The Metabolic Code, Drug Induced Microbiome Disruption, Aging, and More! Transcript

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Introduction to Dr. James Laval and the Peptide Summit

So this doctor kept the whole tour for another episode of the Peptide Summit. Today we are honored to have Doctor James Laval. Here to talk about, meta formation and aging.

And this is just such a key topic. It's a term that you'll hear more and more about. And we got, James here, and. Thank you. He is, renowned speaker. Everyone wants a piece of him. So thank you.

Letting us to have a piece of you. And it's it's much appreciated. I'm glad to be here. And I'm always excited to get to chat with you over kind of the latest and greatest of what's going on with chemistry.

So it's going to be fun. Awesome, awesome. Just a little bit about Jim. He was very humble in his bio. You know, people just seek his advice from everywhere, the sports world to the, you know, celebrity, to, you know, all the, rich and famous around the world.

Flocked to, even, you know, just to get that little extra edge and whether it be, sports or in life. So he's internationally recognized, definitely clinical pharmacist, author, board certified clinical nutritionist, expert, and educator.

He's so generous with his knowledge. I've seen him speak so, many times and just loved sucking up, all his information. And he pretty much knows everything about everything.

I think that that sums it up. And really integrative precision health. He's known for his expertise in integrative therapy and metabolic issues. I think this is really, core passion.

And really keeping people from feeling healthy, vital. And everything from that athlete to the couch potato and how to make them live better and live better, longer.

A thought leader, to say the least. Drug and nutrient depletion. It's published four books, three databases. It's area alone. He has algorithms that he's been working on to help doctors actually treat patients.

And make it simple for them. So he takes the super complex and makes it makes it seem like. Damn, that's not too bad. With over 35 years of experience and natural and integrative therapies, various medical and business, he's a consultant to, I think, pretty much everyone I know.

But, and is, latest research is, drug induced microbiome disruption, but he's got his hands in everything. And in terms of there's there's not much he doesn't know a ton about.

And so, thank you for being on. I don't know where this is going to go. Good. Which is, which is so fun to talk to him because we have, you know, so many doctors like, oh, I got to prepare for this.

He knows this. What are you about that you wanna talk about that? I won't talk about that. He will tell you things that you never know. In fact, just before we're on, I learned, like, three new words, you know?

So, It's awesome. Again, thank you for being on. It's it's such an honor. So, metaphor formation. Right? Thinking. What the heck is meta formation? Yeah. You know, it's interesting.

You know, back when I wrote the book Cracking the Metabolic Code back in 2002, of course, it took me three times writing that book, and it was 660 pages to get it right.

So, took a while. Six pages? Yeah, yeah, it was one of my short form books, unfortunately. So. So I'm surprised you finished it, because I can never finish a book.

Because I keep wanting to add to it. Yeah. You know, it's interesting. I had trouble with that initially, but. Yeah, I'm on book 22 now. And so I've got two books coming out this year.

What Metafomation Means and Why It Matters

One is the new rendition of the Metabolic Code, and then another one is on sports performance and maximizing, performance and recovery through looking at biomarkers and through that lens.

And, you know, it's interesting I, I've always I've always got this one more thing I need to write about. And it's just kept me on that journey. I'm hoping these are the last two books, but I think I could, I don't think I got a few more coming, I think, but, yeah.

Malformation. So when I wrote the metabolic code, I was looking around. I've been working on people for about 15 years, and I'm going, you know what? Metabolism is way more than how many calories you're burning, you know?

And so my original premise is some metabolic code was, you know, your metabolism today. So where you're sitting today, if you're listening, it's really the sum total of everything that's gone on from the time you were gestated to now.

So when you think about that epigenetics, if you think about that aspect of even generationally 2 or 3 generations back, your family lineage was giving your information, your DNA, a way to behave, maybe even if you weren't exposed to that, you know, maybe your grandparents were exposed to something like lead arsenate and affected their DNA.

We end up playing that out right from the start. Yeah. And from that point forward, it's what's my stressors like. My what's your diet like? When I was a kid, I was the guy to know because I would bring a box, a hostess hose into school and give them out to everybody.

My mom was a hostess mom. Right. You're like, first one's free. Yeah. And, yeah, you know, it's it's literally with that so center showing that let's say the mom is stressed.

It not only affects the baby, but her baby's baby's. That's exactly what the genes are translated. That's exactly right. And, you know, handle stress as well.

Yeah. That's, and, you know, that lineage is interesting because, you know, back in 1756, there was a guy by the name of Samuel Hahnemann. Hahnemann wrote The Organon of Medicine.

So he was the founder of homeopathy. And when he talked about, you know, this genetic transference, he called them miasma, where everybody laughed at Hahnemann.

You know, I mean, everybody's laughing at Hahnemann up to about five years ago until all this stuff has come out about this transgenerational genetic information that gets passed on.

And, you know, he really said, like, your genetics, it's not. Yeah, that's exactly right. It's all malleable and moldable. And you know what? It's kind of our responsibility to talk about this with folks.

So they start to clean their act up. So two and three generations down, maybe there are our offspring have a chance. Right. Because you know, so, you know, when you look at that then you look at, well, what was my diet?

You know, for me as a child, I thought, I thought the pink stuff, the bubblegum flavored amoxicillin, that was a part of my meal plan, man. I mean, I did that like part of my meal plan.

And then the biggest treat was when I got my dimetapp, the grape flavored dimetapp at the end of the night because I couldn't breathe through my nose. You know?

And it was because for me, I was very allergic to dairy. I had multiple rounds of antibiotics, my gut microbiome got messed up, and so pretty sickly kid, you know, and so, so, you know, when you start to look at what is your metabolism.

So your metabolism is all of the biochem reactions in your body that are going on right now. It's that sum total of what I call whole body metabolism.

It's either driving you to homeostasis, meaning I'm somewhat suspending aging or I'm triggering meta formation. What is meta formation? Meta formation is metabolic inflammation.

So your body starts to make more disruptive chemistry. You start making the signal substances that allow for your body to repair. And instead you're in this low grade inflammatory fight that leads to another term that's in the literature in slam aging, inflammatory aging.

And, you know, I mean, a great example, unfortunately, with the pandemic, people that had diabetes, people that were overweight, people that had heart disease, people that already had preexisting inflammatory signaling in their body were more prone to, you know, this infection.

Well, guess what? That's been happening. And, you know, you know, you know, can't I here's the thing. If somebody gets it has an accident and they're a diabetic or they're overweight, when they hit that emergency room, many more times they have adverse events going on because they've got that inflammatory chemistry happen.

And so it's not just a matter of it's a bug. It's any stressful event. Because when you have metabolic inflammation on board, you are metabolic reserve to be resilient and your metabolic reserve to to have durability in terms of the way you're living, all of that starts to dwindle.

And so when you think of meta formation, what I, what I really hope people understand, it's it's kind of the position that your body is in and what you're going through and how your future is going to be molded because of that.

So am I going to end up with autoimmune disorder or am I plaque in my arteries? Am I going to have dementia? Am I going to have kidney failure? What's going to be the process, or am I going to move towards a better life span where there's health in it?

And I think that's one of the things I know we're talking about the Peptide Summit. So for me, I think peptides are important from the standpoint of, hey, it's another signaling compound.

It helps us get us there. But it's important to understand that once you're metabolically inflamed, here's what starts to happen. You get disorders in iron metabolism.

So you start to you start to see a loss of being able to store ferritin. And I know you're you're the thyroid man. And I have no doubt I'll never know half as much about thyroid metabolism as you do.

But we know that you need ferritin to make thyroid hormones function, and so your ferritin doesn't. You don't store ferritin in your bone marrow and your reticular line to your system.

You don't make EPO. Yeah. You get a thyroid resistance. Yeah. Exactly. So that's that's that's first that's step one. So that means people start to feel palpitations.

They feel fatigued. They get lethargic. They don't oxygenate their tissue as well. And you and I both know when you're not oxygenating your cells well, you're creating oxidative damage in that cell, which is going to lead to a different kind of which seems opposite.

No oxygen, no oxidative damage. But yeah, the dysfunctional mitochondria, when they're not making energy, they're pumping out reactive oxygen species.

All this oxidation. Well. And the byproduct of that is, is as soon as I become less efficient at that OCS phosphorylation and shift right that oxidative phosphorylation relationship, my cell is forced into a different way of doing things.

I can't carry glucose into my cell anymore, and that means I can't make 38 packets of ATP every time I carry that glucose in. Now I turn into what's called the Warburg effect, which I didn't.

You know, I actually wrote a, chapter in a book called Diabetes and Cancer Epidemiologic Links and Molecular Evidence, perfect for nighttime reading. You'll put your right out and you read one paragraph and you're gone.

But the point is, is that so as you get metabolically inflamed, you become less efficient at energy production. You make more light lactate, you make more pyruvate, you only make two packets of energy.

So do you want to make 38 packets? Do you want to make two packets? And when you're only making those two packets, your cells are getting toxic and making more oxidative stress.

You know, why is that different than doing sprints and getting anaerobic exercise? Well, because because you're in the end you're getting you're getting reperfusion and getting oxygen efficiency.

After you do that sprint, the problem you get into is when your body's operating that way all the time. So as you increase that that lactate in the cell, you trigger something called hypoxia inducible factor.

And that tells your DNA that, hey, you could be immortal. So it starts to change the way your cell behaves. And now all of a sudden we have what's known as the Warburg effect.

But that's pretty far down the line. I mean, the early things that start to happen after the ion stores are going bad and you're not oxygenating well, kind of.

All the sick line patients have no idea. Yeah, exactly. Exactly. But that's because they're metabolically inflamed. Yeah. Right. Yeah. And a lot of people don't relate to that because they go where do you mean?

What are you talking about? I got an infection. What's that got to do with my iron? Because they also think acutely ferritin, acute phase reactants should go up.

Right. But yeah maybe 11. but goes down. And I think it plays the point where your body's made like inflammation. You get an infection inflammation. Not bad.

But it needs to go back to baseline. But when it's constantly up it's a whole different story. That's exactly it. You're supposed to reset that inflammatory defense right.

And once it stays up that that's where the iron metabolism comes in. And then dyslipidemia. Like I get tired of people saying to me, lipids don't matter.

Sorry. It's a massive deficiency. Yeah, yeah, of course it's a statin. Deficiency isn't in our water. Yeah it is, but that's beside the point. But but the reality is, when you look at a lipid profile, if you're looking at oxidized LDL and apolipoprotein B and lipoprotein, little way you're looking at all these fractions of lipids that are bad actor lipids that are damaging your tissues, that's because of metabolic information that's taking place.

So they and they want to treat this where they need to be treating upstream way upstream. Yeah, absolutely. And and so you know and it's interesting it's different for different populations.

So for example if you look at lipoprotein all the way if you're not diabetic having a high lipoprotein little way is really

bad. If you're diabetic, the lower your LPA the more you're at risk.

That just came out. Really? Yes. Really. And and an excess of 12,000 diabetics that were, that were followed. The lower the LPA, the more their cardiovascular damage occurred.

But it's just what you said as you're ramping up and creating these high numbers and some of these particles that are bad, it's creating damage, creating damage, creating damage.

And then all of a sudden the ceiling falls. And now all of a sudden that number is different for a different population. And so and it's kind of like with their live laser hyper quagga ball, you know, their clot excess clotting and their said rates are super low.

CRP low. Oh, you're so healthy. Yeah. No. Yeah. Not quite. Yeah. Right. Exactly. It's kind of like that thing you hear about all the time. At least I learned in pharmacy school.

Was it the biphasic response? Right. We have a, you know, you know, a little bit of something is good, a lot of something's bad. And if you do a lot of something for long enough, it creates a little bit of something again. Right.

That's the biphasic response laws and pharmacology. And so you start to look at. So okay so my my oxygen is disturbed. My lipids become more damaged. My insulin receptors now progressed to that insulin receptor resistance where now I'm a more sympathetic dominant right.

Because when you're pumping out insulin here comes the adrenaline and noradrenaline man I'm pumping that out. And now my blood vessels are getting really tight and and not dispensable.

And then in addition to that, you start to let your nervous system ride into this point of releasing a lot of control and releasing hormone into the periphery, mast cells.

So the mast cells, the leukotrienes, you get the leaky gut phenomena from it. All of that starts to cycle in because I've now created this metabolic inflammation, and that was due to I was in it.

Maybe you're in an accident. It's psychogenic stress. It's diet strike therapies. There's drug therapies that do a great job of doing this. Right?

Inflammation, Metabolism, and Disease Progression

I mean, we know that, it could be a vector, could be a bio toxin. You know, it can be mold. It can it can be, you could be Lyme. It can be any, any high stress.

Stress. Right. So, you know, and I think, you know, it's so much harder nowadays. I mean, I never want I know, I don't know if you're in a cocktail party or something.

I don't know if they've come to you probably all the time. I mean, they're sick or they're brother, cousin, friend. Everyone's frickin sick. And, you know, I went to my doctor, they said, I'm fine, but I can't get out of bed.

I mean, I don't think you saw this stuff 20 years ago. You know, I'll tell you what. It's it's pretty amazing as I look at this, I was very blessed to literally be doing this work starting in 1985.

And when I saw everything going on then versus what I see today, it's a lot more work to get somebody well way more work than when it was when I started out.

And I was lucky. I had incredible mentors and I and you know, they their practices, they were seeing 600 patients a week doing personalized medicine. You know, I mean, they were cranking five rooms at a time.

And I was like drinking from a firehose. But what it taught me was, you've gotta look at this meta metabolism.

Because the other thing as it progresses, so is your oxygenation is poor.

You're damaging your, your and terrace sites, right? The lining of the intestine, you're damaging the end of feeling and that one cell lining in the arteries and you're damaging the blood brain barrier which is one cell layer thick.

Now all of a sudden we start to see neuro inflammatory responses. Right. We turn on the glial cells. Yeah. The your brain on fire and brain gets on fire.

And now all of a sudden I start to change my plasticity. I get a like an aberrant neuronal signaling. I'm not making neurotransmitters anymore. I'm. I'm making phenolic compounds like beta carbon lean, you know.

And so all in all, instead of making dopamine and serotonin and now it's starts to create mood disorders. And then the last piece to this, which is exactly what you talked about, before we even got on and we're, and we're recording, that's when you start to get into the mitochondrial failure and the loss of mitochondrial biogenesis and the ability to create mitochondrial resuscitation.

And that's metaphor, summation, metaphor, summation is what causes us to age. You know, it's our metabolic clock. And yeah, it's, you know, and the reality is we got to get all the tools out and we got to create as much of force against that as we can, especially the sick or someone else, so that we can we can start to reprogram our literally our cellular signaling to say, it's okay, we're back to normal, our allostatic load, which is kind of what happens right when you get under stress long enough, no matter what kind of stress physical, whether it's where it's a premier athlete at, you know, an executive or a working mom, whoever, you get under enough stress and you go from proper signaling of your brain to all the hormonal and catecholamines, networks and neurochemical networks.

We need to what's called allostatic load, where it changes the way your brain fundamentally communicates with the rest of your body. I spend as much time working on that gut brain connection so that I can make sure I'm getting that and more harmonious signal to the adrenals, the thyroid, to the kidneys.

Right. We need that harmonious signaling. And I think that's what we're really, you know, raging against when we're talking about meta formation and inflammatory signaling known as inflammatory.

Yeah. And what what percent of mood disorders do you think have meta formation? Oh my gosh 90. Yeah. So if you're like me, if I to ever say 100% because somebody's gonna come with one case or whatever.

Yeah, there's there's one person. Yeah. You know, you know, it's it's rampant and and then also it inflames the hypothalamus which then causes insulin resistance and leptin resistance and low thyroid no hormones, low growth hormone.

And but the tests we have show those are normal, you know. And or you check a person's estrogen level. Normal is zero to something, right. Like what what you know it's it's crazy.

And I don't know for some reason you're talking I'm like I'm thinking like are we devolving Devo? Whatever is that? We have all this information. But what is standard medicine doing?

Yeah. You know, I think, you know, when you look at it, if you think about, you know, you mentioned statins and and like look, but whether you think whatever you think about statins, I hear to like bash or embellish a statin, because there's people that aren't going to take care of themselves, that a statin probably helps them more than hurts them if they're not going to take care of themselves in any other way, shape or form.

Because it's an anti-inflammatory, it reduces damaging lipid compounds in the body. So from that standpoint, statins aren't really known. Or if you talked to a, you know, docs, they go on statins, who cares about the cholesterol.

It's decreasing all the inflammatory signaling that affects the, the vessels. And it also affects mitochondrial function.

Well, I'm not saying it's good.

There's there's always a risk with the reward when it comes to trade off. Yeah. There's always a trade off. Because the thing about a statin and you know, I remember when I first wrote the story on statins and CoQ10, I wrote an article and I think it was drug topics or drugstore news.

Really? You're the one who said, hey, by the way. Well, yeah, I was one of the ones I wrote. We wrote the we really wrote the handbook on drug induced nutrient depletion.

I'm surprised you're still alive. I'm Italian. He knew someone to protect it. Yeah. So it was interesting because when I. When I wrote this, there was a rebuttal that got published and it was by Pfizer, by Pfizer.

Chemists are like, there's no evidence of this. This is irresponsible for you to print this as a right. And then it was funny because my response was because I got to rebut the rebut.

I've listed a patent number, and the patent number was the patent that Pfizer held for CoQ10 and Lovastatin combined. And I was like, well, gee, I'm just going off if you're science and patents.

And then I didn't get another letter because I got a warning letter from you. You're going to continue to talk this way, you know. Really? Oh, it was funny.

It was like I got let up and I just went dead, to show. And I have to. I'm getting threatened. So anyway, that's the way of big pharma. Well, you know, from my end, when I was talking about drug induced nutrient depletion.

So everybody thought I had to to, you know, have two heads. And I was like, what are you talking about? These are miracle drugs. They're all miracle. Yeah, it's all beautiful.

But yet at the same time, there's these black box warnings. For example, if you take a proton pump inhibitor, there's a black box warning that it depletes magnesium environment.

Oh, hello. Yeah. So I only have one person, but then. But you know, but but literally I think that's why when I try to talk to folks about their global health, you got to take into account not just the drugs you're on today, but where are you?

I'm saving up for your woman. Or are you on oral contraceptives for 15 years? Changes your microbiome, gauges your mitochondrial energetics. Ask how many women take an oral contraceptive if they lost any weight on it.

You know, they say it's weight neutral. Yeah. Right. Yeah, yeah. Now you talk to somebody in the real world to go. Yeah. How's weight? Neutral. 15 pounds.

I can almost. Yeah. One of our staff members was skinny, Asian, medical assistant, and she got, a, Depo-Provera shot. Oh, and I swore I could see her growing as I was watching her.

Yeah. You know, and it's the whole thing. Calories in, calories out. No. Well, that one way. Yeah, that's a crazy one, because we we did this whole program with Lifetime Fitness on about 240,000 lives, actually, where we taught them that weight loss was more than calories in, calories out.

And what we did, we did have a survey and a lab test. So the survey was answer these questions. Are you stressed out? Answer these questions. Are you use your thyroid off.

Answer these questions. Is your gut off? You know you know, where are you metabolically broke. Let's give you a nutrient to neutralize that. And no, by the way, let's look at your labs and see, you know, is your, you know, like your blood sugar is 95.

The doctor pat you on the back. We you're 60% risk of being diabetic. Get a blood sugar 95 1.4. If you get 6% risk

for every point over 84. Right. So people are walking around with these and we're not putting them on diets that are appropriate for that.

95 so we did that with, Lifetime Fitness or their blood sugar is fine with their insulin is sky high. I had that today. Give them insulin. Exactly. Something to boost insulin.

Yeah. So it's a really it's really interesting that that when you talk about global, you know, metabolic dysfunction I don't think people are quite there yet.

I mean, one of the reasons we developed the metabolic code platform was to take, lab values that all doctors are familiar with, insulin to statin, you know, LDL particle number, oxidized LDL, homocysteine, all the inflammatory markers, maybe a little detox iguanas, and, you know, stretch them a little bit, get them a little while out there with, maybe beta two micro globulin, those kind of things.

But things that you could get at any major lab and say, here's what's showing for your metabolic processes. If you're the patient and here's what you can do about it.

And, you know, one of the things you know, over the last five years is understanding that, you know, people are really broke and sometimes you're pushing upstream so hard to get them back to neutral.

It's kind of why I thought that I liked peptides, because to me, peptides helped people to regain the normalcy of homeostasis and signaling in their body so they could take that inflammatory process.

It's supposed to get downgraded and back to normal. Like much like Navios concept of the cell danger response signaling concept and turn that off so that they can repair again.

And I think that that's what I thought was so novel and intriguing. And look, I mean, it's not like peptides is a dirty word. It's 150 peptides, I think, in the pharma pipeline.

So I mean, you know, we get about a third of them. That's right. Yeah. And it's like a cast like people say, well, you know, or it's even like thyroid when people say, well, it's not really a thyroid problem.

They're right. It's a metabolic problem, but the body's not getting thyroid. So and I say, well fix the the problem. Well I can't fix a problem without buy right.

He's out. And so it's kind of I say it's like a cast you know. And when you're better you can go off of it. Yeah that's right. That's right. You know they feel good.

But, it it is, it's really, I don't know, the whole dogma of, you know, well, don't do this. You can't, because it's not due to that. Well, okay. But it's still a problem.

Your thyroid is actually fine. That's not the problem. It's the cells. It's like. It's like, insulin resistance of thyroid resistance. Well, you know, I've always said, like, when I wrote the my my in the metabolic code, I took a big chance.

And I think it was a little bit back before it's time. I talked about receptors in the child about before your time. It's timing. Yeah. Yeah. Exactly.

I've learned that's I now I do my books in crayon. It works way better. It's for doctors. You got to, like, write slow, but but I but but it's not about the hormones you're giving.

It's about the receptors ability to hear the hormone that you're giving. And if you cannot get that receptor to wake up. And a lot of times the mistake people do, especially in the hormone area, right, where they hammer people with a lot of testosterone or, you know, they create tacky full access, they just freeze that receptor.

You know, it's a down, down, regulate it. Now, you know, although it's like, you know, elderly people like yourself. Oh, okay. Yeah. No, you call me grandpa or no, just pop up.

You look younger than me and pisses me off. But, it's like, so they have a just off strong resistance and but they allow the levels to be like, like, lower than a woman.

And they say, that's fine. The guy has erectile dysfunction. He can't get off the couch, is grumpy old man syndrome. And but there's Austro maybe 700 like like great.

Hormones, Stress, and the Limits of Standard Treatment

And but they've all the symptoms. So I'm like, okay, let's give a therapeutic trial. Give me a shot. They're like, oh my God, my life has changed. But you know, I gotta a horrible medicine.

According a lot of people. Yeah. And and I think it's interesting because it goes both ways. Right. Because I'll get a 40 year old who thinks they need a ton of testosterone and really, what it is, they're stressed out.

Their free cortisol has shut down. They're they're going to open releasing hormone. And so they're not making enough because it's their HPA axis. And that's where things, you know I think are interesting like respect him for example.

Really great at helping to reinvigorate that ability to say, hey, yeah, that's right. I'm supposed to make testosterone. Right? Okay. Can you just mention what perspective does. Yeah.

So this peptide is a is a peptide. And basically it's a gonadotropin releasing hormone support. And it literally triggers you to kind of start making your hormones again.

And I think that it's really important because that's what I think is what's really happening when people get metabolically inflamed is you're shutting down things like growth hormone, releasing hormone, you're shutting down gonadotropin releasing hormone, you're shutting down.

You're when you get on your metabolic stress and insulin resistance, you shut down. Your thymus is ability to make mature thymus T2 killer cells. Yeah.

And so when you then that cycle to yeah that's exactly right. And so I really think that you know in the end as we start to work with people, it's about that reinvigoration process that you have to do.

And you have to take into account, you know, where is their gut at, where is their brain at, what's going on with the relationship between these organ systems and hormones are they're just important.

And you, you know, if you want to age quick, make a lot of stress hormones and a lot of insulin that'll age you really quick. Oh, yeah. Yeah. And it's true. I mean, you've seen it.

I mean, I have kids coming in 22, 25, 28. Their testosterone level is like a nine year old. See it all the time. It's really sad and I hesitate I don't want to give them testosterone like you're saying.

I want to fix the other stuff. Yeah, but easy to a big slug of testosterone. I don't think that's really the long term solution. You know, I couldn't agree the more.

I mean, I see it so often, especially. And, you know, you think about it. So I, I brought my son out here. We moved out here about ten years ago, you know, and out here, man, if you're playing baseball and football, it's serious.

I mean, you're you're playing baseball year round football stuff. And I would know parents who would have their kids going to a baseball practice, then a football practice, then to their coach because they thought that a child was just a little version of an adult.

And that's not the case. You can't stress a child with that much workload and not expect to see some changes. And they wondered why they weren't growing.

And his and I literally would. Yeah, right. And so I would literally have to get them to understand that. Like, I know you feel that like little Johnny or Susie is going to make the Olympics or be a professional athlete, but you know what?

They're only ten. You know, maybe they don't think you're you know, and that's why I got to add the stress to it, too. Right? And so what I see a lot are, you know, my 22 year old professional athletes, which the ones that kind of manage the way they train and don't overdo it.

And they've got great strength coaches that are working them, their testosterone stand to be pretty good still. You know. But and the ones that are just overtrained their testosterone is are low.

Overtraining is a huge problem. And it's a huge problem. And people that aren't even athletes, right? I mean, yeah, this is this is kind of my pet peeve of it, honestly, because I have a lot of people that they they, they go to a trainer and they want to do the, the workout that a pro athlete does.

And my first answer to them is, why are you a pro athlete? No, you're you're damn skippy you're not. And there's a reason you're not. It isn't how much muscle you have on your body.

It's the fact that their nervous system is more efficient than yours. They reset the trauma of inflammation and excess of sympathetic tone quicker and with more elegance and repair than you do.

And so, you know, you people start getting into all kind of conduction problems with their heart. They get anxiety, they get a they start to that's what I'm on right now.

I'm on the overtraining prevention program. So but you know what? You're storing up bonus points right now you're making or whatever this is about working out.

I go religiously every four months for eight minutes. That's very much up. That's very Panamanian of you. It's very homeopathic. That's good. But it does make a difference in and and so I think that when we see people that are already stressed out at work and then they're going in their training for their Tough Mudder, or they're training for their Spartan Race, and believe me, I want people to achieve their goals or crazy about it.

Right. Like, oh my God, it's worse. And I've also had like I remember this was a couple of years ago, but brought in for a short stature and I have I think it was older, but it was like I look in the kids like six, four, right. My.

And they're like, well, he's having a lot more money. He's a center rather than a power forward, you know. Can you give him growth like, no. You know. Right.

I but he's probably right. Right. It's like, you know, it's millions of dollars difference. But I'm surprised that they didn't have you, you know, break his legs and extend his bones, you know?

Oh, I yeah, but in the Asian, communities do that. Yeah, that's exactly right. So, I mean, I think it's important I'm thinking about that. Well, yeah, we were thinking was when you talking about the transgender?

Like, my mom was smoking five packs a day when she was pregnant, doing Adderall to keep her weight down. I was I was at six months. So, supposed to be retarded or not?

Live or not have any lungs? Yeah, well, one out of two ain't bad, you know? But, Yeah, it's. I could have could have been like, six for full head of hair and everything.

That's what I thought you were. I guess I can't tell from the chair, I mean, I yeah, sure. You I thank God for hair formulas, you know, peptides. You know.

Exactly. So, I mean, I think the the the big I guess for me, the big interest is, is that how do we start to look at these obvious and understand, you know, the, the advantages of it all in, in several in, in the whole family of the jjp and just explain those just a little bit.

Well, yeah. So these things. Sure. So you know, these other peptide compounds that, you know, have obviously been popular for quite a while are compounds that either help your your growth hormone receptors to awaken or tells your brain that you need to release growth hormone because as you age, or if you're under a lot of stress, you got plenty to release out of your pituitary.

You just don't release it. And so there's peptides that can help you to endogenously instead of injecting growth hormone. Right. You just help your body release your own.

Do its own. Yeah. But it and and that to me helps to reset what you're supposed to be doing. And I think that's why I, I, I valued, you know, doing the research on peptides.

I've got a actually I've got a little handbook coming out on, on peptides that I wrote kind of in our spare time. So where do you spare time? Yeah, I wrote it's, I think, peptide.

Well, you know, some people, some people have issues. Can't, All right. It could be worse. Yeah, exactly. So, so so, you know, when you think of, the value of, you know, what the signal compounds do, I really believe they're strategic because as people get more and more disrupted in that matter, in inflammatory state, we have to try to bring everything we can to get them back out of that state so that they can repair their tissues again, because you're only doing 1 or 2 things, you're either repairing or you're breaking down.

Yeah. No. That's it. They're either you're a parent or you're it's either destructive or it's in homeostasis in repair. And, you know, that's a big issue.

And when you combine that with in general, you know, people eat too much, they eat too often, they too late, they picked the wrong foods, they don't get enough sleep.

And they're under a lot of stress. And you don't know anybody like that. Come on. What are you talking about? Yeah, exactly. Exactly. So, you know, you layer that on because why that's important is that starts to disrupt your circadian rhythm of your hormones.

Right. That's the other thing that people need to understand is that as you get kind of metabolically inflamed and you're pumping out more cortisol and your cortisol curve is staying flat, instead of having a nice pattern to it all, your hormone signaling starts to get screwed up.

So, for example, if my cortisol is high enough and I and I don't go into deep weight, I don't go into deep sleep, right? We're supposed to go into deep wave sleep to tell our neurochemical buckets to get refilled so that we've got the chemicals in our brain to signal the next day that, hey, I'm alert and ready to go.

If you are pumping out enough of that cortical drop and releasing hormone, which, remember, when you're under neuroinflammation, you keep pumping that stuff out that blocks melatonin.

Now, not only does that block melatonin release, it blocks growth hormone release and not only gets it blocked, growth hormone release and look melatonin super protective for your brain as you're aging right.

And it's called yeah, yeah. And it's protective for your intestine. But the big thing people don't understand is when you disrupt melatonin signaling at night, your insulin function the whole following day is disrupted.

So you don't release appropriate insulin from your beta cells, which is a part of your pancreas. And when you don't release insulin appropriately, the number one most inflammatory thing in your body that goes on is when your blood sugar goes up and you can't appropriately use it.

So the higher you spike your blood sugar. Yeah. The biggest inflammatory event in your body is a high postprandial blood sugar. And so you start to see how all of this is playing together.

You know what I'm just thinking? That's what the studies show. It's that if you can stop that p the average okay it matters. But not nearly as much as that peak.

That's exactly right. Yeah. Hence when you start to look at other peptides like, well they're out there right. Liraglutide. Liraglutide is a peptide. Right.

And it's a drug to drug. It's used by diabetics. So why is it working? It's working because it's blunting that peak and it's causing a better insulin signal.

So that you normalize that. And and but the point to it is, is that all these hormones are interconnected and it starts at the brain. And when you don't take into account those pieces of going upstream, you end up being a person with diabetes.

That because they've showed this, you can normalize their glucose with the med, you can give them a statin, you can give them an antihypertensive drug and they still end up with Reena.

Vascular disorders, elevated uric acid problems. Taking out the markers, not the underlying problem. Exactly. Yeah. Or it's like, you know, you look at the people with sleep apnea, you know, they just never get I remember it was like, just a few weeks ago, even a PowerPoint do.

And of course, those things can take an hour. And I stayed awake basically two days and oh my God, I was so hungry. And I gained 8 pounds in two days, you know, and it's it's crazy and you know, and and I get just like all of a sudden I get energy at like midnight, you know, and I'm like, yeah, you totally full curve right.

Yeah. So I'm do as I say, not as I do, but Yeah. No it's huge. Sleep is huge. But I try to ignore it and take peptides to try to counteract it, but I don't recommend it to anyone.

But, it's, it's it's interesting and it's like clockwork. You look at people that sleep apnea and then they gain weight. The body just, you know, they get insulin resistance immediately.

Hypertension, I mean, just wreck in their blood vessels and then now they gain more weight, they can't sleep. And then, you know, just it's, it's a death sentence, you know?

Yeah. And I think a lot of people, once again, you know, when you think of, oh, I'm having trouble sleeping, I'll take a secret pill. Well, you know, really, insomnia is a disorder of hyper arousal, meaning that your brain took on too much stress during the day, and it can't unloaded at night.

Now, why is that so important? Well, when you take on all that sympathetic tone, what happens to your thymus if you don't make t killer cells, they don't mature or you get adolescent T killer cells.

So what that means for people listening is you don't have enough active T killer cells. So and t killer cells are what go out there and patrol and attach to things that don't belong in your body and knock them out.

And so when you think of, I mean, when I work on people for their sleep and you think of things like the SIP delta sleep inducing peptide, that's one that I thought that that it was popular on the peptide front for helping to get people back into signaling their sleep, as well as just using.

Once again, I talked about the like the growth hormone supportive ones like Ephemeral and or Summerland or any of the other and the you know, where Delta sleep.

But this peptide is the highest in the gut. It's interesting you're talking about know it's always got great anti-inflammatory. It lowers the inflammation the hypothalamus and it's actually secreted by the mother which makes

sense.

Right. And and the baby ingests it. So it's actually orally active which it's not a small peptide, but it's the composition. It's orally active. It's very interesting.

It's very anti-inflammatory. And it's not a sleep med. You think Delta sleep. You take eat, you sleep. Does it work like that? It kind of resets or lowers the inflammation.

And we'll see people, you know, their diabetes gets better, whether it's from the sleep. But I think it's also from that reduction in hypothalamic inflammation then.

Yeah, we love it with K-P-D, which is Mylanta and which people use like Mylanta. Ten with the Barbie doll peptide. So you get ten, you lose weight and you increase libido.

But the little fragment of it is actually more anti inflammatory but doesn't stimulate the melanocytes. But and they seem to work on that. Right. Yeah.

Because what, what you know when people get, you know, bio toxin illness or they get Lyme or Lyme related illnesses, any of that family of, of, you know, vectors, they lose their, their, their melanocytes, stimulating hormone, you know, it just tanks.

And and once you do that, you just have to remember, in a chronically inflamed state, when you're sympathetic, dominant, and you're not sleeping, you lose all that signaling.

And your parasite apathetic tone. So sympathetic fight or flight parasympathetic. No it's not.

Peptides, Recovery, and Performance Support

And when you when you're not nourishing the body with phospholipids, you're not building acetylcholine in your brain. You can't get that balance back is easily.

And that's kind of what's interesting. The advent of a lot of the, you know, the peptides that relate to our cognitive function, they're every bit as important in terms of repair of this lipid membrane.

And then also allowing to get rid of the inflammation, because when your brain is inflamed, when you're making a lot of cortisol and you're and you're making a lot of something called NMDA, which is a, which is a compound in your brain, is that if you're making too much of it, you're excitatory.

When you make a lot of that, you block your stem cells that make your neurons so you don't get dendritic rebooting. And that means that, yeah, you're not regenerating your your neurons in your brain. Yeah. And you're getting dumber.

Yeah, yeah. When you're when you. Yeah. When you, you know, like me when you're, you know, when you're the grandchild of a bricklayer, you can't afford to lose that.

You gotta, gotta keep working. I think you're fine. Yeah. And the, you know, the meds out there that block that NMDA receptor, you know, there's, namenda, and ketamine.

Right. And actually, the cough medicine, but I'm blanking out, but, right. Dextromethorphan. That's not for fan. Yeah, yeah. But, but it shows that, I mean, they're very different acting.

So it shows like, we always, like, try to put one thing on one receptor, right? Right. It matters where in the brain. I mean, if you activate this part of the brain it does different the in this part of the brain you know.

Yeah. That's why like when I did all the work on, the intranasal Janssen aside, our three, which I did all the kind of

discovery work on that and, we created that intranasal application of Janssen aside, our three.

You know, I was that's I did that was like 15 years ago when I did that because I had this notion when we were working, we had a story about a head a year time.

Yeah, yeah, I did. I'm I'm, I think I'm a little bit, maybe cursed by that. And I'll. I'll have a way this. No, it's I commercially smart, but I don't care.

I like, I like, I like we with the beer like we you know, with the energy beer no one ever heard of. Like, why don't want to energy beer. Then five years later was like, oh, Red bull.

And, like like I size for being stupid, you know? Exactly. So I mean, the big thing for us was looking at that whole thing of the brain and going, well, what's really going on when we're getting, you know, the immune cells of the brain are getting fired up.

The micro glial cells are getting fired up, and it's causing the release of inflammatory oxidative damage. So all these, you know, pro oxidants the, the from boxing's, the prostaglandins, the, you know, superoxide and hydrogen peroxide and ions get upregulated.

You kill the neuron, the neurons are all getting destroyed. Then they release when they die, they release a bunch of proteins that then trigger more micro glial cells.

And it's this vicious cycle. And I just why I think it's so important that, you know, this other area of hope with peptides in the brain is that it really gives us a way to think about how we neutralize that process that most people are in, which is a chronic neuro inflammatory stance.

I mean, yeah, and at least get them to a base line, or they can even think, you know. Yeah. And I mean, there are so many people are just so like they're just stressed out.

They're not thinking clearly. They can't handle stress over when I had Lyme, it would just be any over the phone ring. I'm like, I hope there are these people.

Call it two in the afternoon. You know? And it's like I it just like fight or flight anything. Like what? You know. Exactly. It's the brain's just on fire and just ready to go and you can't live like that, you know.

Now you can't. And I you know, I think when I, when I think of, meta meta formation, what I always try to go back to is that thought process of it's from the brain down from the gut up, you know, it's you know, you can you can have a perfectly beautiful brain.

And if you get gut permeability changes because maybe you had a head trauma, right? If you hit your head within ten minutes, you've got a leaky gut in the gut, isn't there?

And just like, yeah, so it's a bi directional. The brain affects the gut, and tells it, you know, what to do. So it's it's kind of like Sibo I remember was on a Sibo conference and they said, well, I think it's a symptom more than a cause.

Like, oh, you're kicked off the conference. You know, and 157 yeah. And and it's true. Well, so many things are like that. They're both the, symptom and a cause, you know, because it's a righteous cycle and it kind of interrupts cycle.

Yeah. It's. Yeah, it's like I always liken it to a circuit board. You know, you if you have a, if you have a light out, you go over to the light switch and go, I'm going to turn the light on and you turn the light on and nothing happens.

And you go, oh, well, I wonder if I kick the plug, I might go plug it in. And you and you looking out now the plugs in the light bulbs, you know, not burn out, but I can't see it.

It's turning on. Oh I'm going to go look out at the circuit breaker box. And lo and behold, the circuit breaker box got flipped. And until you turn that circuit breaker box, click that switch back on.

The juice doesn't flow back to the light bulb and light things up. That's what's going on with your signaling in your body everywhere, right? They're bio circuits, and you're either sending information through those bio circuits that's keeping everything moving, absorbing, metabolizing, detoxifying, generating energy, or they're short circuits.

And you have to create, you know, countermeasures and corrections. And, you know, I think that that when I, when I think of, you know, BPC 157 right. What an amazing compound.

And I remember when my, my son got injured and had a Liz Franc injury. So if you're not familiar, the Liz Frank injury out there, it's a, it's a ligament between your toes that that because of a talking industry, an injury on the field, the bone basically goes up like a razor blade and cuts the ligament.

And now you can't pivot on your foot. You can't heal on your foot. It's excruciatingly painful. It's a very common injury in the NFL. And, and, my son had that.

And, it's supposed to take 18 months to repair from that. Well, what we did at the time was used BPC 157 and used, tb4. And we literally first of all, he had no swelling, which is unheard of.

They couldn't find the tear when they they took them five sets of imaging to find where the tear even was. And then within five months after the injury, he was putting full force spinning on that foot at the California State Championships to win the discus.

And it repaired it. And a third of the time, and I think it's it's incredible, what the potential is for, peptide research and therapy because I've seen so many interesting outcomes and personally experience those and, you know, watching him.

Yeah, I think people have to see it personally now with your son playing football. I mean, you know, nowadays these kids are so frickin big and fast and just the inertia of crack.

And what do you feel about do you give them anything for prevention of traumatic brain injury or your thoughts on it? Well, yeah, I give them everything I'm allowed to give them.

You know, it's very, you know, peptides are kind of, you know, they're not allowed in collegiate or professional sports. We'll, we'll which ones BPC is okay.

BPC is okay. Before I know, any of the, actually the thymus ones, they, you know, aren't they are and obviously the growth hormone ones aren't there. Yeah. So but the point is for him.

Yeah, I use the high resolve and fish oils on them. They kind of have that high resolve and load in his brain at all times. He uses the synapse and, nasal spray.

Oh yeah. Yeah. In flavonoids, in progesterone. You know, we we've got him going on the bio flavonoids. He's doing magnesium. Really protective. And I also think it's interesting that actually real quick magnesium doesn't matter what type.

Yeah, it does matter. In fact, if, you know, I like magnesium glycine eight. If you're going for getting rid of muscle aches, I like the magnesium mallet, you know, so it's more for muscle.

If you're trying to, like, help arrhythmias or with cardiac function. You think of magnesium, tolerate. So those are the three magnesium that I usually use.

You can use mag three and eight if you're more concerned about neurologic issues or crossing the blood brain barrier. Yeah. You won't get as much tissue level of magnesium because it's only you know, it's 5% magnesium,

right.

You have to take a ton of it to get that mag. That's the thing. I mean, that's are so big. Yeah. But I think the reason I brought that up was that it's not just taking, you know, magnesium or people look at the bottle.

Oh, it says more, you know, basically just a metal mag, man. Yeah. Like mag oxide. Yeah. Like, okay. You know. Yeah. You're just going to poop your pants, but.

Yeah. Yeah. But I think it's interesting because I think, like we're discovering now that there is these hero genes that that athletes have that may make them more protective.

So, you know, when I talk to a lot of Hall of Famers, everybody goes, oh, so you're working on your brain, And I go, you know what? Most of the Hall of Famers I met that even played in the 60s and 70s that didn't have any, you know, that much padding in their head.

These guys are really with it and sharp. And they played a lot of games. And maybe it was those hero genes that actually protected him and allowed him to play the game at a very high level for a long time and get them into the Hall of Fame.

Or maybe the middle linebacker weighed 150 pounds. Well, I'll tell you what that I've been I've slow his growth, but they're still they're pretty big still, I'll tell you what I mean.

They weren't little, but but I think it's interesting that we see that there may maybe these, kind of in various sports, these maybe genetic predisposed advantages that limit maybe risk of injury, maybe risk of head trauma.

I mean, I know guys who have 3 or 4 concussions, five concussions. I had one guy I worked and had 14 concussions. All right. And you know, my son who's played ball at a very high level since he's, you know, eight years old, he hasn't had a single concussion and no signs of ever having it.

So it may be that he's just a chip off the old block. And yeah, he's got the rock hard rock area, you know, that's, that's saving him. But it's just interesting to me that we have to always watch because there's all this, you know, I work some with some Special Forces guys, too, here and there.

And, you know, they're they're getting. It's a different breed than. Yeah, but they're getting exposed to stuff and they're, you know, getting hit and they're, you know, and even for them, as awesome as they are, you know, there's always that risk of vulnerability depending on the amount of allostatic load that takes place.

And, and I think across the board, you've seen executives that push themselves so hard that one day they woke up and they broke. Yeah. Oh like overtraining.

And I just think of the Special Forces like, I mean, they're in freezing cold. I mean, I have a temperature tolerance of like two degrees, you know, it's like freezing, like, give me the heat pads, you know, but, yeah, we've had, I just a bunch more of, executives overtraining syndrome, just overstressed, you know, and they just, it just sets everything off.

Their immune system is shot, you know, whether or not they have underlying Lyme. But I really think when they say Lyme disease, it's I think most people, they get Lyme, I think it's so prevalent are fine.

It's if you get all this other stuff. And I could not agree with you more when you're about once again, I go back to what we talked about the very beginning.

When you're metabolically inflamed, when you, you know, maybe your diet was bad, maybe you had a lot of drug therapy when you were a kid. Maybe you didn't sleep well.

Maybe you were undernourished. You know, I mean, you you're you're in this predisposition where you get the bug

and you do compensate and somebody else gets the bug and they're fine.

And, you know, it's like I said, I think the big takeaways for me is, is regulating people's sleep patterns, really working at getting their brain to shut off at night and manage the sympathetic dominance of today.

If you have a drink for that, I need that. Yeah. And then, you know, if you can get that going, manage their cortisol. And, you know, the big thing like people go, how do you know I have my cortisol?

Well yeah you can measure it. But are you craving carbs at night or you're coming home from a day of work and hugging your potato chip bag? If you are, you're probably under excessive stress because I push my my wife out of the way.

And then I grab the potato chips. Yeah. Yeah. But, yeah. No, it's. Yeah, it's it's nuts. And I think about what I so I like how I kind of got into this.

I had basically chronic fatigue syndrome before, which kind of fits into like one people was bigger than the other growing up. And, oh like one arm and stop working whatever, you know, and but then I treated myself with thyroid and I'm like, oh my gosh, I'm, I'm good.

We open the fire in the deep center, 22 centers, and then all of a sudden I went through a stressful, stressful divorce and just boom, that bound just sweats like crazy.

I mean, it was just crazy. And then I was at that time, we were in the mode of massive antibiotics, and I was doing seven antibiotics at a time. At four times it was I never give a patient it for three and a half years, never went to heart failure.

And the cardiologist goes, well, maybe you'll get 10% better in ten years. I like what I mean, I could not stand up straight and I could not. It would take me an hour to walk up the stairs.

I'm like, wow, just shoot me. I can't live like this, you know? Right. And then a year later, after I went in Europe found peptides, a, lifesaver. I mean, let's say that was the biggest thing.

That's for you. What was the big the big ones that kind of you feel are your game changers? That, you remember, you go, wow, that that was the inflection point for me.

Yeah. So it was, I was in beta for, BPC. What cells do it a little the growth hormone releasing hormone. And my sense is that wasn't the major thing.

Sleep, Brain Inflammation, and Nervous System Repair

But now you look at the studies and it shows that those aren't the hard part. I mean, that they're all kinds of big, you know, and and stem cells, exosomes certainly help ozone.

Love it. Love it. I mean, there's so many things that work. But it was funny, you know, and I walk into the cardiologist, walk into the cardiologist office and he's like, you look pretty good.

And, I'm like, yeah. He goes, okay, like that now, so what do you even do? And or, you know, it's it's like, no, it's a miracle. It's an idiot. Pasek.

Yeah he is. Yeah. He goes, I guess I was wrong. Yeah. You know, so it's something else. Yeah. It's a it's an amazing journey that you take, learning this work and, just helping people and helping yourself.

Right? I mean, I did, you know, I had the same kind of issues and it really needed to repair. And, unfortunately, we're still not getting enough information out there about what steps can you take in order to begin to really grab that that person who's on a rapid train to accelerate aging?

We're still not talking about that. We're still looking for that magic bullet that's going to be like the ageless pill. And the end. We're not giving enough credit to the fact that you have all these body systems communicating with each other, working at trying to create either health or slowly eroding you.

You're going down the drain just a little bit at a time and or fast. Right. And and we just haven't, we haven't done enough education that that we really get, you know, individual out there can go, wow, I have a chance, I can do something.

And I think that's where we need to be. That's why I'm grateful you're doing this peptide summit because you know you're going to learn tremendous, tremendous things from, you know, everything that you've got to offer them and all the all the guests that you've got, it's going to be, you know, let's get people thinking.

Yeah. And it is interesting though, is that people have the mindset, I don't want to pay for my health care, you know? But I remember being sick. It's like got some kind of allergies.

But, you know, I know there's a female god because she hates me, but, that, you know, I said, take care of that. A good divorce settlement, is is that, you know, you nothing matters when you're that sick and, and, and and so basically I said, you know, take everything.

Well, God did give that I got divorce. I got everything taken. But, so, But it is, it's just I cherish, you know, not always I shouldn't complain, but I do by.

But it's like, damn, I realize how bad it can be. Doesn't matter what you have. Like, oh, I want this new TV. I want this new car. When you're sick, it doesn't mean squat.

You don't care, you know? Yeah. Try staying up all. You can't sleep. You can't function. You've got. You know, I remember just taking a shower and a bath 100 times because of the the pain, the restless legs and the neuropathy and the Aladdin.

Yeah. Where you touch my skin, I'm like, I, I'm gonna end it, you know? And like, what am I? I can't do that because I'm treating this just, you know, and but I know I had a, I was a bad case because I had it from birth.

But you're also talking about how people are different, and we, we, we lost our tech, but we had a, a microscope with the meaningful antibodies, and we could see, you know, basically Borelli but BCA, the whole family that would come down, sweetest families, sweetest family, they were, farmers, dairy farmers, all just sick with line of babka.

Except the dad was great. It was like working out. And we look at all the blood. He has more babka than anyone, and he's fine. He's just like, oh, yeah, can you give me some of the growth hormone booster?

Because I want to, you know, I'm on the bench and this and that. Yeah, they try one. Yeah. And, it it was amazing. Well, you know, I think it's that goes back to that story of the, you know, the terrain is everything. Right?

It's it's the terrain that everything is brewing in that matter is that the terrain will control the bugs. You know, I think it's true. And that's where I kind of because of my own experience, you know, I, I'm very aided.

I want to like, get it now. So let's just do higher dose antibiotics that I found to get from point A to B and Mike's at their place. They have their place.

But if my natural killer cell function was was between 0 and 2, right. So you can never kill the bug enough for it to take over. That's right. So unless you get that up, it it's worthless to do all those things.

And I remember I went and had prodded Glenn inflammation. You couldn't see it, but I would just be spasms and just kill me. So I'm with EMT and he's like, yeah, you got inflammation, probably infection.

Take antibiotics. I'm like, I'm on seven I. V. would you like me take more? You know, and I remember being in the

ICU and the nurses outside the, the little curtains saying, this is the the Aids patient.

That one admitted he keeps testing negative. You know, it's like, it's it's just I got more stories from hospitals, but, Yeah, it's like health is everything.

Yeah. I mean, I think in the end, I always tell people, you know, your health is work, but it's worth it because it's like you said, doesn't matter what you're riding around and it doesn't matter how cool your refrigerator is, doesn't matter.

You know how big your TV is in the end, if you can, if you can manage and learn to develop a lifestyle. And I'm because I'm big on teaching people, you know, you gotta you gotta do this day in and day out.

You know, I'm just I'm kind of all or none in my personality. It's just like I live in this office, like, for days and days, and I don't get out. I don't do the exercise.

I'm like, you know, your gym. So I don't preach to patients about exercise or, but then, you know, you go and do this every day and then, yeah, a month later, I'm like, I gotta get back there, you know?

Yeah, I think it's just a, it's a, it's that piece of the more consistent I can just get people to do. I want them to go have fun, man. Gotta go out, go to the party, enjoy your celebrations.

You know, you do all that, but on your day in and day out basis, what are you going to do? Yeah, you got you you've got to take control of understanding that insulin piece where your, your glucose is going up and you're not you're not getting that spike under control.

You're damaging your tissues, you're damaging your brain. You're damaging your arteries, you're damaging your kidneys. I mean, just think how many people you see now in their 50s that have low kidney filtration.

Yeah, they're GFR low. They're they're already under excessive oxidative stress in their kidneys. And then until we start to get you know, that's why I spend time and but it's normal and they won't treat it until you're in failure.

Well that's the I mean it was funny I I've really been a student of this all the problems of all things glucose for quite a while. And, you know, it's funny because people will say, well, you know.

Yeah, you should I let's actually listen to a, a telehealth, you know, a little recording for this, for this friend of mine, son. And it was like, well, yeah, your glucose is 96.

That's fine. Your triglycerides are elevated, but they're not too elevated. And, Oh, yeah, your hemoglobin 16.7. Now it's within range. You're fine. And he said, you know, but in the end, what you really ought to do is you ought to try to eat less fried food, and they get some exercise.

Thanks. Bye. So it was like a 1.5 minute express. God, I feel so motivated. Yeah. Right. Exactly. And and I think that that's where it's got to come from.

You've got to begin to get that piece of and I, I like people love it when they come to me because I do give them a shot in the arm. But my, my what I preach to them is you got to be your own motivator because you know what?

And in the end, I tell people this all the time, you know what? You're at work and you're working 100 hours a week. I got it. If you passed away, you probably have a little party for you.

And they talk about how it was like God's name we had there. Yeah, yeah, it was that I can't even remember. Who was it? Guy? You know, it's, it's it's that understanding that, you know, you're you're not doing anybody a disservice except yourself when you don't take care of yourself and you don't understand that.

And, and it's it's important because that motivation does have to come from them. It can't come from an external

source. And that that and and to your point, sometimes you can't get them motivated unless you repair them a little bit and get their the kind of their brain at least pumping out a little bit of serotonin, a little bit of dopamine.

And so I, you kind of have to work with not pushing too hard and making sure that you're working on the, you know, there's this biochemical balance that gets them into that because they say, oh, it's psychological, but psychological is brain firing.

It's like, I have a brother. We call him anti Tony Robbins. You tell him to do something, he'll give you a thousand reasons why he can't. You know, it's just out here that way.

And it's exactly. It's it's tough, but, Yeah. And and you think you're. I don't have time to do that. You don't have time not to. I mean, you make it up, you sleep better, you wake up better, you're more efficient again.

And I'm being hypocritical here, but, But I know what I need. I'm not going to be now. I'm going to be on you now, man. It's all trouble. Yeah. Oh, and it's getting people, you know, it's just getting like I start people out saying, hey, can you walk ten minutes a day for me?

Can you at least walk to your mailbox and come back now? So sorry, doctor. Well, can you well around in your chair, around your room for me, I can I can make it to the refrigerator and 12 steps and back.

Well, did you say, have you seen these? I've got a new one of these. These are weighted and they vibrate. So you actually can get exercise with your mouse while you're using it, but haha, kidding.

I know I thought of weird stuff to do with it. I don't know that. Yeah, exactly. No, I mean, that's just there. It's like a like, you gotta get up, you gotta move, you gotta try to get that.

Well and, and when I like, don't sleep and stay up to finish a project, I feel like I've aged like years, you know, it's hard. I mean, it literally is.

And I think the older you get, the harder it gets. Like when you get to my age, you'll understand I that's I, I because I, I literally it's funny I've had to change and adapt the way I do things with each decade.

Because now that I'm 60, I go, wow, I gotta, you know, I, I'm, you know, I'm changing the way I work out. I'm changing. You know how much I eat. I'm making sure I get my sleep.

Just really just even more dedicated to just saying, hey, what what what? You know, I, I kind of like my life. I want to live as long as I can. I want to feel as good as I can while I'm alive.

So I'm gonna have to put in the work because I don't know anybody that you know. Hey. Oh, yeah. I want to build a house, but I'm going to sit here and look at the bricks and I'm sure it's going to get built.

It's it's that. Hey, I, you know, I, I like that because it is. It ain't going to build itself. Yeah. That's right man. So when are you starting your exercise program?

Tomorrow. Next month, maybe a week from 2000. Friday next year. All right. There. Close. You have an excuse, my brother. So sidewalks. I, I don't have sidewalks.

Administration. There's two. No room for a treadmill. No, the kids are sleeping on. It's a coat hanger where we're going to hang my coat. But, there are some.

I, this was great. I just learned a ton. They're just, awesome to talk to. Entertaining. And I'm going to come out and visit you. I'm. I'm a little scared now.

You going up, like, put me on the straight path or something, but, Well, we we have ways of convincing you of electroshock. Do you want to mention more about the metabolic code real quick or.

The Metabolic Code Platform and Closing Thoughts

Sure. I mean, I invite people, look up, you know, look at the metabolic code platform, can go to metabolic code Aecom. And what the metabolic code does is it takes lab values, takes questions, takes biometrics, takes things like wearable data, pushes it all together and says, where are you?

Metabolically broken. But it does it in an easy way because once again, when people they get confused, when they go to a doc is doing all this stuff right.

I don't even know what they said. I mean, but I'm taking these pills and they told me, I drink this green juice. I don't even know why they're taking the pill.

If that's the case, I like the you know. Yeah. And so why we how we developed that was to say there's five networks or circuits that we concern ourselves with.

One is the adrenal thyroid, pancreas circuit. Right. Cortisol glucose and insulin and thyroid hormone. That's a circuit of cortisol goes up. Thyroid goes down. Insulin goes up.

Cortisol goes up. It's understanding that relationship. That's the relationship of energy right? When I if I've got my cortisol, glucose and thyroid down in I've got energy I'm not gaining weight.

And when they're not down then I'm gaining weight and I feel fatigued. Right. That's easy to communicate to people. What's off in that circle, that triad of relationship.

And then the second one is gut immune brain, which everybody's reading about gut immune brain. And the fact of the matter is, is that if you get under enough stress triad, one could stack on triad two, okay.

And that could be, you know, got immune brain is g. I'm under a lot of stress. My gut gets leaky. If I got a lot of bugs in my got that don't belong there due to using PPIs and everything else, my brain starts to get inflamed and my immune system is the signaling in between it.

Right? That immune system is what's causing all the information to go back and forth and say, inflamed or not. And these are all color coded. So it's kind of like animals, meat systems, biology, medicine.

Right. So, you know, so that's that's your resiliency. And the third is cardiopulmonary neurovascular. So if my if my if I'm under a lot of stress and I lose my vagal tone and my blood vessels get stiff, my blood pressure goes up.

And if my inflammation is high because of my immunity, my lipids are off. And then when I start to have that real loss of heart rate variability and I start to lose vagal turn, now I'm not breathing in state.

And when I don't breathe as deep, I don't oxygenate. So that's the that's the triad of stamina and endurance. There's two more. One is liver, lymph, kidney which is the triad or the relationship of detox.

Right. And then the fifth is your hormones. And that's the triad of potency. So these five different buckets, all the information and labs flow into them and create a point score and says this is where you should start, start to fix this network first.

Because what happens a lot of times is people go to, you know, some functional medicine docs and they're trying to fix everything at once. Instead of understanding that I need to order my repair so I can get to the next level of energetics within the person's body, that's in the medical center.

Is there a particular panel that you do to. It's pretty basic. Yeah, yeah, it's pretty significant. It's got all the you know, obviously has all the advanced lipids in it.

You know, it's cortisol, salivary, urinary urinary hormones or serum hormones. All the markers related to MMP nine

melanocytes stimulating hormone leptin.

If you want all of the it's a pretty comprehensive panel looks at your white blood cells. Let's say your differential. You know things like mean platelet volume.

Nobody even looks at mean platelet volume. And mean platelet volume when it's high is a primary signal that you're metabolically inflamed. Yeah. Yeah.

It's like a super important simple not it's cheap B vitamins into anything. Yeah. Right. Exactly. And so so yeah. So it's a it's a you know pretty robust blood panel about 170 questions.

You put in blood pressure. You put in heart rate. You put in saliva because matters. And then you then you run it runs it and then it tethers all the information together.

A good example would be I got a blood sugar and 95. So what, you're 60% risk. I got a blood sugar. 95. An insulin of 18. Yeah. My blood pressure is elevated.

My kidney function is going down, and I'm making bad lipids and my homocysteine is high. That person with the 95 is way farther along there to trajectory of breaking their tissues down and being damage.

Yeah. Is that one value? Yeah. No, it covers all of it together. Yeah. And rates the data. I'm really interested. I think it's brilliant because I mean, I love getting tons of tests.

Right. And but and I've learned over the years, like spot like there's no one tests. You can always it's there's an error in the test or whatever. It's like it's like overall picture.

But you have taken that and then broken it down. So like, doctors don't need five years to understand it. Yep. They can do it like that. Honestly a little bit of training and they, they got it.

They're, they're swimming with the big dogs. They can they can really start to look at metabolic dysfunction and start to say where what circuitry, what systems network are the most stressed.

And, you know, and at first when I did it, everybody was like, oh, you know, you can't do it. You can't do it. You're not smart enough. And, and I oh, no, I mean, I honestly, it's like, hey, we're, you know, you're not from Harvard.

And it's like, now I'm not. Yeah. He's working. He's not protesting. Yeah. And, yeah. And but what we what now is we've got George Washington School of, Health Sciences and Medicine, their Department of Medical Informatics is actually wanting to deep dive into our algorithms because when we showed them what we were doing there, like, nobody's approached it this way before.

You're really getting a comprehensive picture of what happens when we give people nutrients. They're on drugs, they eat a certain way. They you track their sleep, you track their exercise, and you get a total picture of what did it take to move them from that state of metabolic inflammation, which we score.

We actually you have a score. And now it's reduced. What was that plan. Because nobody just gives vitamin D and everybody goes, well where's the evidence.

Well that's what we're trying to find because I can name any five drugs and there's no evidence to use them all together. Oh, exactly. Exactly. Yeah. Well, I'm not very good in the vaccines, but 120 vaccines shown in the study.

But, yeah. And so when we had the viral fatigue centers, you know, huge blood panels, it would take two years to get that doctor up to speed to understand all these, like, instead of, like, this test means this, this, that.

Well, okay, that's that, but that's not up. So don't worry so much about. Yeah. So you've done that. Yeah. Damn you now. No, but now I it's needed because we couldn't do it.

You know, it's it's just so labor intensive. Look, for. Yeah, yeah, I mean, I it's it's pretty amazing because I don't know, I suppose I have my slide deck, the algorithm, which is like now one fifth of it, it takes up the whole wall, of, you know, trying to show them the thought process.

Right. But your algorithm would be so huge. It's only 40,000 decisions. It's only worth 40,000 decisions. Yeah. So I mean, it's like, what computer can do that, you know, now, so hats off to you.

I think that's amazing. Yeah. So I'm going to come on I'm going to check that thing out because I've, I've, I've, I've been through it trying to do it without that tool.

You know. Right. Exactly. Well I can't wait till you come down and see it. And, you know, always it's fun to just hang out with you, man. We get a good laugh and, and tell war stories about, all of our different cases that we've been through.

So I'm looking forward to it. It is. And by the way, I had to, do the intro like, three times, so they kept making me laugh. They are serious. I got to see that.

I got serious for you, man. So, hey, thank you. You're the man. Appreciate it. I'm just always love the information. And I am going to burden you with, coming down and, checking everything out, so I really appreciate it.

Thanks for having me. It was a blast. I hope people get some value out of our discussion. I, I really think it's. They were. All right. All righty. Did you? Yeah.