to take your BPC157, if you're going to take your TP4, and you're trying to repair damage that's being done.

It's kind of like if you had a, you know, water leak in the wall and you, you, you see the drywall is all messed up and you're trying to repair the damage to the drywall, but the water is still an issue.

It's got to address the leak and then repair the damage or repair while addressing the leak, but at least make sure that you're figuring out the source.

So, so the source, it's really important. And if there is an environmental exposure source, an infectious source, if there are things like, genetic predisposition, like you mentioned, MTHFR, towards impaired methylation function if there is a huge buildup of homocysteine, which is an inflammatory protein that predisposes people.

I mean, I did a whole two-hour talk to providers about methylation recently, and there's so much data on homocysteine and methylation dysfunction and how that relates to cardiovascular disease risk and neurodegenerative diseases, Alzheimer dementia and stroke risk.

And so many things are, you know, build up of histamine in the body. migraine headaches, there's a bunch of things that can be related there. And there's such potency and power to, I mean, sometimes people take it a little too simple and they take some B vitamins to move it down the pathway and try and recycle homocysteine, which I appreciate.

to really get methyltransferase functioning well, things like choline and creatine and glycine and are really, really helpful in the mix. So, yes, we're going to, another incredible thing like, well, so for example, a lot of people wonder this question, especially in the integrative space about, well, my cholesterol is high, you know, is that good?

Is that bad? Is that, you know, how much risk is there? What to do about it? And I mean, we've seen some incredible things where when cholesterol is high and we're asking that question, Also imaging with AI analysis has played a big role here where now we can get a CCT angiogram.

So it's a coronary CT angiogram, a CT of the chest. And then an AI analysis called CLEARLY. And that CLEARLY AI analysis, so for me, I know how much plaque there is soft, how much of it's soft, how much of it's hard, where it is exactly.

So the whole chest, it's down to the square. we're cubic millimeter, right? We're getting to that level of detail. We're getting to exact percent of blood flow occlusion.

So is it 100%, 98%, 95%? Is it 47%? We can get. The stenosis, where they are, the occlusion, it actually pictures the vessel and you see a picture and you can zoom in and you can rotate.

It's really incredible to where we can see that. And then people can take IVs of phosphatidylcholine, something called Plaquex, it's a phosphatidylcholine and deoxycholic acid that together can have this tremendous effect with plaque and we're seeing calcium scores and these, these CCT angiograms and the plaque numbers go dramatically down with these IVs and so we're, you know, then It's a whole different world than take a statin and come back in a year and let's see how things go.

I mean, it's a much more active, proactive kind of a thing where we can actually really look in great detail at what's going on and we can do some incredible things that are, they're up and coming in some ways, and there's just, you know, not, there's some expense to it.

It's just not mainstream at this point, but there's a, if we're combining IVs and peptides and injection therapies and supplementation and looking at methylation, infections, toxins, and the gut, and we're doing nutrition and lifestyle, and we're addressing circadian rhythm and sleep, we're doing breath practices and addressing the nervous system.

I mean, it's incredible how much change can occur in a year to two years of treatment. That's incredible. I'm fascinated at that IV stack because there's just so many patients who are dealing with underlying cardiovascular issues.

And the cholesterol number is just such not a part of the equation, even though like Western Medical has put a highlight on it. It's more about your calcium square.

If you ever read the book, The Calcium Bomb, that as the increase in calcium supplementation has came to America, there was a direct correlation to the increase in the number of heart attacks.

Because taking a cheap chalky form of calcium carbonate is not going to make your bones stronger. It's really trippy. It's not even structurally really what we need to create bone on the silica magnesium sphere.

I know you probably know all that, but it's trippy how those ideas come into the culture. And then you have people who are worried about their bones, but then they're creating this, you know, basically a form of scarring in the cardiovascular tissue.

creating blood pressure issues and their swelling and all these. I saw so many patients where even just doing systemic enzyme therapy, natokinase and seropeptidase and chymotrypsin and trypsin and getting them to get those clot buster, you know, KPV on the peptide space has an affinity for that or BPC has a cardiovascular protective component to it.

But once you got that inflammation out and those arterial walls open, blood carries how we're feeling, oxygen, nutrient. I mean, it's such a vital, no pun intended, but pun intended, part of our biology, but I feel like sometimes overlooked.

Really, I really, I do. But it's key to it all. And so I just love that you go. I've never heard of Plaquex before. I'm literally going to make sure we order it or get it into the clinic because even my parents right now, they're dealing with high blood calcium and they went and did a CT scan with Clearly with one of my practitioner friends.

I need to get some of that. So like that's, I love that tip because it's like there's practical things we can go as practitioners and go start implementing if we don't have that.

So thank you, Miles. That's, that's huge. Um, and usually we see like 20 to 50 is sort of the range. So you do need

quite a few IVs. So, so, so 20 to 50 IVs to see that, that, that significant drop, but we'll see calcium scores drop a bunch.

So that is wild. I love that. That's so powerful. And even, and you're bringing up calcium handling. I mean, even just, just this really, really simple understanding.

There's so much information out there about vitamin D and so many providers are, you know, ordering the vitamin D level and trying to optimize that level.

But so many people are taking vitamin D providers are prescribing vitamin D and very few understand the actual. what it's doing, a lot of it has to do with absorption of calcium in the gut.

So vitamin D is helping to absorb calcium in the gut, from the gut into the blood and getting those calcium levels up. And so parathyroid hormone has this relationship where parathyroid hormone takes calcium out of the bone and puts it into the blood.

So if you're not getting enough calcium from the gut absorption in, then you'll see parathyroid start to rise to the upper half of the range and vitamin D will be in the lower part of the range.

And then as vitamin D goes up, parathyroid goes down, and those two have a relationship together. And then, of course, when you get calcium in the blood, like you're mentioning about, it's important that it also has a pathway to get into the bone, and that's vitamin K2.

And that's why a lot of supplement companies will combine vitamin K2 together with vitamin D, because if you're bringing more calcium into the blood and increasing the gut absorption of calcium, then it's helpful to make sure that there's enough of the main nutrient involved in directing that calcium into the bone.

And so that's another really, it's so simple, but it's a lot of people don't understand sort of the mechanisms. They know, oh, you should do K2 with D, but why?

So I like to. things like that I like to explain these things to people and help them to understand you know where what's happening in the body and where are these where are these things that you're taking what are they actually doing and how is that mobilizing and moving calcium and preventing it from getting in the wrong places but helping it to get into the right places and and why are Japanese researchers using mega mega doses of vitamin k2 with osteopenia osteoporosis I mean these are really interesting questions and we could go on forever here, but true.

We could probably have like a two-hour session just on that. And little blood markers like VEGF, a vascular endothelial growth factor, it's an incredible marker to get because we do see it quite low in some people and then we know BPC157 can be related to this vascular endothelial growth factor and help to signal to grow those vessels again.

And so, you know, the little markers like that can really guide the the appropriateness of which peptides and when and how to choose because there are so many and they can do so many important things.

I love that. I think BBC 157 is probably my all-time favorite. It's like the peptide hero at this point. I probably had 98% of my patients on it at one point just because there's just so many positive benefits.

I'm like, if you've never tried it, just because I feel like if you go neuro and you go thyroid, if you go cardiovascular and gut, you're clearing up so many of our disease states today that are caused by stress and the poor lifestyle and all the things that we're talking about.

But I love just pulling like a simple marker like that because we were doing functional diagnostics. And I'm curious on the lab approach for you because I had a case I was going to bring up to you.

I thought it was pretty interesting because I like what you talked about. I'm going to go all the way back in the

beginning. Environmental toxicity is more than just mold toxicity.

I feel like a lot of doctors out there highlight only mold, but I'll tell you an interesting case because I want to nerd out with you on it and I think you'll be fascinated by it.

I had a patient, he was probably like, the richest client I've ever dealt with. So no, whatever I recommended, he could afford all of it. Meaning he was just like do testing every two weeks, every panel you can imagine.

I mean, he was just, he was so dialed in, he's a very left brain guy. So he wants all the numbers to move. What had happened was his central nervous system started to misfire.

He would get in these anger bouts. and he would start to rage and he would just feel out of control of his own mind and body. And he's super successful.

And so I run a total tox burden panel from Vibrant, which I love that panel, urinary tox analysis and just see what's coming out of them. And I found there was an organic acid called methylhyperic acid.

that was like 3,000 times higher than the high limit in his body, like a deadly amount. And one of the main causes is central nervous system misfiring.

And I was like, where in the world did you get exposed to such a high, come to find out he had put his hands into a solvent that he had created to dissolve oil deposits on drill bits.

that acid structure in that component was methylhyperic acid when he went back to check. So literally one extreme exposure through the hands basically wrecked his life for nearly seven years.

And it took almost two and a half years to get his numbers back to normal. And I'm curious about like your patient journey, like how long are you typically treating someone, Miles?

If it took us a long time to accumulate toxicity, disease, poor lifestyle, what's the average lifespan of a patient that sees you guys? Is it a lot of frequency up front and then they kind of taper off?

Do you have a set program that you try and get them to follow? I'm curious about that. Because working with my patient, it was like, man, it took a lot of dedication from a patient journey that he trusted me that I would take him from.

this wrecked state to now he got pregnant with his wife and they both feel amazing. And it was a great patient case study story. But I'm just curious that with you, Dr.

Miles, how do you kind of education creates expectations? What's the expectation of the medicine heart approach to timeline for a patient? Yeah, so we go through phases of care and I mean that's a great example because sometimes it is a while before we've sort of lowered the all-static load enough that the person really feels dramatically better because sometimes it's a first phase of care really where we're looking to identify or assess and clear the things that are obstructing and getting in the way.

So is there an environmental exposure? Is there an infectious load that's increased? Are there issues that we would call contributing to the burden, contributing to the allostatic load, that the body is out of balance and chronically inflamed as a result of this load that's too much of a load?

And we look at eight main elements, but there are a bunch of elements that we're looking at for that allostatic load. And often it's a combination of things like methylation, dysfunction, mitochondrial dysfunction, infection, toxin, gut dysbiosis.

There are several, a bunch of these things. And then that first week, roughly it's eight months or so, plus or minus, so that first phase of we need to run the labs, try and figure out what that is, and then work to be clearing that from

the body.

Now, in some cases, this can go on a lot longer because people have to make an environmental change that might take some time. They might have to clean up their environment, but to not change it, but the cleanup process can take some time.

So sometimes it takes much longer than that, a year, a year and a half, even two years to really get through that.

Advice for Practitioners and Closing Remarks

But in general, our phase one is roughly eight months or so. And then phase two is now, we might still be clearing, but now we're actually really engaging in active repair and restoration of function.

So we're really looking to restore the function, regrow that gray matter, restore the endocrine system, repair the damage to tissue that's been done. Once we've eliminated some of the triggers, I mean, an easy way to think about this is the immune system and autoimmunity is tacking the body.

We want to identify the triggers and reduce and remove and clear as much as we can so that calms that active damage down. And if we're calming the active damage down, we're clearing any burden of the accumulated toxins, accumulated load of infectious agents that are still somewhat active or the byproducts of those infections, which can be toxins that are stored sometimes in the brain and the spine and cerebral spinal fluid in the organ systems and the tissues in the body.

As we remove some of that burden and get that burden and that allostatic load down, the environmental exposure down, then that second phase is that repair and restore function.

So we'll still often be doing some clearing, but phase two is roughly eight months also of building back and repairing and restoring function. And then we have phase three, which is that optimization.

We're tweaking, honing, refining. Now we're looking at those kinds of pieces of, we have the inevitables. So we talk about the inevitables that are going to come at some point and where are you at in the spectrum between optimal metabolic function versus metabolic dysfunction.

So now we're at a whole different playing field, a whole different place of now we're testing the limits, looking at the possibilities, how close can we get to optimal on the main drivers of living, long-dying, strong.

So now we're getting into that part of treatment. So the typical would be eight, eight and eight for phase one, two and three would be eight months each would take us through two years.

And that would get us through the three phases in most cases. Again, it's always customized. to the individual, but that's a rough template that works pretty nicely for people to understand about how long it takes.

Now, occasionally someone feels tremendously better after the first eight months and they don't feel the need to continue, depending if they want that optimization, how much repair.

But what we worry about, what we don't want to have happen is someone feels better, they don't do the repair work. And they've lowered the allostatic load enough to feel better, but barely.

And they go get loaded up again a little bit and they're back in that feeling like the, you know, sometimes they'll say the work didn't work. Well, maybe it did work, but we didn't get that buffer.

We didn't get that repair. We didn't boost and repair enough to have, because there's always going to be ups and downs and stressors and things in life and exposures.

So we want to be able to have some resiliency for being able to meet the intense periods and the demands and the

stressors and the situations in life.

We don't want to be the person who, you know, one lifestyle thing goes one night of sleep is off or one meal is off and we're destroyed for the day or the week.

You know, that isn't where we want to be or most people want to be. So that repair resiliency building part is pretty important. So we really encourage people to do, you know, least two of the three, if not all three phases.

Wow, that's awesome. I love that. That's a great amount of time because it just gives you so much room to work with the healing journey. Miles, I'm going to kind of wrap it up with you.

What if there's a practitioner listening to this? What's a bit of wisdom you can give them? for their healing journey, their practice, their just maybe words of encouragement, whatever you want.

I just love that you've had such a long history of wisdom. You've gone through so much. I know that you have a very successful clinic, a really amazing, authentic approach, I feel like, that I love.

But I just always like to end interviews or podcasts or anything with just like a word of wisdom, a word of encouragement, our audiences, someone that was just like us searching for information on how to optimize their ability to help others heal.

And so we've got a lot of wisdom out of this interview, but I feel like a closing statement is always a powerful way to kind of seal the talk and allow the practitioner to get some encouragement.

Yeah, for the practitioners out there, it can be hard to work with people to see so much. Health struggle at there's a lot in this world is even the CDC saying there are six in ten Americans struggling with at least one chronic disease That's that's the CDC.

So I mean that's really really conservative estimate so six and ten Americans with at least one chronic disease four and ten with two or more chronic diseases and a medical system that's a very good system at dealing with acute issues and a very poor system at dealing with chronic issues because we see the chronic disease epidemic getting worse and worse.

The crisis of chronic diseases is really growing and the seven of the top 10 causes of death are for chronic disease and 75% of prescriptions or more than that are for just managing the symptoms of chronic diseases.

And so it can be a challenge and a struggle, especially getting into trying to help people, you know, really help people with chronic diseases. And so there's, you know, a lot of providers are, I mean, unfortunately in the world of doctors and practitioners, I just see a lot burning out, going out of business.

I mean, there's even, unfortunately, there are high rates of suicide too. I mean, it depends where people are at and where they're trapped in the system, or if they're out on their own, then there are different challenges that occur.

And so it can be easy to get lost in those. I want to encourage providers, because I do train providers and speak in front of providers a lot, to keep finding and fueling your passion, because it's so easy to get burdened with all the care and not keep learning, keep growing, keep finding the passion.

There's so much cool stuff out there. I mean, you know, I was just sitting in on a meeting with a company that's developing a gene therapy for Clotho, which could be a game-changing thing for Alzheimer's, dementia and cognitive enhancement.

So there's way cool stuff happening out there. There's just such an amazing things happening in the peptide world, things happening in advances in medicine that are very exciting.

And so setting aside some time, it can be hard to do, but setting aside some time for following passion, again, you

know, passion and purpose, bringing that into the work and then really taking also the self-care time because it's so important to do the things that are important.

So whatever that is for you to wake up and watch the sunrise, to spend time with community. I was just in some hot springs with some really good friends and those community times can be so rejuvenating.

And then that can be brought in to encouraging patients, encouraging clients to find communities or to create community gatherings and time with family.

I mean, these things are really, really important and can be hard to, sometimes it's easy to lose sight of some of those. So find your passion, keep it going and take some time to connect with community and family.

Let's freaking go. What more could you ask for that? I love that. That's a great reminder. I got so trapped in the healing space that I was burning the candle at every end until the healing I was providing turned into me getting sick.

So I had a practitioner tell me that if you don't provide healing to yourself the way you do to others, you're missing the purpose of why you have the gift of healing.

So I feel like if we could wrap up what Dr. Miles is encouraging us with is, you know, let's take that to heart. Let's make sure that we're in our self-care, our passion, our purpose.

And for me, it took taking time off. in reassessing myself and my relationship to myself. And if you need that time, then do it, you know, and hopefully you take some bit of wisdom from this, whether it's a new peptide you never tried or, you know, some technology and, you know, there's so many things that we talked about.

I feel like, you know, I'm going to go back and do my own study from a Dr. Miles. How can people connect with you? Where can they find you? Social media, your clinic, all that information.

What do you got for us, Miles? For people who want to find out about the clinic or just get great blog articles that we have so many blog articles about peptides.

We have so many blog articles about some, I mean, we put a lot of time, energy, research into our blog articles. So, you know, if you're interested in longevity, peptides, chronic diseases, Lyme, all any of the gut thyroid autoimmune issues, you know, so many topics are hormones.

on the blog, the fantastic articles at medicinewithheart.com. If you're interested about the clinic, medicinewithheart.com, you can also book a call of staff.

They can talk to you a little bit about what's going on for you. I'll point you in a direction or see if working with us is a good idea or, you know, we do have a big network of providers.

that we can connect people with to or point people towards blog articles, things like that. So we offer that as a community service to book a call with a staff member to just hear a little bit about your health journey and try and help you with the next step.

And then for providers, there's mindbodyfunctionalmedicine.com is a place to go for providers who want to learn more about functional medicine training.

Perfect. I love that. Well, Dr. Myles, thank you so much for joining us today. And thank you everybody for joining us on the Bioregulators and Peptides Summit.

And stay tuned for more amazing interviews like this. So thank you, Dr. Myles. Thanks, Michael. Thank you, everyone. Thanks for joining us on the Peptides and Longevity podcast.

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