The Precision Medicine Approach to Neurodegenerative Diseases and Total Body Health Transcript

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Podcast Introduction and Guest Welcome

Ken, I'll bet you've heard this. Oh my God, I had this problem. I went to the ER. It was miserable for 12 hours, but one person, thank God, cared about me and they helped figure out and got me a floor room or some nice nurse or some caring doctor.

It always comes down to someone who takes responsibility and earnestly empathically figures out how to help. It's, you know, it's not a traffic cop that goes for anyone.

Any doctor, like there's two type of doctors, the doctor that's on time, and a doctor that listens. 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. Hello, it's Dr. Kent Holthorpe with another interview for the Peptide Summit. Today we have an amazing interview with Dr. Chad Prusmek.

He's a neurosurgeon and he's going to talk about precision medicine approach to concussion and neurodegenerative disease. And yeah, neurosurgeon talking about this.

So very cool. And I met him through the iLads chat room where he was just posting this, this amazing information all the time. And that's how I think I got to kind of connect with him.

So thank you so much for being here. And I know you're so busy. He did an all nighter the other night and thank you for taking the time. You better can anything for you, buddy.

Thank you. So he has an amazing and we'll talk more about it. This I think it's like forty five thousand square feet clinic. And I'm just the cutting edge stuff for, you know, basically training and brain injuries and things like that called the resilience code was found in 2016.

He had the vision to create a comprehensive health and performance personalized wellness plans. Dr. Presnick is certified functional medicine to IFM, an exclusive member of ILADS.

He's the only board certified neurosurgeon in United States who also holds a functional medicine certification. That's really cool. He's a primary neurosurgical consultant for Denver Broncos, United States Olympic Committee, with specialty in neurodegenerative diseases, concussion, post concussion syndrome.

and performance medicine. And we're talking before the interview here really about how traumatic brain injury, it's just so different if you have mold or you have Lyme and they really play a part together.

And I should mention he's, if you look at his CV is, you know, 12 page CV, it's like Harvard, Columbia, tons of publications, book chapters, tons of presentations on stuff.

Precision Medicine and N-of-One Care

You've got to look up all the words on the title. He's gracing our presence. I'm humbled. Thank you so much. You're

welcome, Kent. It's a pleasure to be here and your knowledge astounds me every time that we talk.

I don't know whether you're a scientist, a doctor, or a spirit from above, but You've helped my patients and you help a lot of people. So I thank you for all that.

Oh, thank you so much. Yeah. So do you practice precision medicine? What is that? Yes. So precision medicine is sort of a type of medicine that looks at studying the individual and getting data on the individual rather than studying a disease.

So in traditional allopathic medicine, we use evidence based studies. And what the goal is, is to prove the efficacy of a certain intervention on a population that's selected.

And so what you're looking at, for example, if it's a cholesterol medicine, You try to make a very small window of very similar characters and people, and then you kind of put them in two groups.

I know you know this and, and the point is you actually get an answer on whether a statin lowers cholesterol in a statistically significant way. So it gives you a very weird number.

It gives you a success rate on an average population. OK, well, I've never treated an average population. I've treated every single human being one-on-one.

And so it's almost like quantum mechanics, where if you look at something on a small scale, you need quantum mechanics math. If you see something on a large, fast scale, you need general relativity math.

The point is it's the frame of reference with which you're making the analysis. And so it's a very hard thing. And I know you know this, Kent. People are looking to provide tools.

Big Pharma, they're looking to provide medical devices. They're not looking to provide you with the right medical device for the right condition. And so what position medicine is, it's, all right, throw out all of the old thinking, let me test you.

And let me have you tell me what are your goals? What are your symptoms? I'll throw out a blanket of blood biomarkers, electrophysiology of the brain, MRIs, radiology.

I'll do kinematic studies. I'll just get everything. And then when everything comes back, we then play doctor. And what we do is we come up with a treatment plan and the important piece here is we track it.

So in other words, like, I'm not just like, I am firing blanks, like trial and error is what every doctor does. But what I'm doing is tracking what I'm doing so that I can learn quicker and through data analysis can get feedback on, okay, does this person with high cholesterol, who you took off the stupid statin medicine that you put on berberine, did that lower the cholesterol?

And if not. Well, that's a good data point just for my data bank, because over time it may be in the subpopulation with these genetics, this statin doesn't work.

Unless you have time points of, here's a person in a sixth state, and here's all of the multi-omics information, like every level from social down to molecular, you get all these levels of information.

You get a pattern. So then you get a person's, what we call, You know, I guess disease signature or health signature and that evolves and we track it over time.

So precision medicine is doing on the go N equals one medicine with a lot of data analysis and outcomes predicting using this type of mathematics. Yeah.

Well, that was really profound. And I agree where, you know, we're taught like other states, medicine is looking at,

you know, this giant double blinded sleep controlled trial, but you also look at those and they're so able to skew those and they do one little thing.

It's like, you look at the trials of like two non-steroidal companies. Whoever funded it, theirs came out on top. And my adult person who works in one of the CMOs where they do all the testing, where they're not supposed to know what's placebo, what's, and they know what's what, and they get a huge bonus if it passes.

And so they're doing whatever they can. And I also, I was looking at the approval of Gabapentin, you know? And you look at the curve of versus placebo for pay and was like, no different than one, it was like one little dip and they go, oh, right there.

And it's crazy. And it's true. And I tell patients, hey, You know, this study shows this, but you're not a study. And I pay so much more attention now to case studies, someone saying, hey, this worked for this population.

And you look at the levels of evidence, you know, it's supposed to be a double-blind placebo controlled study, meta-analysis, you know, retrospective studies, then case studies.

But the lowest level of evidence that's shown to be the least accurate is societal guidelines. And what do doctors look to? They're shown to be 20 years behind, they're shown to be totally biased, they only look at certain studies.

You know, I think of evidence-based medicine as the old textbooks in my library, that when I need to learn what I think I can take away from a medicine or medical device or an intervention, that's information that I blend in with my other peer review with experts like yourself, that I have with my experience database and my brain.

And you know what a clinician does, like a clinician sees so many patterns we can feel when something's off. And as long as you can start to identify the why and over many iterations, you'll see that why several times.

But if I need to know, like we talked about more gallons today, okay, complicated subject. But the point is, is at the end of the day, I have to help somebody and you had a suggestion based off of.

you know, expert sort of peer guidance and what your experience is. Well, that may be life saving. Well, the difference for me is that'll be imprinted in my database and I will have the data before and after all of these things.

And if some pattern emerges, we'll now have like an ability to clinically do analysis to say, Hey, look, Here, here's my Hansel and Gretel breadcrumb three.

Like this is how it happens. Rather than saying, let's get 10 people with more gallons. Let's do five with silver. Let's do it. You know, like it's, it's not real.

Yeah. Yeah. Never fix anything. Yeah. And even they show that a proven new therapy, um, takes on average 17 years, except that the mainstream medicine, unless it's a new drug or the sales force.

You know, and they said, you know, why is that people doctors don't read medical journals, they don't. I was just talking to this Harvard like oscillation expert today, which I'm into because we're trying to do this as a.

But he had to teach a class or, and he said, anyway, he talks to his doctors. He was how many people, we're talking about medicine. How many people actually have read a journal article front to back in the last three months?

Every, I said, probably zero of them. Exactly. and he goes very few would read the abstract and the abstract often the study show don't support is not supported by the by the data in the study but that's not even why it takes so long for a proven new therapy if you give a doctor here's 50 studies showing what you're doing isn't right or correct or the best they don't want to hear it don't tell me no no my tastes are different behind i'm doing fine Yeah, so trying to make a difference in providing a system, which over time we hope to spread out, you know, and sort of be a type of data driven multi center, you know, I guess, health and performance.

Um, we're not only do we offer all the data and analysis and testing, but we also, you know, under one roof, we sort of provide the care as well. So we'll, we have a gym and we work with strengthened condition coaches.

So, you know, let's say their dorsiflexion on their foot is inadequate on the left side and they have back pain and the training condition coaches on force plates can see that discrepancy and see asymmetries.

Well, then they could come up with a personalized rehabilitation program that gets worked into their daily workouts. Where on my end, I'm looking at all their brain pieces, I'm putting them in neurofeedback, testing, doing a brain map, neurofeedback, retesting, you know, looking at all the biomarkers and providing a life plan.

Whether someone comes in and wants to like rule the world and run a business, or if someone can't get out of bed and has an invisible illness that no one's figured out, we kind of take care of the whole gamut.

I love that. And I love getting a lot of data.

Building a Membership-Based Health Model

You know, you can just like, you know, when people say doctors, Oh, chronically, syndrome, fibromyalgia, like it's fake. Well, we, when we get our base panel, you know, 30, 40 tests, it's, we can pick them out without talking to the patient and how sick they are in about 80% of the time, you know, these patterns, like you're saying, you know, that's right.

And what's important, like, You know, for me to make decisions and do something that I haven't done, I really need to be comfortable and I will never do something that I don't research, look all over, but I need to hear it from someone like you or a Jill Carnahan, a Dan Kinlener, you know, like, um, a PhD in neuroscience, you know, like a lot of Granholm who's the head of DU's, you know, Nobel anti-aging, uh, university.

And we partnered with them so we could have an academic overtone. And I think that's what's important. And like this iLads chat room is amazing. I mean, I have more articles to read and they're specifically about what I want.

They're from people like us, really bright from all over that have different perspectives. And we just sort of throw our chum in the water to help the rest of us and we get chum back.

You know, it's probably the single most effective learning tool I've had in several years. I was going to like, I think it's like they, for so many posts and cool stuff to read, like it just like, Oh my God is sucking up all my time, but, but it's worth it.

Yeah. Cause you just learn so much more than if you were, you know, you just never think about it. Exactly. So yeah. So that's what we do in Denver here.

Cool. So it's about resilience. What made you call it that? Well, there were two things I wanted to sort of emphasize and I wanted it catchy because my goal is not to put my name on a billboard.

My goal is to change the way young adults and healthy people acquire their health. that they see their health in high definition and an early stage. You know, we go to school and I can read Chaucer and Shakespeare, but I can graduate from Harvard and not know where my liver is, how to do my taxes, and I don't know what a fever really represents.

I think that's a big problem because now when everyone's having fever and dying, they look at someone like Fauci and they say, okay, well, I guess He's the one that we should listen to.

The point is, that's the one you should not listen to. His responsibility is the nation, which is a macro health economic issue. It is not the one-on-one issue.

And so, like, where the hell… We should make money on vaccines. Yeah. Macroeconomic issue. So, you know,

your primary care doctor, unfortunately, overworked, underpaid insurance companies dictate what they can do.

How can I help someone when I'm only allowed to do X amount of tests if I say X amount of things? You can't. And why the heck am I doing what someone else who's not a doctor told me to do?

Because they have some board and they know they found what is cost effective and they build guardrails around it. And we have to go through hoops. It's total horseshit.

It's still like, let it happen. And they always want to treat the patients and, and so it's come down to that. Yeah, it's basically, and like these like HMOs and things, they'll get rid of the, the 20% every year that isn't cost-effective.

I mean, the doctors that are doing more tests, making more diagnoses, prescribe more things, getting people better, and they'll just cut them and say they're not cost-effective and you get, you know, their bonus for doing nothing.

And that's why the resilience code is cash. for large catastrophic traditional medicine interventions, we use insurance. So someone needs to be referred to shoulder surgery.

Someone needs an MRI. That's what insurance is for, not routine care. That's right. Unfortunately, hopefully we get some of the meds processed. but they know here's your burn, here's the membership, and this is what the outcomes will be.

And you know, we'll have, you have a 35% chance of getting this better, a 65% chance, because that's what our database is meant to over time give. So we're selling outcomes and health certainty at the end of the day.

But what I was getting to is, I wanna take what the gym is, what like a high school, kids, health education, their coaching, and the primary care doctor and make resilience codes where people can come in, pay a price, you get your primary care, your functional medicine, your stranded conditioning coaches or PhDs, you have rehab, and so you learn how to squat for football.

You learn maybe what ADD is, you have all of these things that you get health intelligence as you get older. And so like, why do we need a gym where someone just says, go play in the jungle gym?

I want someone to test me and say, this is exactly what you want to do for the goals you have. If I want to be faster, if I want to be thinner. great you studied i'll do your personal program here and you trial and error make me get that that's the same thing that happens with the functional medicine piece someone's got lyme's disease or or what i deal with is post traumatic brain symptoms or post concussive symptoms so we see the hardest Patients who had to drop out of the NHL, NFL, they're four years out, they still have ringing in the ears, they still have blurred vision.

No one's been able to help them. They've gone to all the great places like BU or universities, NFL. And the issue is like, they didn't take a 360 degree view of what's going on.

And a lot of these guys have mold toxicity, they have Lyme. There was a study out of Harvard that post-concussive syndrome of people who are two years out with symptoms, 38% tested positive on CDC criteria for Western blot.

38%. And what's happening is, so what I'm looking at, again, this is this 360 degree view of your health. So I'm looking at Lyme's disease to help out a brain injury.

Why? Because as you know, the neuroinflammation induced from chronic Lyme's disease and the microglial Activation, what's that causing? Neuroinflammation, what's that causing?

Inability for neurons to remain plastic and inability for neurons to communicate. What do you get? Brain fog, vestibular dysfunction. You treat the Lyme disease and all of a sudden all the brain stuff goes away.

Could be Lyme, could be heavy metals, could be an abusive childhood, could be drinking, any toxicity that could

pollute the brain. We're saying mold seems to be a big one.

Most big. Yeah, I gave a talk and I lads on mold issues and we're studying mold issues and it turns out on people that we see so the average amount. The average person is about 42 years old.

The average length of symptoms are four years so these are big time, you know, They've been a lot of places. One third, 38% lime, 33% mold, 15% gut dysbiosis, which is huge.

The gut piece and the gut brain stuff, that's a propagator of lime. More and more, we're just hearing more. People have toxicities. So what we call this whole field is environmental sub-concussion.

It's the field that looks at environmental toxicities that could upregulate chronic neuroinflammation and that what pulled the trigger, what loaded the gun was the concussion, but what's really pulling the trigger are the ongoing toxicities.

Did you come up with that? I love that term. No, a team in Toronto did. And there's a really good article out of Frontiers back maybe 2018, it's called environmental sub concussion.

And they wrote like a editorialized academic hypothesis. And when I saw that I was like that glued exactly what I do. I just love the terms. It's functional medicine directed at brain injury, and it's a multi-omics approach, making sure that the treatment comes.

Hey, you may have to treat the social situation. You may have to treat a biologic situation, give stem cells. You may have to give peptides. You may have to do all these things, but if you don't look at it in multiple layers, and figure out the pattern of why this person has this flavor of post-concussive syndrome or CTE versus when I'm like, you need all of those layers.

And that's the reason we do all this data. It's to start making a map of people's health and they're going from a healthy state to a pathologic state.

You know, people don't go from like, I'm healthy to I'm diseased. There's a continuum. Something happens. We have zero info on that. So I want to shine the light in high definition on that piece.

And I want to figure out the middle game of all these things so I can give you information that helps you. Doesn't help a drug company, doesn't, but it helps guide you make decisions.

It helps people understand the why. I think it's a big deal. Yeah, no, it is. And people have to take an active role in their healthcare now, you know?

especially when they're sick, it's just, you know, and I think people get, or more and more, it seems like everyone's sick, or everyone has a family member who's sick, or a friend at a party, and they're always like, oh my God, can I go through it?

And you say, well, I would do this. Well, my doctor says it does, but that's not happening. Well, how's that working for you? Yeah.

Environmental Toxicity, Lyme, and Brain Injury

It's like, and so I've kind of stopped I would like, right, we'll have some form right there but now I just kind of like give them advice, whatever but let them call because a lot of will never move forward even though they're miserable.

Yeah. I mean, I can't tell you how many questions I get on COVID. I'm a neurosurgeon functional medicine doctor. I now have maybe a hundred post-COVID patients because what happens, the pathophysiology of post-COVID is very similar to Lyme.

It's upregulation of cytokines and chronic inflammation and dysregulation of clotting factors, et cetera. But the interesting point is when you talk to all of them, they have nowhere to go.

They have nowhere to go because their primary care doctor has an N equals maybe 10. They send them to the hospital if their oxygen's low. They don't believe in the ivermectin, which works amazing.

And I have… Or is it doxychloroquine? They both. I mean, the second an elderly person has it, I go doxyhydroglycerin and ivermectin immediately. Like, yeah, it's not randomized controlled, but they're alive.

And I mean, if we were just to gear, the population, yamal, vitamin D, zinc, vitamin C, flavonoid, and then if they test positive, ivermectin, ivermectin, there would be no pandemic.

That's right. That's right. You need to look under the hood of the car. to make sure you're not going to break down before the storm comes, before COVID came.

You had metabolic syndrome in your 80s. Tough shit, guy or girl. Like, sorry, your unhealthiness led to your demise. I have compassion for anyone that passes away.

But I also understand that we should be educating people in a way that people are compliant. And it's not that you can't. As soon as you write something, you know, I wrote something just on vitamin C, you know, and vitamin D.

And within 12 hours, FTC take down. So that's, that's why you don't, this is what you do. You set up a membership like resilience code, and then you take your own data and your own types of information and you only allow it on a portal that they can access such that it is as authentic as we're responsible for.

And they come to me to say whether they get the vaccine or not. or our group and we have integrative cardiology, integrative oncology. We have so many different specialties.

We have psychology. I love that. Do you have different memberships or how does it work? Do you have healthy people? Oh yeah, we have a lot of athletes.

Yeah. Yeah. So we get a lot of elite athletes that we become this sort of primary care performance doctor looking at micronutrients, hormones, things like that, but also supporting them so they can recover quickly.

So it's a membership model. The model is more like a golf membership. You pay X. X gets you access to a lot of things. You have your own clinical psychologist, your own functional medicine doctor, referral to cardiologists, a screen of oncology, you know, neurofeedback, and you have testing three times a year and any other testing in between.

And how would we, I'm interested to try it myself actually. So how do you find out more, like are there different packages or is there, how would someone find out?

You bet. If you go to our website, it's www.myresiliencecode.com. And on there, you can type in your information. And we have our chief experience officer.

So our CXO, her name is Andrea Beaver. She used to work with me at the Broncos and used to deal with their recovery services. And she has a wonderful sales and customer experience.

So she'll go over the different packages, six months, 12 months. What level do you want to include the brain? Do you want to include the oncology? Do you want to include these modules?

Here's the feature of medicine. It's got to be. The one thing we haven't ironed out is economics. It's expensive. So what our business model is, let's figure this out.

Let's take very good care of influential human beings that will give us an infrastructure of power. Let's be authentic

doctors that all communicate. all communicate with academic institutions to keep us all honest and not greedy.

And let's then own all of the health data and start to populate in the private sector what these health things mean. Let us figure out in part what the vaccines do.

Not in the evidence-based model. Like that's, that's your guy's job. That's fine. But in the N equals one model and that's what we're trying to achieve.

And it's gone very well. It's, but you know, starting a business like banging your head against a brick wall every other day. Oh, it's, it's, it's tough.

And, but you know, medicine is getting, you know, it's worse, you know, it's, again, it's, it's so population-based and you know, everyone needs healthcare, but look at the healthcare everyone's going to get, you know?

It's, it's just, it's scary, you know, and especially if, I mean, if you have, if you go to the ER of a broken leg or something, okay. But if you have something that's complicated, it's not in a little box, you're going to have the toughest time.

Like, you know, people always go, oh, I, you know, I'm going to the Mayo Clinic. I'll see you in two months. Ken, I'll bet you've heard this. Oh my God, I had this problem.

I went to the ER. It was miserable for 12 hours. But one person, thank God, cared about me and they helped figure out and got me a floor room or some nice nurse or some caring doctor.

It always comes down to someone who takes responsibility and earnestly empathically figures out how to help. It's, you know, it's not a traffic cop that goes for anyone, any doctor, like there's two type of doctors, the doctor that's on time, right.

And the doctor that listens, like you need a doctor that empathically listens. I am so behind cause all of a sudden it's four hours I've spent with the patient, you know, and then the next person, but they're used to it now college.

And I just get in and go in depth as much as I can, you know, and I'm, the least on time doctor ever. But people don't get mad because they know they get the time too, you know?

Yeah. Yeah, so, you know, trying to fight the machine a little bit, rage against the machine and, you know, see what turns up. Right now we have, you know, over 250 members, you know, yearly memberships.

We fly and we have virtual versions so we can do virtual training, virtual neurofeedback, virtual blood work. We send our phlebotomists to whoever. Another thing, Ken, I know you knew this, phlebotomists are important.

I can't tell you how important one is. We've had two wonderful ones and I'll tell you, they make the entire process work. Why? Because they will take care of every wreck.

They will get everything in a timely manner and you get good results. I can't tell you how many times you have a bad phlebotomist. The patients get so pissed because someone lost it in the mail.

Didn't work. Got to come get it again. I did anesthesia and I have a person, you go visit them after you saved their life like 10 times, you know? And so you're so proud of yourself and you go in and they're like, Oh, I remember you.

And you're like, yeah, like you missed my IV the first time. Yeah. So this direction. It's true. It's like your front desk person, same thing. You know, it's like, you know, insert our Larry.

that, you know, we don't take insurance either, like, hey, do these people care, you know? And if it's not everyone in the organization does, one person can give people the wrong impression, you know?

And that's true. And as one of our doctors, he's a family practice. He's like, we are now data collectors for the government. you know, and it's just like, it's refer, refer, refer, refer, and he was in our opposites of patients, but it was, you know, he just would refer out.

We hardly ever refer like you, you know, it's like you got to take care of all the GI stuff, all that, you know, it's maybe send a person to a cardiologist a couple of times a year, but is that you got to become, you know, the expert.

I mean, there's no way you can do neurosurgery or something like that, but I really think you could study old literature and be better than the specialist, like gastroenterology.

They're just now discovering probiotics, you know, and the microbiome, the gut brain axis. And, you know, if you have a chronic endocrine problem, don't go to an endocrinologist.

Don't go to an OB for chronic infection. Don't go to an infectious disease doctor. You know, they don't believe in it. So it's, it's crazy. Yeah. They actually serve a different science.

Like they serve the outer skirts of disease. They're disease helpers. They mitigate, they don't mitigate it. They help palliate disease after you're already there.

They're great at it. If I have a bad staph infection of septic. America's got a great system.

Concussion, CTE, and Neurorehabilitation

Why? Because it's directed at a thing. The person's name doesn't matter, right? But until they get there, like how did they get there? Who's checked on their immune system all the time?

Who knew what their food sensitivities were? Who knew if they had heavy metals that were dysregulating their immune system that led to them getting recurrent infections?

Who didn't get them to an immunologist for IVIG if they had like, you know, immunodeficiency? And so that's the problem is we need each other, but we're talking about two different games.

And our game is about health. Their game is about disease. Their game is fixed with surgeries and devices and pharma. Ours is fixed with science and helping people with experience who integrate and truly want to help.

You need an infrastructure of like a four seasons type place. So communication is key. Everyone has spoken to everyone understands the mantra of the resilience code.

Why? Because I can't spend that much time with every patient, but my strength and conditioning coach that's trained me for 10 years, if he gets a patient that has ADD, he knows the dopamine pathways.

He knows the reason for tremors. And guess what? One of my patients who has a question to him, we'll get that answer. What do they think? What a great place.

I really understand everyone is on the same page. Yeah. And everyone sounds passionate about what they do. What reminds me is that I go in the hospital, there's a hospital with sepsis, and I talk to the ICU doctor and say, well, can you give me a high dose of vitamin C?

And they're like, why, why would I do that? It's been in every journal for the last couple of years, you know, as the only thing to reduce, um, uh, the mortality and sepsis.

And then, so the nurse were kind of passive. They wouldn't tell them. The one vice-senior said, I'm going to make him do it. And then, so she comes back and she's all smile.

They're not going to do it. And then about 12 hours later, I get in a little cup, 500 milligrams of vitamin C. And they

didn't even know the studies. And I gave them the study and I doubt they read them.

Or the other time I went in, I was out to dinner with my girlfriend and their kids and their kids are like, your eye is so cool. I'm like, what are you talking about?

And I, it's awesome. And I'm like, I better go check. I looked in the bathroom, just blown people, just my whole eye. Right. And so I'm like, uh, I think I need to go to the ER, you know, and I go in and they're like, I'm like, look at my brain's dying.

I need, you know, I'm like, give me progesterone. I'm calling people with peptides and he's like, uh, yeah. So I told him about the progesterone, you know, that's neat.

I said, so you do it. She goes over with the study. So you'll do it now. Yeah. And, um, it turned out to be a heart assignment. You know, nothing that is one growing up.

One pupil is always bigger than the other. And I took antibiotics like three days before started around and that was kind of my heart. That's so interesting.

Wow. Well, uh, that's a good thing. Interesting story. See N equals one. Now you'll know about it. And they didn't ask anything. They just said, you're fine.

You don't CT or MRI. pituitary MRI and they go nothing like, what do you think it is? We don't know. The MRI was a good move at least. Yeah, but so concussion.

Yeah, you bet. So people are hyper-focused on the diagnosis, which is about 10% of the problem, but it is the biggest problem front and center on stage.

And the reason is because before you can actually discuss something, you have to define something. And in order to define it, people love objective findings.

They don't like wishy-washy findings. End of the day, concussions are diagnosed by health professionals. No tests, nothing else. Just like anything we diagnose, we are supported with physical findings, radiographic findings.

But it's us that say concussion. So my job with the Broncos, I'm on the field, I travel with them, the little guy or big guy goes in the tent and I help decide whether or not someone's concussed.

And if I'm suspicious, we will then take them to the locker room and do a protocol. And that protocol is a very smart, what we call scat five or scat six.

And it's a sideline concussion assessment tool. It has the best test, it has the post-concussive symptom score, everything done data wise, and it's extremely objective.

And so what this, the NFL has done a wonderful job at objectifying it because they had a social pressure because, you know, people were sick and we don't know exactly why.

No, I'm not saying head injury causes CTE, but there's some association. So anyway, but everyone's so hyper focused on take them out of the game. Okay.

They have a concussion. All right, we got that. Okay. Now what do we do with them? Once we say they have a concussion, we'll keep them out of the game.

Okay. But if I break my ankle, don't any rehab. Yeah. So you're saying just because it's a confusing and a little more difficult to understand than the ankle, we don't have to go rehab it.

No, they only have rehab for people who are in a coma. That makes no sense so so neuro rehabilitation early is

critical and so I call it a hardware problem.

Our wires they are a bunch of highways and when you bang your head certain highways get potholes some highways blow up and some highways remain. And then inflammation occurs.

So if you're trying to get to work, now your brain has highways with a bunch of fog on it. And what is these fogs? This metaphor is for my balance is off.

I'm dizzy. I'm nauseous. I don't like the lights around me. You know, I feel like I'm falling down. I'm sad. I can't get out of bed. You know, I'm depressed, whatever it may be.

And the problem is you're like, so don't you want to sort of look at the highways and fix them? So what should you do? Test what highway is busted and rehab it so you can fix the hardware problem.

Now, if you fix the hardware problem, and what are the things I'm talking about? So you can throw up your balance system. People need a vestibular evaluation, everybody, and they need vestibular rehab.

They need their autonomic nervous system tested. Dysautonomia or the hypersensitivity of our fight or flight. It's huge because it can cause all of this.

Huge. So if you're not doing orthostatics for 10 minutes, you're missing out on something huge. If they have pots, they need Levine protocol, propranolol, mitodrine.

And that's the reason people don't get better. So the reason is, is people on the front end, they don't look at the hardware. And the software, the hormones, the nutrients, the oxidation, the mitochondrial dysfunction, that's the fog.

And so if you don't look at that, then you're missing on how the fog over time will make the potholes remain and make it very difficult to drive. And so that's why we look at concussion like hardware problem, software problem.

Software is environmental subconcussion, screened for toxicities, inflammation, imbalances, genetics, piece that puzzle, rehab the hard wiring, and let's see what we get.

And that's what resilience code does. Nice. Nice. You know, we're actually, by the way, you mentioned POTS. We're doing a little pilot study on just BPC and TB4 Brag for POTS.

Um, cause we find I just get better. We don't even have to think about it. Really? But also you should do a study with the Denver Broncos. Give them all BPC, TB4 frag every day to prevent a concussion.

Yeah, so again, macroeconomics, NFL has a responsibility to entertain and keep guys safe. They're not interested in someone either augmenting or testing that experience that would get in the way of their game.

I respect it, I understand it, that you can't look at it as a team, but each individual player deserves a performance doctor that has their brain mapped before they enter the NFL, See what the NFL does to it and give an honest opinion on and help them along the way.

And that's, that's what I do. So like, yeah, I am on the field that I'm a consultant and I love helping the kids or young men, but you know, my intellectual interest is helping each one one-on-one doing a deep dives into the functional medicine to put together this environmental subconcussive burden together with some of these hard wiring problems.

And I have a doctor buddy as a couple, uh, X NFL players that like can't find their way home. I'm going to have them send them to you. Oh yeah. I mean, we find so many different things because we have something to do.

I can't change the past, so I can't change the concussion, but I can make you healthier. And instead of me just

pretending if I'm some energy healer or, you know, a witch doctor may work in some cultures.

Well, I want something that has data. So I'm not going to treat you unless I have a bunch of tests. If I have a bunch of tests, I'm going to look at you and say your magnesium's low.

You have a high deoxyguanosine level. You need antioxidants, you need alfalfa acid. This is why. You got it? We're going to track this. We're going to see if you get better.

If in three months you get better and these are better, OK, there's our treatment pathway. And so you involve the customer or the client into that pathway.

At the end of the day, if they understand what's going on and they won't in the beginning, but football players are bright. I mean, these athletes, they seek and they can smell what's good for them.

Man, you give them the right trail. They never get hurt. Yeah, I mean, but they tend to just let them go like, you know, nothing we can do, you know. Post-concussive syndrome.

Again, it's not on there. It's not their goal. And it's not because they're bad people. It's because they're looking at a different view. It's relativity versus quantum mechanics.

How do I keep everybody? I love that analogy. True. It's a different scale. It's a frame of reference. My frame of reference is I care about you, Peyton Manning.

I care about the team, but the way I have to care is different. And the way that you treat is different. It's not inadequate. It's just when you're making global decisions, like if you got to bomb a country, it's not an N equals one decision.

How many people are going to get better? You don't care about this particular person. That's right. So again, I just think you almost need a hardcore philosopher to help ethically divide.

Hey, this is a mathematics and thought process meant for this world. This is one for this world. So when you see a politician talking like this, they have to talk like that or not, because they're actually trying to deal with a different math, the macroeconomics of some stuff.

It's true. People say, I want an honest politician. No, you don't. They would never be elected. You want a great liar. If they tell the truth, you're going to hate them.

You want a great liar that keeps you safe, keeps your economy good, and keeps your kids healthy. If your person can lie to do that to whatever, good job.

What is CTE? Tell us about CTE. There are people who have head injuries that don't do well after several head injuries and they get a neurodegenerative disease that they call CTE, which is Chronic Traumatic Encephalopathy.

It is a pathologic diagnosis. It is not a clinical diagnosis. What does that mean? That means that it's only diagnosed for sure post-mortem. So you have to be dead.

You need a pathologist. If you have that diagnosis, you're in trouble. Or not, or you're in a better place than we are. So what gets you from head injury to that is a mystery.

And so it's something that happens over time. It does not correlate with the intensity of concussion, not directly with the number of concussions. Although statistically, if you had more concussions, they are more likely to have it.

But it's not a one-to-one ratio. And so there hasn't been a good connection. There are some things that fall out and and one thing that seems to correlate is something called sub concussion.

It's actually not the number of concussions which are defined as I hit my head and I have an alteration of a neurologic function for any amount of time.

A subconcussion is I hit my head, but I don't have a neurologic change. So what does this mean? If I'm a boxer, a lineman, a ballerina, and a defensive back.

Okay. Boxer, really bad subconcussion. Why? Their sport is to absorb as many subconcussive blows as possible and they get one concussion at the end. when they get hit.

Football, I'm a lineman. Since I played Pop Warner, the first step after the whistle is blown is I hit helmets so I can block a guy. You do that and take that over 20 years going to the NFL.

It's a lot of subconcussive burden. Ballerina falls once, hits her head. So the reason that numbers of concussions occur are it's people in the trenches who are more likely to get sub concussions that get concussions.

And this correlates within one season in high school kids, decreased neuropsychologic exams, pre and post, change in white matter lesions on MRI, changes in blood brain barrier over one season.

Oh, that just goes quick, yeah. Now you take that and you say, okay, well, if the sub concussions loading the gun, what in those subpopulations of high risk gets CTE?

CTE prevents with a very mostly emotional. sort of mood presentation of behavior, impulsivity, aggressiveness, of volatility. Where Alzheimer's is more of, you know, a cold brain where you don't remember where your keys is and types of memory goes.

And from a physiologic standpoint, Alzheimer's is an outside end degeneration. CTE is a subcortical or lower brain limbic system and midbrain. And why is that?

Well, when you get hit, Like the center of gravity of the brain is in the brainstem and as it attaches to the mesencephalon and the limbic system. So the shear force is greater right where the projections of the vestibular system is, the limbic system.

And so on these type of PET scans they do at UCLA, you see these very hot metabolic regions in those areas, low in the brain, where you don't see those in Alzheimer's and you see it very cold out here.

So what's the whole point of this? The whole point is, well, you piece this together, you're like, OK, the mechanical force shears around the palm tree, the stem of the palm tree.

And so that's why that hurts. Oh, that happens to be where mood is. Oh, that's how they present. Well, there's sort of your loose connection. And then you can connect all of the exosomal changes, all of the biomarker changes, all the tau protein changes, and all that in between.

But at the end of the day, this syndrome is really hard to nail down because there are studies that show that people have CTE who have never had a brain injury.

There is a study of eight people, it was a case series, and they were doing random pathology samples of brains and not necessarily neurodegenerative disorders.

And it was done in London, I think. And they found eight people that had CTE but never got a head injury. So then the question is, OK, you have this subset that head injury matters.

You have evidence that you don't have to have it. And it's polarized in the public because when they published that study at BU, important study, what was the cohort?

People whose brains were donated to BU for pathological diagnosis CTE. Do you think that's a biased sample? Of

course, it's a biased sample. It's parents who want to help their kids and help the cause.

God bless them. But they give them brains and 99% of players had changes of it. No crap. Like that. That's why you donated it. Right. And so that's what everyone says.

Like football causes football doesn't cause it. Smoking doesn't cause lung cancer, but at one point it does. And at one point head injury, I'm just think does tribute can contribute.

Yeah. Did the guy from New England, the type that killed someone and went to jail for murder. Did he have it or do you say, yeah, both. And so those behaviors fit.

Yeah. Where they get aggressive. I mean, his, I will, uh, but I'm, he's also, you're going to, I'm from Connecticut.

Virtual Care, Peptides, and Closing Remarks

He's from Connecticut. I'm pretty sure that guy had Lyme's disease with the head injury. I'm telling you. And let me, let me tell you, this is the, the final threat is the environmental subconcussion.

What does it mean? Aaron Hernandez, right? You know, some other superstar, I don't know, Herschel Walker. But whatever. Well, they both have had a lot.

They both have some problem issues here. But I can test that Aaron Hernandez had an ongoing neuroinflammatory burden. And I don't know this, so please don't think these are opinions.

He grew up in the Northeast. He's exposed to Lyme. As you know, I had a lifelong of Lyme growing up in Connecticut that was miserable. But nonetheless, I think the missing link It's not Lyme disease.

It's ongoing toxicities in these guys who have these setups. So whether Junior sale was booze or whether it was heavy metals or whether it was a toxic social environments or whether you live next to a factory or, you know, whether I don't know, but my guess is that's the cause.

And what's beautiful. That's fixable. You can help those causes. You know that. So my focus is to help that. And it comes from my dad has CTE. My dad hit his head a lot.

They missed his sleep apnea, his Lyme's disease, his mold's disease. He had parasites. And this is a good dude. I mean, I love my dad. So that's why I do this.

Wow. Wow. Yeah, that's like, yeah, I look back with my dad. He had chronic syndrome before chronic syndrome, and then he got demented very quickly. And it was just all I could make out a tight end of the chair in the hospital was, please let me die.

You know, And, uh, yeah, it's, and I'm sure he, we're, you know, cause our whole family's in fact that we've, you know, so I know we had it lifelong. So they had it.

So obviously he had it. My mom just sweated like crazy all the time. Um, it's like we were the sweaters. Yeah. Yeah. And I would have like, you know, half my body would sweat.

It wouldn't be freezing. You know, it's like, yeah, crazy. But let's see. So you've kind of kind of gone through everything. So, you know, your approach, I just love it.

And how really this concussive syndrome, everyone thinks it's just simple and gets hit. Oh, hard enough. You get concussed, you know, and then you get this post-traumatic brain syndrome, you know?

And it's asking a lot of people, Ken, like people don't know where their liver is. They don't know how Tylenol works, let alone the brain, which, you know, took me seven years of residency, four years of studying neuroscience, four

years of studying physics, you know, and a lot of hit and misses to even get a global, I think, understanding of how some of it works.

And so now we're asking people to sort of make that advancement and no one can do that. Um, but I do think there has to be people that understand the whole system.

They don't sub specialize hell. I can operate through a tiny tube. I can put in a ton of screws. I can take out a brain tumor. You know, that's, that's great.

And, and, and God bless university Miami for giving me that power, but there were people I couldn't fix because I couldn't understand what's wrong with them.

And I was helpless. And there were people I'd fix perfectly with perfect scans and they'd still hurt. And guess what? There was one person, she was a nurse in her forties, got sicker and sicker, sicker.

And she had metallosis from the hardware in her back and she had mold in her bathroom. And this was a back patient. So I said, move out of your house.

Let me take out the hardware. And all of it, there were systemic symptoms, not pain, you know, the whole body pain, brain fog. Then I'm like, holy crap.

Like I'm so monocular. I'm just putting in screws. I'm missing the picture. Like I'm missing with my dad. Like everyone missed it in me for 30 years. I was been by take like every week.

I had the worst anxiety. I had the worst ADD. I had muscle cramps my whole life. My testosterone level was below 200. I was 14. Like I was a disaster.

So what did I do? I just stood up. I don't know why all this is happening. I'll just work harder. I won't sleep. I'll study really hard. I'll lift weights every day.

I'll play every sport and you know, I'll hope that some girl likes me someday. Okay. And you kind of get through it, and of course I got some good fabric.

But at the end of the day, man, I was my whole life in one of weight vests. And my weight vest, after I was treated by Dr. Kinlener, Dr. Carnahan, Dr.

Sari, you know, this Dr. Melamed, this veil lifted. And it was like, oh, this is what people are, oh, okay. You're like, damn, that's a lot easier. I got a lot of dates.

You know, it's true and I think most people in so called whatever we are, you know, integrated medicine, they've been sick themselves and realize they're very evidence based and but realize, hey, something's not working in this whole system.

And they look elsewhere. And that's how I got. I would say 80% or so. I'm still a neurosurgeon, but you have someone come in and you know what it says, 40-year-old with fibromyalgia, chronic fatigue syndrome, low back pain, they fill out the pain score and you look at their body and everything's a 10, and there's some little disc that some doctor wants me to take out because they don't know what to do with her and she's on OxyContin and Cymboxone and all that crap, right?

You know this patient. The first thing you do is get nauseous going in there because you know you're not going to make them better. You know you're just a surgeon, but you know this person needs help and they probably have SIBO, gut dysbiosis.

They have some autoimmune disease. They have a high viral load. They have all of these things. I have my 15 minutes for the Medicare. I can't do it. I'll say yes, no.

Well it's not about i'm doing my job the problem is who's really gonna look at that person who's the one that takes the time and says oh look we need to really look into this stuff.

Well then you run to an economic issue but the point is there's no one just saying you're okay you have a chronic disease here's at least the places to look at.

To make decisions, you know, there's no, there's no quarter. The patients that are doctors, I say, yeah, you talked to five different doctors, six different opinions.

And they're confused. They're so stressed. And this doctor says, this doctor says that, you know, and then they go doctor hop in and shop in and. You know, they have a bad experience and by, you know, the time they reached us, they've seen 15 people in the, in the study that we, we did the 15 years ago, they saw an average 7.2 position value improvement.

Now I think it's like 15, 20, you know, and, and they're leery and they're knowledgeable and which is good, but I think there's this, you know, before the internet and stuff, I remember you having to go to the library and go find the damn articles sticking on.

And someone took that one article, whatever. Now it's just an overload of information. So you got to sort out what's good, what's bad. And I tell people, go on the internet, it's great.

And then ask me, well, sort it out. Like a lot of doctors don't read the internet. I'm a doctor here running from that doctor. Yeah, I'm convinced now that you need a chosen like minded or like or doctors or intellects of the same goal.

Um, into some group and that group on its own volition enters a chat room and has problems. And it's almost like we're all on call for each other. You know, like, okay, this, Oh, it's a brain problem.

You know, there was a one about pseudo tumor, you know, and like, Oh, I know all about it. And I know the functional medicine piece, like let me help this person out.

And even if they only execute one or two things, if that thing helped. We truly made a difference. And like you're her heuristically getting to the answer.

Like when you say peptide for this, got you. I'm trying it like because I trust you. It's the same thing with anyone on that call. And they're very honest.

And I think that you need clusters of these and the velocity of information that's good information and effective and equals one. I think that's the way to set up medicine.

Yeah. Yeah. I think it's very profound and it seems like everyone's getting sicker and sicker. I can talk to you about his whole toxic burden and toxic brain.

And so I think we're in trouble with a lot of stuff. Uh, I think you're going to be very busy. Yeah. Well, with the, with the sick shame, when this ship sinks, I'm, I'm going to be trying to wade water for as long as they can.

So, yeah, that's great. Well, let's see. Anything else? I think we've covered so many great areas and I think it's just such great information for everyone.

How do they find you again? So go on my website. It's www.myresiliencecode.com. There'll be numbers and things to fill out. There's a nice video and website.

It's a private membership that has prices. We take insurances for particular things. but we provide the full cycle of care. And that would include exercises, brain, you know, and we give access to doctors.

So I got people come in, they have a shoulder problem, I get them to the best ortho. You know, so you kind of have that, you know, you have self referrals.

Now, if they fly in, can you do part of that telemedicine? Yeah. So we have everything set up virtual. In fact, like we have people on the East coast, we send our vaccinated phlebotomist to them.

We do virtual intakes. We can even do virtual kinetic testing. People can be with their cell phone, put it in their pocket, do types of squats and movements.

And you can actually get what's called a behavior signature of someone's state. We work with Harvard, this Fee BX, it's a new company that looks at behavioral signatures that get tracked through their cell phones.

But long story short, and we can deploy the plan remotely. We'll call an IV place around where you live. We'll send you the compound and pharmacy stuff, which we're sending a lot of your stuff.

Your products are amazing. The KPV has worked well on one of our patients. Thank you for the help. Got my dad on cerebral prep. Throwing a couple Hail Marys his way.

Got him on double dose there. My point was, um, yeah, we deploy it and we become your virtual, you know, omnipotent health wife or husband. Nice. I love it.

I love it. I'm going to, I'm going to, I'm going to call the number and do it. Check it out, man. I think you'll love the people. It's all about us communicating with each other and it's about people learning and learning about themselves and hopefully make a difference one day and we win.

I don't think my brain is still bright. I mean, I still, you know, tear up insomnia, you know, and still memory is so much better. I mean, it was like, like I could not take it.

I've failed an Alzheimer's test. You need all of your highways tested. You can have a picture and be like, now you understand the why for the sleep. Maybe it's a vestibular problem.

Maybe that needs vestibular rehab, which you do at home. Maybe you need neurofeedback because there's a couple parts of your brain that despite all you did good for that software problem, you left a hardware problem.

Well, you need an electromagnetic fields or neurofeedback to start stimulating and potentiating that in a way that's data driven and so that you can do a brain map, neurofeedback, check on sleep, brain map.

Look, it's all bright now, buddy, and you're sleeping well. It's the same thing for anything. It's trial and error with good clinical oversight and academic intentions.

Yeah, no, I love it. Yeah, because, uh, And just the depth of testing you're able to do, you know? Yeah. I love it. Yeah, buddy. All right, man. Hey, thank you so much.

Just love the information. And you're outside the box and just our whole global thinking. I love it. So thank you. And always, always good talking to you.

And so I'd appreciate it and you'll probably see my paperwork come by. Yeah, I appreciate all your knowledge. You helped my practice out a lot. And for yourself and those who sort of want the peptide view on concussion, I'll leave you saying, I put everyone on BCP 157. I put them all on TBFRAG, phosphatidylcholine, high dose N-acetylcysteine, ALA, and then the rest is sort of data driven.

We're starting to use the cerebral prep That's kind of a new, you know, thing that again, um, following your lead and we'll see how those things go. And, uh, but that's been great on it.

Yeah. We'll have the data to see what it does and how it works. Cause we'll have testing pre and post everything.

So, you know, love still collaborating with your buddy and thanks for having me.

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