Introduction and reunion

Hi. Welcome to the Peptide Summit. My name is Starker Matt Cook, and today I'm very delighted to introduce you to, Doctor Kent Halter. He was the host of the Peptide Summit last year, and, said this can be piece of cake. Is going to take hardly no time.

You're gonna you're going to have a great time doing it. And, and, it actually has been kind of a highlight of our year, although it has done, big responsibility.

I, met Doctor Halter probably more than 12 years ago. We were at, at the coldest I. Lads, meeting in the history of AI labs, up and up in Banff, Canada.

And I actually remember how freezing cold it was. And I think you you may even remember more how freezing cold that was. I have a two degree temperature tolerance.

I'm like, this is unlivable. People can't live here. I went to get put gas in the car and, like, you can't breathe. And. But I think some guy walked by and shorts.

Yeah, yeah. It's like this is unlivable. I think it was just, you know, I couldn't believe it, but, Yeah, it's, Interesting. Time flies, man. I mean, I, I, I did lie to you and tell you as it's a piece of cake that was.

But but, in terms of medical, stuff, you've always told me the truth. That I've actually loved. My relationship with you was interesting. We met, and, you were well, on your way of being a luminary in taking care of patients with complex illness.

And, we sat together for that meeting, and I would say, really? I've been having conversations with you, here and there over the last decade, and I always look forward to them.

I always look forward to what I learn from them. And then when, when you speak about things and, we'll talk about a handful of these today, I'll all here I was, you know, at the peptide some or peptide.

Symposium today for forum last year. And I was like you were saying things and I just kept going, oh, yeah, that's what I do. Oh, yeah, that's what I do.

Oh that's right, that's that is true. And, and so I, I believe that in terms of thinking about complex illness, I think you're one of the most thoughtful and wise and, imaginative, imaginative and incredible doctors in the world.

And so I'm super grateful that you exist and that, you're continuing to work in this field and, you're an influence for me. So, thanks for being here.

And thanks for taking the time of the. Thank you so much. It's so nice of you, but, yeah, it goes both ways. And it's interesting how when you kind of feel a certain way and go, wait a minute, this isn't right.

Or kind of the standard, even like the integrative doctors are thinking one way, like, wait a minute, that isn't right. And then you and I end up saying, you know what?

That we both think that isn't right and this is the way it is. So it's very cool to get that confirmatory, you know, person like, hey, what do you think of this?

Like, wow, you thought the same thing where everyone else thinks this. So, yeah, it it just, I just love my, you know, relationship with you as well and love, you know, throwing ideas back and forth and going, yeah, I agree, you know, like, well, I thought that I'm the only one thinking this, you know, and I think so today we're, we're going to talk about, sirs, which is basically I'm going to let you define it and we'll kind of get into that.

We're going to talk about taking care of complex immune problems. And, and I think, you know, I cried a with a lot of gratitude, the opportunity that I, we get to take care of these patients because I think in taking care of these problems, it's helped us as we began to think about the trajectory of where we're going over the next 4 or 5 years in terms of complex immune problems, which is going to be thinking about things like Covid long Covid and and, and the overlap of everything from vector borne infections to water damaged buildings to, to sort of the viral infections.

And then how the cancellation of all of those things impacts on our biology and impacts both how we feel and then how our immune system works. Yeah, I I've really found it's amazing is that it's all the same underlying pathophysiology, which goes along with aging.

Like, why does all this stuff happen?

SIRS and complex immune illness

You know, people that are unhealthy older, and it just all fits and it kind of simplifies it. And peptides are like the perfect thing to fix this, you know, immuno senescence, T-cell exhaustion and everything is a vicious cycle in medicine.

And you find that all these illnesses are just different parts of the same physiology. Okay, perfect. So then given that, let's start with more associated problems and sirs, and tell us about that kind of at a high level that I think is going to introduce us to sort of some biology, and then we'll kind of start to get into some of the ways that we think about treating people and some of the ways that, that expresses itself.

Yeah. When I was, you know, seeing serious patients and, you know, learning about Sears and Shoemaker and all his research and, there were just a couple issues I had, like, is this really different?

You know, the chronic inflammatory response syndrome, which whether you want to call it the cell danger response or, you know, I want to have this new part and I think it's really part of this elephant, you know, everyone feels a different part of it.

And, and they all fit there. All right. But it's just the, these different parts. And with the series, you try to put together, a whole thing. And when you see these patients especially, they've had underlying immune dysfunction before.

They've had, you know, diagnosed with mold toxicity. Mold toxicity is a real thing. It's very kind of, you know, the, the new thing. But everything is multifactorial, right?

It's, you know, immune system, aging, inflammation, stress, MRI from the environmental things. I mean, they all add together, like, I haven't seen a Sears patient that, you know, is mold toxic?

That doesn't have something else going on. And and that's the thing. So you get people in the same house where everyone else is fine, but there's one person.

Well, what's what's the difference, you know, and you really look at the immune system. And we found that that is the core start of everything. Yeah. And so when, when you look at it as you age.

So there's basically two sides. I mean there's a and this is an oversimplification in anything with the immune system is oversimplification because you have to because it's so complex.

But you look at the stuff inside the cell takes you to step outside the cell. There's 17, which, you know, causes more autoimmunity, which I thought was one before.

But so as you get older, any stress, any, environmental toxins, any emfs, whatever the one goes down, THC goes up, and then you get reactivating infections.

You get you can't, basically detoxify mold. And then you get, let's say, like an infection. You're much more prone to

it. Let's say you get Covid, when you're prone to long Covid, you get to reactivate infections.

You get, mitochondrial dysfunction, which then causes, pineal hypothalamic pituitary hormone deficiencies across the board. You get immune activation of coagulation, you get mitochondrial dysfunction, you get, you know, basically everything's a vicious cycle and feeds on each other.

And then that suppressed immune system more you get more reactivated infections, and it just goes around and around. So it becomes the chicken or the egg.

Okay. What is the problem? Is that the infection? Is it the mold? Is it the, immune system? Is it the mitochondria? Is it the, pineal hypothalamic pituitary hormone dysfunction?

So it's all these. Yeah. You can point to all these. These are dysfunctional. This is what causes it. But it's everything. So you really have to treat multiple things.

But we're really finding is that the underlying key. Basically pathophysiology is the immune system. You fix that and it's like, you know, and you got mast cells.

You've got, you know, and you look at the natural killer cells, they're just, you know, nonfunctional, it's with aging and immuno senescence and with, like, any toxin or infection, if it goes along for a prolonged period, then the the T cells shut down.

So you get to it's called T cell exhaustion. A lot of, money and research being put into this and also immuno senescence, and your immune cell doesn't work.

And that is the whole key to everything. Because you can't suppress the infection. You can't suppress, you can't get rid of the toxins, and you fix the immune system.

You're well on your way to getting better. But if you don't, you're not going to get better. You're going to be maybe feeling better here or there at fix.

This fixes to this. But if you don't fix the immune system or if you kill everything, get rid of every toxin. Yeah, the immune system can come back. But that's pretty inefficient way to try and do it.

You know? And it's a little bit like my own self. And that's where I think I really realize is that, you know, I basically since birth, Lyme, Bubka, Bartonella and did three and a half years, the highest dose, antibiotics.

You've heard the story before and I didn't touch anything. Nothing was done by natural killer. Cell function was zero, you know, and I was in the hospital.

There were times where for sepsis and the nurses would say, oh, this. The Aids patient keeps turning negative for HIV. And until I fixed my immune system, nothing worked.

So 100% good one. So then, what do you like to do to test the immune system? And then we'll sort of get into. Then what? How do we fix it? That's a good question.

And, you know, I think and the problem is we don't have great tests and the tests are a pain in the ass. It just happens to be like, if you go to quest or LabCorp, that natural killer cells function, I think is the, biggest key.

But they screwed up 80% of the time. You can do natural killer cell number, but it's the number. Like, let's look at, like, the studies on chronic fatigue syndrome.

About 25% of chronic fatigue syndrome patients have low natural killer cell number, about 75% of low natural killer cells function. And that's looking at their standard reference ranges.

And I've talked to so with natural social function like quest which they send out to national Jewish or I will see for a but another one. But I called the medical director there and just said your reference ranges are ridiculous based on the literature.

And he says, I know, but that's, you know, they each lab has defined their own reference ranges, so they're like less like normal is greater than eight.

No, it's really greater than 30 is what the, the studies show. But they have to do their own little reference ranges. So because a problem when doctors, even if they do those tests it looks normal.

It's say they're ten. It looks normal. No. But it's, it's very, very low. So there's problem with, you'll get in the labs at Sephora even those, they screw that up.

Even showing growth factor beta. Which you look for for H2. So improve growth factor beta and see for a probably the best markers to for one, is probably the downstream is natural killer cells function.

The cytokines can really lead you astray because they are very difficult to do. And also it's if one side, let's say is is low, it will try to raise itself or suppress the other side, and it will actually think the other, the will send you the wrong direction.

So it's not what the body's trying to do, it's what the body's doing. Right. So the cytokine tests tend to be, but usually where at least they'll come out zero or, you know, all over the place.

But, so we'll look at those downstream numbers of what's really happening with, with the body. But in, in syrinx, has some, good tests that we're using more.

I've just started using them, but they look very promising. Which ones are those? It's. There are T-cell immunity test. Are you just speaking of the T-cell?

Have you been using the in fact. Oh. Lab T-cell immunity in terms of, for, for Lyme testing. No. And I keep meaning to because I've heard great things about it, but, no.

And I, they came to our office and, it sounds very good. And I just kind of keep getting to that one. I like to do from from the perspective of. If I'm so if, if we're thinking about like, immune problems that can affect people, then, one thing could be water damaged buildings and then that, that's mold, but that's potentially mold plus that kind of mix.

And people have been kind of hearing this potentially gram negative rods if it's on the, the tickborne side, then that could be and you know, this as well as me, but it could be Borrelia, could be Bartonella, could be babies.

Yeah. Those are like the Holy Trinity. And, and and then all of these other, vector borne infections plus or minus Epstein-Barr and stuff like that. You can look at I genex well, look at the antibodies to, to those, the in fact, I will lab will look at the T-cell response to each one of those.

And so then if I, I'm really trying to weigh in on that, then what I'll do is I'll look and I'll see. Okay. How are your B-cells making antibodies. How are your T cells responding.

And then sometimes I'll see people that don't make any antibodies that that would be a thought to be negative for Lyme. But then I'll do the T-cell test.

And it's super positive. And so and that has that's been an interesting piece. And then that also can are those the sicker patients that you see sometimes sometimes.

And so then that's an interesting sort of piece. And the the, the, the fact that I brought up the mold piece with it as is because there's so much overlap, I think a lot of the, the people who really struggle on the vector borne side actually have mold or are somewhere on the spectrum of chronic inflammatory response syndrome.

And then and, and then I agree with you is because it's the whole thing. And then other other other stimuli that come in, whether that be the gut or whether that be the Covid or whether that be other inflammatory, other things that drive inflammation or drive toxicity or heavy metals.

But then were. I think getting a better and better map and model of what's actually happening now, because this kind of like, okay, we can kind of delineate to the extent of the infections, the extent of the toxins, the extent of and then begin to think about it.

Testing immune dysfunction

But then, one topic that we decided to talk about today was, binders because in, in the, in the arc of these infections, and toxins one probably the, the most common treatment that people have used to for mycotoxins has been to take a lot of different binders to bind those toxins out.

But you've got a little bit of a contrarian perspective on this. So tell me about I hate binders, but no. Yeah. People are going to scream, but, the just, mentioned about the, abusive with the with, you know, the positive, T-cell negative antibodies.

If you have low pH one, you can't convert or you actually can't convert Idem, which is basically noncompliant. Antibody is against a, infection or whatever it may be.

It just kind of holds on to it to IgG, which is, complement, activating and kind of blows up the thing. And also you just don't make antibodies in general with low t H1.

So it also goes to those are the patient low to H1. They don't have any antibodies, you know. And and those are the sickest patients. It's funny. It's like, you know, you look at a, Western blot and, you know, blot, and six patients have no bands, you know, it's like, yeah, you got and you got no bands, you know, and I, I've learned to.

It's like when I say, you know, chronic Lyme disease, I just mean we don't even know what we're treating an infection. You know, it's just there's so many that we don't, we can't even test for there, you know, hundreds and thousands of these things, and different strains and, and all this.

So and myself, you know, all I had was to start with when I got very, very sick and Bedbound was 41. Kill it all. Been on the exam. And, and then when I treated my immune system, I had eight bands and IgG after that, you know, so it it shows that, you know, people with no immune system, you can't go by the immune response.

But yeah, with by our hold on a second before we go in on that. That's a crucial I want you to talk a little bit more about that, because that's a crucial fact for people to hear about when you start to think about these problems.

Because I will often, you know, get somebody that comes here and says, you know, I went to Stanford, and I saw the ID there, and they said, I definitely don't have Lyme disease because they did one test and then they didn't have any, any bands or, and, and they had negative antibodies.

But then many times when you start to bring the immune system back, all of a sudden those will appear in, in that first six months of treatment. Yeah.

And, and that's, that's what we find. And even with, you know, Lyme disease we find if someone has Lyme disease they probably have multiple other infections as well.

Right. And or just so focused on one thing, which is why all these studies on, you know, chronic Lyme disease is so controversial because giving high dose antibiotics for a year or two, well, it can help, but maybe it doesn't because there's so much other stuff going on.

And, and I think we have so many infections. And when you look at that, I really I don't even know if you even get rid of I could treat myself or anyone else, you know, for chronic Lyme disease, you get rid of it.

I don't know, I think you just end up suppressing so many things. But as your immune system drops, then all this stuff starts coming out. Because if you check out a Lyme Lyme disease patient, they have Epstein-Barr positive, you know, CMV, HSV sick, because immune system can suppress it.

So but these are things that everyone has. And I think so many people have Lyme disease that never have symptoms, right, is that they suppress it and they're fine unless they get all of a sudden they get in an accident, emotional stress, which is a killer, which suppresses the immune system, especially one doesn't suppressing it.

Some like like steroids, people think it modulates that. It lowers at TH1. So emotional stress, divorce, death. You know, spouse or family, you know, some single stressful event, another infection.

A, you know, accident, a, motor vehicle that whatever it may be sets it off. And all of a sudden they're like, oh my God. And then now you're looking for all these things, but it's the immune system that's been suppressing this stuff now releases all these things.

And like, I just saw a patient of a day who had, like, you know, positive, you know, Borelli, Bubka, Bartonella, Epstein-Barr, and, I mean, what do you think?

That's what happened. They got all these different infections, and then they got sick. No, it's the immune system drop. And now these things came back out.

So go to the heart of the problem. Not trying to kill other people, put them on, you know, foul side and Valtrex and antibiotics and all these things.

Well, no fixed immune system. And those things take care of you may have to help it in, you know, treat these other infections in different ways. But we use very little antibiotics now.

And no longer do we do that. You know, I was kind of the, Horowitz pro, which he's, he's he's amazing. But, you know, just doing just massive doses of everything, killing it.

And it can it can work, but it's much easier to fix the immune system. And then maybe a month or two of antibiotics or antivirals. And we're that. Maybe we don't even need that.

Now, I, I agree, I, I 100% agree and and and but then you know with with that in mind then I like to, you know, I had this great, lecture a Hopkins professor that was speaking about Lyme and he said and speaking about neurological, I mean, and he was talking about neurologic, neurological, Lyme.

And he said, you need a model for neurological Lyme and it's drug resistant, neurological TB. And so then their model is you need to get penetration into the central nervous system of anybody products.

And they basically would do like a this for antibiotic cocktails that are trying to basically get penetration in their. And there's an aspect of it that I liked.

But then I said what are the antibiotics that we use? And so then one would be like ozone, one would be thymus and alpha one one would be L L 37. Yeah.

And so then suddenly we've got you know, potentially one is, is is to some extent vitamin D would be like a low level. You know what I mean. And so then we're thinking about all of these things then would we add in something.

Occasionally yes. But for the most part we're I, I have not been profoundly impressed that big antibiotic cocktails will be helpful, but I will have been impressed that antimicrobial strategies.

And then often we'll do 2 or 3 herbal and herbal antimicrobials. And so then between peptides and herbals and managing the immune system and sort of thinking comprehensively and paying attention to stress.

Even I, you know, I was a nervous about it. I echo what you said about emotional stuff.

Infections, mold, and immune suppression

And, you know, I had always been a little nervous about doing still a ganglion block and a lot of the the big sort of emotional recess that we do. And now we do with everybody that has Lyme and they are some of our really great responders.

And it's because they're so there's there's been there's such an impact of this physiology on the emotional system. And a lot of times emotional stress, just like you said, triggered that.

And then resetting that I do find then begins to reset. All of a sudden starts to come back. I think that that's a great, treatment. And not a lot of doctors can do that, you know?

But it is. And they get hard wired that way, and they're just, you know, they're fight or flight constantly. And, and it's so hard to get someone better.

I have a couple patients that are at home, and they're like, living at home with their parents, and their parents are totally emotionally dysfunctional.

So they're just in this, like, constant, just terrible, toxic environment. And they're not going to get better. You know, it is like so difficult, if not impossible to get them better because they're just constantly, you know, stress, right?

Yeah. That's what they need is like to ganglion block or something to relieve that stress. Good. Binders. Tell me about binders. You know, with binders.

I'm very A. D. D., which is why I also bought into this. And I'm not saying is wrong, but this massive antibiotics only get so much better. I'm going to do more antibiotics than the next guy.

I'm just going to destroy this thing. Right. And, and then I'm like, with binders and you know, I had did all these different one of my no one gets better like it's a cycle now people coming in.

I've been on this for years. I'm. Yeah, I think I'm better. And, I'm like, how long has it been? You know, four years. And I'm like, okay, you know, and I, I think it's binders can help it.

No, no doubt. And there's people that are just plastic binders. But is that it's kind of like the same thing with Marcel. It's the people with Marcel are looking to directly influence a mass.

So they're just, you know, okay. Antique, you know, and, you know, anti-inflammatories and, and, and they, you know, Marcel stabilizers and, and stuff.

But look upstream, that's what we need to do. And so the body is not releasing the toxins because of low energy, low mitochondria functioning. You look at, on heavy metals that people with low mitochondrial function can't get rid of heavy metals.

And you see this classically with autistic kids, right. And if you look at autistic kids blood and a Lyme patient, they're almost exactly the same. They have the same immune dysfunction, they have the same mitochondrial dysfunction.

And they can't eat. Neither of them can dump heavy metals. It's the same thing with mold toxins is that they can't get rid of them because there's no cellular energy.

So if you fix the cellular energy and which means mitochondrial function, moderate immune system, you can get rid of these things. And instead of just trying to take the little scraps that are coming out for years, when the cellular you need the detox cellular, not what's in the blood is what's in the cells as well what's what's what's basically the toxin.

And so I just think it's it's like they it can help, but it's just an inefficient way. You're not fixing the problem. You're just trying to kind of stay even with a, I think of a bucket with water and a hole in it, you know, and you're just, you know, trying to make that hole a little bigger instead of fixing, turning off the spigot, you know, one, You know, I have been, you know, there is this huge conversation on binders, and I've been somewhat skeptical of binders myself.

What what I've personally evolved into doing is, is that I work out, and then I take a sauna every morning, and then I do a cold plunge every morning.

And what I'll do is I'll intermittently take some bitters sometimes as kind of the push to kind of get your bile duct empty, and then I'll take a little charcoal, but basically, I'll take charcoal, a lot of charcoal and mineral water and, lemon and then that, and then I'll take a modified Citrus Pact.

And with that, because that actually has these, some anti-inflammatory, effects that and let's say it's a mild binder, but it's an anti-inflammatory. And I'll take that with a little charcoal and with the idea that I'm catching any detox from my liver that happened overnight.

And I'm kind of in a detox kind of sauna experience. And so then I'll do that as my, like, one binder thing, but then I'm done at that point for the day with binders.

And so I basically take like two modified foods, citrus pectin and some charcoal. And then that's it. And as and, and I'll, I have to say I'll feel better or I feel great when I do that.

But that's like a real light binding group. I mean, I, I really think, you know, we're going to see so many people sick and I think you're already seeing it.

And we're just being bombarded with so many toxins and emfs and pollution and, you know, heavy metals. And it's like, you know, you go get sushi, like, I'll take I'll take some binders when I eat sushi or something, you know, but, it's just, we're, we're, we're just being bombarded with so many toxins.

And I think you see that it's like I, you know, I carry lab slips in my pocket. I go to a party because everything comes up and goes, oh, my God, I'm so sick or my daughter's sick or my friend's sick or whoever, someone is really sick.

Like in every family, it seems like now. And we didn't have that 20 years ago, you know, and all these, you know, conditions like, like Sears, we didn't, you know, you never heard of that.

And molds been around forever, right? And so then now if you're like, you and me walking around in our lives, that's exactly right. And that's kind of how I got into this, because basically, I would be taking care of, like, families.

And then next thing you know, there's like somebody in every family with. Yeah, one of these problems. And so then it just became something that I had to figure out.

Like, Barb sent me up to Canada where I met you because we were trying to figure out Lyme disease like 12 years ago, you know what I mean? And so then that that happened and at that time and then from that moment until, like the last few years, if I had $100 for every person that I heard was on a protocol where they were taking binders, and then they were hoping that they were going to take binders for a long time.

And that that was somehow going to bind out all of the mycotoxins in their body. And then at some point, they would be ready to take this magical peptide called VIP.

That was going to miraculously sort of solve everything. Yeah. You know, I would that would be, you know, a lot and then the and then you would say, well, are there there must be thousands of people that you heard about that did that protocol.

And then that protocol was really, really amazing. And then I would be like, I almost don't know anybody that did

that. And then that worked. And I think that that and I'm guessing that that probably is a similar experience that you had, which has led us both to try to kind of try to go upstream and say, is there something else that might help people feel better, which would be optimizing the immune system?

But tell me your perspective on that one. No, I, I totally agree, same same experience and I just started, you know, because I really respect the shoemaker and all the research he's done and but I'm like, does it make sense when I look at the what VIP does and it lowers one, it lowers natural killer cell function raises to two.

And I'm like, I don't understand why this you know, I understand why he says, don't give it with information to make it worse. But if you get rid of everything, it's kind of like a, a steroid shot where they're going to feel better, right, for a period of time.

But you're not helping them. It's actually you're making them worse. So. So VIP actually will suppress everything and but do more of a suppress one tissue so people go, oh, I feel better.

But then they're never healed. They're never over it. And if they get it a moldy thing again, they're just really, very likely to just, respond. And, and so that's why it did make sense to me.

And so, you know, looking at, looking at the studies that it. Yeah, it can help people in the short run. But you're making them worse in the long run.

And it also which I found out that it dramatically increase your risk of many, many cancers. Basically prostate cancer, alley colon cancer. And it makes sense because it's suppressing the natural killer cell function, you know, and so it's something that it doesn't make sense to me to use.

And it didn't. And then but I had some some people say they felt better, but it's interesting. So another doctor, came up to me and said, you know, then she treats Lyme, she had Lyme.

And, all this, and she was feeling much better. But then she did some sprays of VIP for a number of days, and all of a sudden she just crashed and she has not been and she's had it's been months and she's just been horrible and she's feeling fine.

Why binders and VIP fall short

And I'm like, it makes sense with the what VIP does. So she was good. But she says, oh, you know, VIP it better. Boom. It just said it like this. Which the last thing you want to do it does exactly.

It stimulates the, immune response is, which is the same thing as T-cell exhaust, immuno senescence and what you don't want, but it can make you feel better in the short run.

But in the long run, it's a negative. But then and I would would say that they're the one of the theories is, is that with chronic inflammatory response syndrome, what happens is, is that at a genetic level, the transcriptome gets upregulated and all of these inflammatory genes.

And so then what we find is, is that, it's almost like we got driven into fight or flight and we start to print the the more inflammatory genes and there's this test called the gene that, we'll try to look at that.

And, and one of the theories is, is that, if you could bind and detox people to the point that they would be ready to take the dip, then that would down regulate basically about transcriptome.

Yeah. And I think the that's the thing is, when you look at the IP, an ideal situation, it may be helpful, but it especially about inflammation though, which everyone has, especially given the factor beta that it sends it off.

In this you know, inflammatory T2. But in the short run it. Yeah, it may be good, but you know, you look at the, genomic effects of these, you know, bio activators and, you know, Mylan, you know, t before Prime BG damage in,

BPC, I mean, they're gonna they're really modulating genes and that that's the thing.

And and you're I totally agree, everything's about the genome and it's what is upregulated down regulated. And that's really nice about the peptides. And you look at like by long time a gene there with the upregulate like 450 immune genes and down regulate like you know 50 genes.

Something like that. And and everything is epigenetic. You know, or most things. I mean, in the, in the long run that that is the key. And so then within and what a read I would say.

And I was this was kind of like my, my thing that I wanted to say to you, which is, is that. I know that we both have hundreds and hundreds of examples of just walking around our life, and then you hear somebody go, oh, I, did all of this stuff.

And then I took VAP, and then I got worse. And and whether they took it at the beginning, middle or the end, even though I was supposed to be at the end, and even when they thought they were at the end, they got worse.

Villain. But also like Crested Genzyme again. The, the neurological bio regulators, when patients who are really sick start taking those, they start to feel better and those patients start to feel better, like they, like the majority, I find feel better, that they tend to be sort of on the anti-cancer end of the spectrum, and they're regulating gene expression.

And I think a safer, more functional way. People feel better. You know, I, I heard you give a lecture where you you told you mentioned a case of, somebody who started to have less Potts physiology.

That's postural orthostatic hypotension when they were taking, Valen and then I also have echoed the same thing. I had the same thing, where we started to use by regulators for people with really substantial, problems, both on a long Covid and, and sort of a chronic Lyme perspective.

And so then I, I just, I was like, oh, this information has to get out because I think it's an alternate perspective on how to think about stress. And, and then the, the intriguing aspect is, is that the peptide component of treating Sirs is actually moved up to the front because we're trying to regulate at a, at a epigenetic level and at, at at cell physiology immune level.

And then that really is the foundation of where I think we should be thinking about these complex problems. I, I totally agree. And and that's the key word foundation of and that's the thing I'm like, damn, this is become the foundation of everything, you know.

And whether it's, you know, it's talking about the patient to call the Alzheimer's and, all these, whether it's neurocognitive disease, autoimmunity, serious, chronic Lyme is affects the immune system, you know, and you can do these things right off the bat, totally safe.

We have, the risk of side effects is so low and and I think that's the word that has to get out. You're right. And it's changed our practice. Like, I can't fathom not using peptides to treat patients, you know.

And yeah, there's other treatments and I love ozone and but they are all the all my favorite treatments are immune monitoring. It turns out right. Yeah 100%. Yeah 100%.

So then what. Clue clue us in. Because then we could go down this road a little bit. What is immune modulation? Because then in a way, all of your favorite treatments.

And then this is really the foundation because if somebody is out there sick and really struggling, then what you're hearing is, is that at the beginning, we're thinking about modulating your immune system as sort of step one.

Take walk me down that road a little bit. Yeah. And has anyone talked about that in the in the summer we're going to talk about it better. So just keep go all the way and here's a link.

But yeah. And then so I have an e-book that I'm finishing up on Sears, but it really can. They are, the Myanmar auditory Treatment of seizures or rapid treatment series, whatever is going to be called.

But, so I'm finishing it up for, for a year summit. And it really talks about how to, how to focus on this with, with peptides. And but you can replace really serious with anything.

Honestly. And it's really me and Marjorie. So I kind of, you know, I do this so much, you know, with the, the one you can really tell the health of the person.

I'm telling you, if you check their one day to heal, immune system, that will tell you how healthy or sick that person is. And, you know, you look at, we're getting better test, but that triggers a function.

You know, you look at, in efecto, potentially as well, you know, how many, infections they have and, also thyroid, but and then the C4, a and you activate, and we also we find, I mean, all these patients have immune activation regulation and they have, you know, D-dimer super high, like long Covid and see they all fit in this same pattern.

Long Covid is just like Lyme. It's just like, you know, autism actually, and, and all these things. So is that the immune system we have low one H1 two or you know, there are balance in this article like this.

As you age from aging and involution of the thymus. So the thymus in balloons and causes aging, you look at even the CDC, states that 80% of age related illness, sorry, 80% of people have at least one, age related illness, which is due to the evolution of the thymus.

That's the CDC. Okay. If that's the case, why wouldn't you either? Okay, rejuvenate the thymus if you can or give thymic peptides like and prevent the cause of all these age related illnesses right there.

The CDC says 80% of people have at least one age related illness due to thymus involution. Why not give thymus back to the patient, right, and fix that?

A meme system. And you know, and you look at so it it's it's hard to believe our, you know, nine 1012 but then drops around 1240 and that's all of a sudden you start getting all these diseases of aging, whether it's, you know, cardiovascular disease, autoimmunity, cancer, and, you know, there's a little lag in the medicine below.

And then it goes up, why not give the stomach peptides back and prevent that? It just seemed like, hello. Like it's a no brainer. Almost like if you're if something else was really low, if your testosterone was 50, we would support that testosterone back up.

If you're if you have no immune support going on in your body, then ammonia is going to be the old man's friend. But why not just lift your immune support up and then suddenly, maybe there's no problem, right?

Unless there's. Because big Pharma doesn't have a drug for it. So they say, well, it's normal to be low like you do with testosterone. Just keep lowering the normal range. Right, right.

And and but unless it's, they have like a statin for cholesterol, which they don't go by normal anymore, they'll go by to a normal level. They take the population lowest, 2.5% and highest two and a half.

Those are abnormal. The rest is normal. But with statins, they don't do that with cholesterol. They don't do that because they have a statin to treat it right.

So they do optimal. So really we should be looking at optimal. But they would say that well it's normal to have low thymic function. So you don't need dynamic peptides right.

But it's also normal to get cancer cardiovascular disease. So don't treat those right. So it's just it's hypocritical. But unless you have a drug to treat it which you know again with like cholesterol and stuff like that.

So they say what's optimal instead of what's normal. And but with dynamic peptides it's yeah replace that. You just anti 82%. And you look at EPA talent combined with the thymic peptide.

Oh my gosh, the anti-aging effects like you know looked at people with cardiovascular disease over 15 years with significant cardiovascular disease. They gave them actually only six doses of peptide and the pineal peptide and followed them.

And the people with significant cardiovascular disease, the people that were on visible decline, and the people on the two peptides just for six doses, actually had improvement, their cardiovascular symptoms, improvement in their quality of life, dramatically less cancer, dramatically less cardiovascular events.

And then the people that they actually gave further doses to, they had a fourfold decrease in cancer and part of vascular disease. I mean, it's just crazy.

And the stuff is so safe. Are you talking about cabins in here? Yeah, he's the greatest. I think he's he's just like, one of the ten most important doctors in the world for sure to me.

Peptides as immune modulators

And then what will happen is, is people are not going to be really aware of this and for like another ten years, but it's just going to his importance is going to grow over time.

I think. So you're not important till you're dead. Yeah. But I maybe hopefully he's gonna stick around for a super long time. So, Yeah. Well, that's my blessing.

Yeah, that's my wish, Professor Evans. That, he should be taking the peptides. It'll be like Yoda. That's right. But so then that that, indicates a point that, that maybe if, if that immune, component is being supported and then you're hearing that people have less cardiovascular events.

That's because cardiovascular disease is immune disease. It everything's immune disease. I promise you. And so then within that then, one thing that I'm beginning to sort of talk to a lot of people about is, is that, does that mean you need to be on thymic peptides all the time? No.

Okay. Even just all the short boluses seem seem to have some support, but so then, you know, there's a lot of people that I work with sort of feel great most of the time.

But then something happens and the wheels are coming off the bus. And so then being able to sort of manage through those moments and, and there can be multiple things impacting that.

But then from a thymic, peptide perspective, then, you know, you're one thing to think about a science novel, one one thing to think about is the, the immune bio regulators.

Think again Christian Bale on a one thing to think about then and I don't really use thymus and beta for any anymore. I'll use the fragments because I think the fragments are, more anti-inflammatory, more potent, and, because the tb4 is basically a number of different peptides combined that it, it has a section like the TPA for active.

Right. AC as, DP, you know, that we, integrated peptide cells that that will lower growth, activate, immune monitoring. But then there's a section on the TV for that actually stimulates mast cells, is inflammatory.

And then they have and you look and you go through there some other domains and then ages at the other end is also another one that is very rejuvenated.

So it's really a number of like five peptides combined. Right. And so then why not isolate down and take the one that you want. That's that, that was I was that was, that was leading up to have you say that because you and you've, you've used that, you've used the time of some data for fragments a lot.

Yeah, yeah. An integrative peptide has that. And then they're coming out with the aids, which the other, other, end of the, the N-terminal to the C femoral, which is shown to be very rejuvenated as well.

Yeah. So take the parts that you want and leave the parts you don't. And the and now interestingly, because on the peptide front the this this kind of dovetails into an interesting topic because peptides are proteins and so big proteins, if you take them in your mouth they're just going to get chopped up and absorbed, which is why you you can't take insulin by mouth.

You've got to inject it with an insulin syringe. And there's, good bioavailability when you're injecting peptides subcutaneously. But the small peptides and then especially either the fragments or the, via or the via regulators or some of the other ones, like CPGs.

Okay. I think are the, the best peptides. There's less immune reactivity to them. They they are better at regulating at an epigenetic level because those are the ones they're going to go in and actually have an effect at the genetic level in terms of the transcriptome.

And and then finally you can take them orally. Yeah. And, and that's the thing. So there is when they're like, the BPC is kind of an anomaly that it's, you know, 14, amino acids, but it absorbs orally, whole and, as long as it is, has a C related.

Right. And there's the stable BPC, people are saying stable, but if you have, salt like the, the body will naturally see the like something that it wants to protect against, against enzyme degradation.

So if you don't acetylation it then it gets broken down. So it's interesting to me that they're saying, you know, stable BPC. And because the stable in the gut, at, you know, at very low pH, but there's so many studies of BPC, see, it has been stable in the gut for 24 hours or more, but they just happen to find out that it they say it's not.

But if it's not a C related, it's going to get broken down very quickly by the, digestive enzymes in the gut. But they're calling it stable BPC when it's really unstable.

BPC yeah. And BPC will absorb whole, TB for frag will absorb whole. And it's interesting. So the Cfpb so there's a nano Cfpb coming out that is ultra but not all true.

If you alter it it becomes a drug. But that it is like 100 times more potent, which is a very interesting. And the body would do that on its own. But you got to know what it did to do that.

So, KB, I love and I always said it is going to be the best selling and and it, it was huge, but now it's going to be a game changer, I think with the super potent KB that's resistant to degradation and, attach the receptor with 100 times affinity and then talk to me, tell me about Cfpb and just sort of like what as a peptide how how you think about that.

So so Cfpb is a fragment of MSH. Well as I said, learning hormone, which you know, Shoemaker, you know, talks about the anti-inflammatory work, which is a core issue with his, with the whole protocol that he says is low.

Right. All the things he does is trying to increase MSH in the Shoemaker protocol. Right. So. Well, if you can't give MSH, you can't one. It will be broken down very quickly.

You get stimulation of melanocytes, which is sounds good. You know, you get an atom one and two which are, basically analogs of that and stimulates it.

You know, they called the Barbie doll peptide because you get reduced inflammation, you get weight loss, you get increased libido and you get ten. But it's great if you're young, but if you're older, you get dark spots and all these things.

And I are taking it. I'm A. D. D., so I'm like, this isn't working. And all of a sudden I was, oh my God, I was so black.

I don't think, oh, my God is so weird, but, and a lot of like, I know Corey Jr, talks about, you know, why somebody's arm and giving it and, one at a time, one and two for Lyme patients.

You for a long time. But and but you're getting that double edged sword now you got you know, now they're all blotchy and stuff. But k-p-d, it's about, you know, it's substantially more potent and doesn't cause stimulate the melanocytes, but dramatically lee anti-inflammatory but it also does not decrease.

It's like not giving up. So steroid it increases the body's ability to fight an infection. And it has huge antimicrobial antimicrobial effects. Antiviral, antiparasitic, antibacterial.

It is like the ideal peptide that everyone should take. And it's, I think it's going to like, just change the lives of so many people. And so, the standard Cfpb is who has been out.

But it just it a run on. And when that IP ran out but they're going to get they should be in a week or two hopefully for a for him. Getting the, the potent version.

In fact I'll send you some I'd love to see what, what your thoughts are. Because, I, I when it just like it literally this is going to be the best thing for so many people, but yeah.

So that that's going to be very anti-inflammatory being mandatory. But they all work together. Right. And and then you look at, you know, looking at the, bio modulator defining peptides with the pineal peptides, and then you add, you know, BPC, Cfpb, and lower that inflammation.

Then you let's say they have sleep disorder, you know, delta sleep inducing peptide mitochondrial dysfunction at a mitochondrial, you know, not C ss 31.

And also you look at protecting against mold. And Michael toxins. Right. So the peptides will not only treat it but they'll protect you and not allow the effects of the mycotoxins.

You know, increase IL six and, you know, all the oxidative stress, the peptides will prevent that. And also even, you know, activating the calcium channel, and the basically, we see what the MPs will stimulate calcium channel, the calcium channels where you get flood of calcium in the cells, you get, you know, palpitations.

In fact, my, stepson, he sorry, getting palpitations and racing heart. And the Wi-Fi is right in his room, you know, and I'm telling people, at minimum, turn off the Wi-Fi at night, you know, just unplug it or whatever.

And we did that, and then it stopped. And, I've heard that. I have heard that that's, I think that that's a big one. Yeah. And electric cars, it's like you're driving next to a high tension wire, you know, and, I have some case studies showing that people didn't get better.

And then I'm asking what car they drive an electric car, and they stop and they get better. That's interesting. When I've, We'll have to keep a conversation on that going.

On a scale from 1 to 10 of being helpful for mast cell activation, where would you put TPV? 9.5. Really? What do you think the mechanism of that is? I think direct, suppression of NASL and also, I mean, monetary.

So then that's so awesome to kind of think about because the, the two things, the, you know, that I think a lot of patients with complex illness are struggling with.

Is pods. They, they stand up and they get lightheaded and their heart rate goes discombobulated or they get mast cell activation. Tell us what mast cell activation is because that's a that's a useful one to for people to hear about.

Yeah. And so the thing is with mast selectivity. So mast cells are the cells that will go in when you have injury or infection. I mean they're good to and that's the thing.

Everything's a balance right. Is that they stimulate inflammation and they'll actually we a lot of things that they, they weren't involved with because they would basically, have basically, you know, packets of histamine and they say, well, you know, they would release histamine.

That's what they thought their, their function was. But it's not a lot of times they don't be granular at the histamine, but they just they secrete a ton of inflammatory cytokines.

Right. And so you stimulate the mast cells and it just causes all this inflammation. And this, one 2017 shift in immunity. But, you know, they thought it was always just mast cells were allergy, but now they are way more important than that.

So NASA activation has, you know, all the symptoms that you can pretty much imagine with, with everything. And I think mast cell activation has a place in, you know, chronic Lyme disease certainly sears all those things.

And the doctors who are experts on this and, you know, with the Mast Cell Mastermind group, some in the most intelligent doctors I've ever met.

Mast cells, POTS, and mitochondrial support

And but they're just stuck on directly stimulating them, like inhibiting the mast cells. Right. Look upstream because the biggest proportion of the mast cell, similar to the mast cells, aren't abnormal.

The mast cells are. They're not dysfunctional. They're not crazy. It's what's stimulating them. Right. So you want to look upstream and stop the stimulation, not direct.

Yeah. You can certainly you want to direct and suppress the stimulation of them. But it stopped the stimulation. But they just, you know, they're stuck, in here.

And so you manage the immune system. It's just like, you know, part series or a marcel symptom. You know, the, you know, bladder, all that stuff. And there's so many gastrointestinal is.

You fixed the immune system. I don't even think about, like, pots anymore. It's like people have pots, like, okay. Yeah, that will get better. Okay. That's where it did it.

You know, and it just goes away because you treat the immune problem, the mast cells dramatically get better. So it's I rarely, you know, I'll maybe give them Claritin to start with is just to do it.

But it's you look upstream and that's the key. And, and there's, host of all of these medications that are histamine blockers like Benadryl and Claritin and, and then, and then a whole bunch of other categories of medications that, treat, and, and, and calm down and stabilize mast cells.

But then also, I 100% agree that, if you start to work at a cellular level and upstream, and, and I think that's part, that's part by a regulator, that's part and things like CP v, that's part of things like sort of the small fragments that's even I think things like K are help like, yes, I think g k is, is pretty amazing, you know.

And it, it suppresses inflammation. And I think that's going to have a bigger place. It's more cosmetic right now. But I think, it is going to be a bigger player in anti-inflammatory.

Respects. I, I totally agree. And you know, doing injectable looking at, oral, like we don't have the data right now to show that it can absorb, transdermal.

It seems to get through, depending on what study you look at, you know, but, I think that's a huge, beneficial peptide as well. And then we're going to start to teach about what you can do with all of these things from an intravenous perspective.

And, you know, there's, you know, where I would say the exciting thing is, is that we're really having an international conversation at this point. And then we're we're working with clinics and, and, you know, multiple jurisdictions.

And so then, the, the intravenous use of peptides is going to be, I think, one of the defining game changers in terms of how we manage. And I think that as we, embark on that, we're going to work, we're going to have a lot of success, and it's going to be it's it's easy.

It's it's it's so much easier to do compared to a lot of the approaches that have been tried. The traditional tried and true approaches of antibiotics and things that that really disrupt our internal biology in the process of getting better versus just like little small influences that are working at a cellular level to I love that you mentioned the the mitochondrial, you know, and I don't know if you want to go into that a little bit more because I, I feel that all of these, all of you, we mentioned all of these things that can impact biology, but they almost all drive mitochondrial dysfunction in some way.

And then if you have it and and even infections can steal energy from from basically mitochondrial pathway, it goes hand in hand. And you look at every illness, every age related every, ability diabetes, you know, neurodegenerative diseases especially they all have mitochondrial dysfunction, all of them.

And so you look at, you know, look at the cell danger response. And that is looking at that specifically. But it just goes along with with everything.

And you modulate immune system. You're going to get significant improvement in the mitochondria. But why not also give mitochondrial peptides and and things like SS 31 mods will protect the body from toxins like mold, you know, or line and it will prevent that, or treat it if you have abnormality.

But it is a component of every illness. They all have mitochondrial dysfunction and which also causes you know, I've written all these review articles on low thyroid.

And but the issue is not the fibroid it's mitochondria dysfunction. And you can't it's active transport into the cell. So you don't transport especially T4 and less so T3 is because the mitochondrial dysfunction.

So it's I have this whole review on thyroid but it's really about mitochondria. You fix the mitochondria. Your thyroid is going to be fine. And as you, you know, I've, I've spoken to so many patients who sat out, who talk about fatigue and then and then why do we have fatigue?

Because we have mitochondrial dysfunction. And so then, you know, I spoke to so many people who said, oh, yeah, I started taking SS 31. Then I started feeling better.

And then part of that is, is that your energy comes up and then things that regulate immune function, immune peptides regulate that stem cells modulate the immune response.

Other cells that can be given can regulate immune response. Exosomes or these cellular growth factors can regulate immune immune function in response.

And so then suddenly begin to realize, oh, we we have almost like a whole bunch of control panels and dials where we can begin to carefully start to track numbers and then manage that immune response, manage energy, and then kind of dial people into feeling basically good and balanced and clear and basically the the thing that I figure it out is once you do that, then all of a sudden you basically feel good and then you start making great choices in your health.

It's like a now it is true when you if you don't feel good, you just don't make the choices. Period. You know, and, I think it's totally true. It's like I used to say when I first started integrative give gimme T3.

You know, basically, could help so many patients, right. And then and now it's really giving peptides, number one,

some ozone, stem cells, T3, maybe a little heparin.

We you can you you're in a fix. You know, 80% of the people that have seen 15 doctors, you know, now, that one was one. And I it's a crucial, crucial piece to think about in the arc of that whole conversation is that if you get in these infections, then your immune system is overactive and it's making too many antibodies, and it's kind of already to go fight that, that, that infection that realistically is not like a sepsis.

It's not an out of control infection. It's a stealth infection that's just hiding out and and triggering you. And so it triggers this overactive immune response, which is why immune regulation is central to our perspective.

Now one thing that can happen is your mitochondrial does function low energy. You feel terrible. Another thing that can happen is things like pots and mast cell activation, which can kind of derail your life in terms of feeling okay.

But then, and this might could be like a final little theme for us to think about. And you, you reference that. But let take me through the hyper coagulant ability that so many of these people have, which is why you mentioned heparin, because the the blood becomes thick and then there's a whole bunch of consequences to that.

And, and then that's an important piece of the puzzle to pay attention to as we as we go through. Yeah. And, and so you mentioned is that, you know, chronic stimulation.

You get this, you know, reactivated infection, chronic stimulation. And so that is the key is if you still have chronic stimulation of an infection or toxin and what the body's immune system does, it downregulated one unfortunately.

So it's called, you know, T-cell exhaustion. And it totally is. Will happen when it matters the amount of the, stimulus and the length of time. So if, let's say you get a viral infection and your body gets rid of it like it normally does, that doesn't happen if it doesn't, for whatever reason and continues on, the T cells shut down.

So you get T cell exhaustion. And that's what you see with all these chronic fatigue syndrome patients, chronic Lyme mold patients, they all have T cell exhaustion.

You know, they also over time get immuno senescence, which is a little different mechanism. But where T cell exhaustion takes weeks to months, immuno senescence takes months to years and occurs with aging, which you'll see like with diabetes.

Hartville your that the cells they they don't die like they should normally. That one sounds like natural killer cells will kill the cells that are dysfunctional.

But if that's low, they don't. So they hang around and they're not functional. But not only just not functional, they get mitochondrial dysfunction. And which then causes the mitochondria not to make energy, but to start secreting all this reactive oxygen species and inflammation.

So these cells get, basically start pumping out, inflammatory, cytokines, and then it recruits other cells becoming senescent. So they found that, for instance, the set of lytic which you kill, these help the body kill the cells that are, in senescence, that, all of a sudden you get heart failure.

Like 50% of the cells are immuno senescent, their cells and senescence, and you kill those now that it starts working and reverses diabetes. So there's so much money being put into this.

Basically set analytics that are killing that. But what's the key to that? Is that one needs to be high. And so the body's not killing those. And also with T cell exhaustion it's the same thing but more short term.

But you can rescue those cells. But they also they both have mitochondrial dysfunction. And so fixing that is if you can stimulate them to improve you can actually reverse the situation.

But so really the immune modulation is key and it's the problem is, is that when you get it's very interesting. And the

studies are showing that if you get rid of this infection or the toxin or whatever it is, you're fine.

But if it goes on now, you're get worse. And so it's like a vicious cycle. And then what? What? And I think that like you'll hear we had a patient that, was, a really nice person.

I had dinner with and then got a Covid vaccine and, her had a fairly big neurological thing, but, just thought I shouldn't say anything. I gotta just keep doing it.

And so then the time came for the booster and then got a booster, and then three hours later, had a stroke. And I think there's a, significant percentage of people who are somewhere on the spectrum of chronic illness that because they're in a hyper global state, they're they're making treatment.

Their blood is thick, they're very susceptible to forming clots.

Coagulation, heparin, and peptide strategies

And so then doing, you know, we're talking a lot about managing and modulating immune response, but then doing something to think about how thick the blood is, I think is going to be and is.

Sorry, I didn't even answer the question you asked me. Yeah. So what happens with this? You know, basically the immune system causes immune activation of coagulation in like, overwhelming number of patients.

So the body has developed this it it actually works to kill infection. So it will lay down fiber and and trap the infections underneath the fibrin and secrete secreting antimicrobial peptides into that layer on the vessels.

Right. And so it will do that which is good in the short term and beneficial. But over the long term, also I, Lyme and a number of infections have developed ways that they either cover themselves with fibrin and the body doesn't see them or they'll stop, the coagulation process at a certain point.

So they don't they don't get trapped in that thing or, basically stimulate it where it kind of bypasses. So it's the coagulation is part of our immune system.

Right. And so about 90% plus, patients, chronic Lyme series, you name it. Even our general diseases have immune activation regulation. So the body lays down this fibrin, which is beneficial in the short term and long term.

Now it's the body can't get at those infections if they're able to resist all the, basically way that the body use that to kill them, that they've, you know, evolved over, over the millions of years and also nutrients can't get in therapeutics can't get in, supplements, hormones, waste products can't get out.

And oxygen that usually takes two seconds. Can cells now can take take up to two minutes. And and so you look at the these patients that nothing works on them.

Right. Then you treat them with heparin. You know, some basically, you know, and enzymes and we break that down. But all of a sudden, the things that you used before that didn't work now work because they're they're actually getting in, and you can do a little it's not, totally perfect, but you can, it's kind of like a party thing, but but take your patient, put the pulse ox on them.

Right. And they'll be like 100% water. That's great. But then you have them blow out all their air and hold their breath. And when they do that. So a normal person wants a healthy person, they will always after, you know, a period of time will start dropping right.

And because the, the oxygen is cut off, going from, you know, you're not breathing. So going into the blood and then it should go into the cell. So the blood coming back is low.

But people with the coagulation defect, you'll find that it doesn't drop or very little like a normal person will drop like

15, 20, points on the, pulse ox.

But we have this coagulation like, drop, like five points or less and, like, you know, that's good. They got blood, they got oxygen, their blood. No, it's not getting into the cells.

Yeah, this is an interesting theory. But then eventually, if they hold their breath long enough, then it will go off the cliff. No, it doesn't. That's the thing.

Well, I mean, if they hold their breath long enough of it. Yeah. Then it's big trouble. But, it's interesting, and it it's, you know, it depends on the of the person, but it it's a pretty good test.

But if you check, like, in the, Shoemaker protocol tests, like three things that we really, if you check, like, eight things, you know, eight, ten things.

And you'll find that really we assume everyone has it. And but if they have anything abnormal, it shows and you treat it. And oftentimes I've seen so many patients come in that have done massive with some great doctors and nothing worked.

You give them a heparin also in the works also fertility. Oh my God, we have so many fertility patients when you give them up a talent. Right. But, which shown to increase ovarian reserve, we can increase, antimalarial hormone, but you give them T3 and heparin, and it's people have had multiple IVF that didn't work.

Now they get pregnant. Naturally. It happens so often. I love that. And then that that goes to show that I think I will use that Patel on as a sort of a stress support, almost like a, like a, a similar thing.

And, and then we'll microdose that often, you know, I mean I'll do grandma day, but then I'll give ten milligrams a day during a big stress. And then I found that to be fairly supportive for, for a host of different things, from not sleeping to big stress, it resets like so many things.

So in pinyin, I mean, it just, you know, there are more studies on that. Patel and but carnelian, is shown to, reverse mitochondrial dysfunction, predict the body against mycotoxins and which is right there with Apatow.

So we'll use both of those and, yeah, it's just that and everything is again the pineal gland, hypothalamic pituitary hormone function. You know, and I think we're so kind of barbaric in that.

Well, let's look at cortisol level. Let's look at testosterone. We don't look at all these things going, you know, on the upstream. Right. That's where you need to reset it.

And that's what these things do and which is. So I'm so excited to, you know, talk about it. And, I can't imagine, you know, being in California where, you know, it's, you know, the big pharma, basically just peptides are so safe and effective.

They, you know, it's only state that we see disallowed a lot of them. But, I'm going to go work around that. But, it's game changing. You know, any doctors listen to this?

It's like it will change your practice. I would agree. And so then and then it's kind of an adjacent. Maybe we finish on this as an, as an a peptide adjacent question because a lot of people will ask about rapamycin and then about senescence.

And in general that a high level maybe. Give me your thoughts on those topics of, of how you're thinking about what, you know, herbal approaches versus meds.

Do you have a have, how how how's that going for you? And in terms of what I mean, in terms of because maybe it's just started out with senescence without a license, you know, so, yeah, I'm always trying stuff myself.

I don't believe until I try it myself, but, Yeah, I think anti-aging is going to be huge. You know, in the next ten years, and peptides will be on the forefront.

And, you know, these anti-aging, effects where, you know, nad, you know, boosting mitochondrial function, really pushing mitochondrial function. And I think mitochondrial peptides do a better job than NAD.

And, I mean, all the things are good, but it's like, yeah, how much stuff can you take, you know, and like the, set analytics, the stamina and, you know, by setting or curcumin, I have to say, with the typical protocol, which they have to do 50mg, I have 200.

I took 200 and went on it, to travel. I thought I was going to die of horrible, but maybe because I have a bunch of senescent cells, right? You know, and, I know a doctor called me, and he was, they were doing, actual with it.

I've, Dr.. Right. Yes, yes, yes, yes, exactly. And which I've been trying to get, but I, I haven't found it, but he got some they did IV and he felt horrible but not so great.

So and he had like diabetes or, you know, insulin related. So I think he had a bunch of senescent cells and it just killed them all off. And so he just felt like he was a, you know, foul verbal.

So yeah. And and things like, you know, some peptides like, you know, the, the fox, the fox, the poor, in human in I think it's going to be awesome, but I can't find it less than, I mean, so expensive, you know, the dose, ten milligrams a day, and it's like $300 and milligrams, you know?

But, I think the whole anti-aging, movement is, is huge. And I think it will, if they really embrace it and allow it will will prevent all these like right now we're on the the pathway to have people just chronically ill, you know, whatever you want to call it.

They got chronic Lyme. They got, you know, seers, they got autoimmune disease. They got, you know, name it chronic fatigue syndrome. And now it's just exploding right then to turn that, I think this anti-aging movement, which hopefully they'll allow peptides to be part of it but will reverse it.

And then add sort of a high level. If you kind of put together this conversation, I, I think our goal was to talk about immune function today. And I think that was a good sort of introduction and a high level of thinking about it.

We're thinking about mitochondrial function. We're thinking about senescence, we're thinking about autophagy. We're thinking about kind of managing cell biology and what I want you to hear about.

Some of those final things that we're talking about is we've got yeah, we've got big meds that can affect that at, at a high, medium and low doses. We've got supplements like quercetin and, and, and things like that again to affect that.

And then you're going to have super healthy people with no problems or you know, you got peptides like foxo for DRI that will then take senescent cells out.

And so then you can impact these with healthy people. And then they do it and almost nothing happens to them. And sick people you do a little bit and then it can still affect them.

Anti-aging, senescence, and GLP-1s

And so then now then anti-aging is going to be this thing where we think about long term immune system management and modulation and then managing all of these aspects around biology and then getting that dialed in and then just keeping that dialed in.

And then that's going to be like kind of the name of the game. Because if you can do that, that solves like almost all the problems. Yeah. And the problem is with the model now is that you don't get the med till you've got like they

want to prove it.

For instance, you know, or whatever, you know, the, GLP ones, unless you got diabetes, why not take it earlier and prevent, you know, it's like. And I've had patients say, oh my God, I'm going to gain weight so I can take this med and get it approved.

You know, it's like, so it's the model now is not to make you healthy. It's to keep you alive after you're sick. Yeah. So then that's another peptide that, helps with blood sugar, but kind of an amazing I've got some people have really experienced incredible weight loss with that one.

Have you, have you also have I think it's awesome. Yeah. And just and I've learned too is that with the Gerd is the biggest problem. And I had the worst problem occurred.

Let me check my H. Pylori positive. And it's, you know, if, if they have a problem with the gut and Gerd with it, look for H. Pylori. And, and H. Pylori also causes immune dysfunction, you know, and, it's a marker for immune dysfunction as well.

So, yeah, I know, I think a GLP ones are huge. And then, and and then the other piece of that whole. So the good thing about it, as is it's this incredible peptide that helps manage blood sugar and stuff, and cars can cause acid reflux, but it can also just cause nausea.

And so then I've also found that doing and, you know, you talk to a pharmacist now like you don't need to go to lower dosing. And then even doctor McElroy, was talking about like, you know, he had a long experience using it at the county hospital.

And he says, you know, patients there just really never complained about it. But then he said, you know, now people complain about it a little bit more.

And then we started going to lower dosing and then working our way up on the dose very slowly, because as a weight loss algorithm, then you're going to be on that longer.

And so then starting, starting at a quarter a dose and then sort of working your way up. May is sometimes a better strategy. I know I, I think it's awesome and that you find people and myself is if I'm on it, I don't all of a sudden I'm like, damn, this game, you know, 5 pounds, whatever.

And you don't change anything. And when I'm on that, my last 5 pounds, you know, and which results in lower inflammation, you know, other things. So I think it is if it's like use right now, it's like so hard to get approved unless you've got, you know, all these, you know, diabetes with a kidney dysfunctional that.

But it should be used much earlier. 100%. And then the and then that sort of is an introduction to our next conversation. Because then the, the concepts that we're talking about in terms of complex illness are basically the same concepts for anti-aging and the same concepts for weight loss and living a long time and being super functional and getting lots of stuff done.

And so now we just have to dial that in, and that just means optimal strategic inputs early and then being being upstream and managing cell biology. And the side effect of that is, is that basically the the problems of our day become less prevalent?

I think that was a amazing, summary, because it is the same stuff for we treat the sickest patient is the same stuff we do for the aging patient. Probably true.

So that was a great summary. Well, yeah. But yeah, you gave us a great summary today. And, I'm delighted to know you. And and I'm going to continue to follow everything you're doing and keep talking to you because, I think, as you know, the, the exciting I would say the most exciting thing for me, is that, you know, ten years ago was like pulling teeth to try to figure out what protocols people were doing.

And now, you know, everybody's everybody is sharing information for the most part. And then. And that is going to lead to an exponential increase in information.

And, you know, that we're going to make the world a better place. I look forward to continuing to learn and, benefit from your clinical experience in the years to come.

Hey, thanks for having me, Matt. Awesome. Awesome. Thanks for.