Repair, Regulate, Restore: A Roadmap for Inflammation Control Through Peptides Transcript

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Inflammation as the Root of Dysfunction

The biggest thing that people fail to understand is that, you know, inflammation is there to create homeostasis, right? Yes. It's there that turn off whatever the source was.

Well, the problem is now we've got too many sources. You know people may be exposed to things environmentally or it's stress or their diet or lack of sleep or, for whatever reason, too much text messages.

Not answering your email. There's so much stress that's out there. This is Dr. Talks. Jim LaValle, welcome to the Bioregulator and Peptide Summit. It is a true pleasure to finally meet you.

I'm like, I'd love to. Anyway, so finally we meet. So it's a pleasure to meet you. And today we're going to kind of take a bit of a winding road, but I think what's going drive our conversation, aside from this whole topic of peptides and bioregulators, which everybody's listening to this finds fascinating, is really around this space of inflammation as the source and really like where it all begins.

Whether we're talking about aging or we are talking metabolic dysfunction or talking injuries or neurodegenerative disease, it boils down to how hot is the fire burning.

Exactly. That's exactly it. You know, that old adage, you know metaflammation leads to inflammation aging, right? I couldn't make it up better than the tier one journals cited it at, and all the clinical literature, they've pinned it, Right?

And I think the biggest thing that people fail to understand is that, inflammation is there to create homeostasis, It's there to turn off whatever the source was.

Well, the problem is now we've got too many sources. You know, people may be exposed to things environmentally or it's stress or their diet or lack of sleep or, you know for whatever reason, too much text messages, not answering your email.

There's so much stress that's out there though, right? And I think that metabolic stress You know, and it's interesting, I first wrote about this in a book called Cracking the Metabolic Code back in 2002. I have that book.

Oh, good. Yeah, I ended up selling a lot of copies because I think it was one of the first books that started talking about this system of systems effect and that when you trigger metabolic inflammation and when we think about peptides, so one the early signs of metabolic information is obviously you get fat actor lipids being made.

So let's put that in one box. and then you start to decrease growth hormone production. So as people get under metabolic stress, their cortisol goes up, they trigger less growth-hormone-releasing hormone, and they triggered less gonadotropin- releasing hormone.

Those are signals that are peptides that you can actually help get back online to get people back to homeostasis. That first step is People become sarcopenic so like right, you know, they'll lose a muscle.

What's interesting about now is is they don't think about that growth hormone releasing hormone piece, and then they get on a GLP-1 and they wonder why they're losing 30 to 40 percent of their weight and muscle, which is by the way, what a medical weight loss program does.

It's identical to a Medical Weight Loss Program. Now, if we use some things intelligently, you don't have to lose that muscle. But it is going to include going into the gym.

And it's going include exercising. There is no seek. I have not found exercise in a bottle yet. And I'm trying so hard, but I can't find it. You know, and here's the thing.

Like, I mean, when we talk about memetics, like exercise memetic, There's a physical reality to actually moving the parts of your body that builds functional muscle.

It builds that tissue that is going to allow you when you're 95 years old to stand up out of you chair without needing to use your upper body to do that.

that is going to give you the flexibility to trip over a sidewalk and catch yourself instead of face planting. There is no pill, no peptide, know nothing that can possibly replace that.

So what I would love to help people to release right now is the idea that there's a pill or a potion or peptides that's going replace exercise.

Metabolic Stress, Muscle Loss, and GLP-1 Effects

Exercise, you know what guys, look at it as a gift. Look at as I get to move my body and I to experience this versus all the people that are walking around the walking wounded who are either in pain or injured or sorry, I said I wasn't going to rant and i'm ranting, but I think I really believe that.

Anyway, but the point being inflammation, the points being the, and not to mention the fact the role that healthy muscle tissue plays in managing inflammation.

Right. Yeah. And the other piece is it progresses. You kind of want to think of people, you're either going down the funnel, or you are staying at the top.

And at bottom of the final is some kind chronic illness or debility, right? I'm bone loss. It's, neurologic disorder, cardiometabolic disorder. Colitis, whatever.

Yeah. So. You get through that loss of growth hormone, which means you're going to not hold on to muscle. The next step is you start to lose your ability to make ferritin.

Well, why is that important? Well because your iron to ferretin ratio gets off when you are metabolically inflamed. the inflammation that your immune system is pushing out doesn't allow you to store iron, so you don't make ferroportin and you make faritin.

Now we're going to keep going down this lens of why peptides matter. That means that you're not going be able to get the thyroid hormone T3 to attach to the cell when you do not have faritan and drive mitochondrial function.

So all of us are all about, oh, I'm going use this peptide for the mitochondria. Right? I get it. I am into that. But, but the issue is, well, if you're not fixing why they're compromised to begin with, right?

This inflammation signal. So as we go down this cellular journey, what's the next step? Well, the step is why we've had the GLP-1 revolution, or I would say pandemic of use, in many cases, inappropriate use.

But as you, as your flying all this inflammation around, this is what GLPs work by the way. Lower inflammation. We should know like, well, if you're, we're talking about peptides, how do they work?

And why did you get here? You have to have one anyway. So, so then you are making more TNF alpha, which, you know, post COVID people know T N F alpha.

It's an inflammatory cytokine, more interleukin six, IL six more toll receptor four. And that one's a little harder, but it's not a toll. Receptor like this.

Yeah. But. When you do that, you turn off your insulin receptors. So your insulin receptors, it's called IRS-1, insulin receptor substrate 1, Insulin receptor, substrate 2, they get turned off.

Your body's got to make more insulin. And over time, you start to overproduce glucagon. And now your body is a position of storing fat, not being able to burn fat because your mitochondrial function is compromised and typically you're catabolic.

You're not be able hold on to muscle. And that brings us to the next category of what we can do with, because we're going to have peptides for all this, right?

And people move through this through their time in their life. Wait a second, that inflammatory chemistry, I'm losing bone and my cartilage and ligaments are getting broken down.

And it's not just a small silver hair, blue eye Caucasian woman anymore with osteoporosis. She got men by the age of 40. They have low testosterone. 20 years, cause you know, they couldn't stop eating nachos with the queso dip on it.

Right. Which I guess only if you're having a problem with that, but the, the reality is. Inappropriate eating, right. Leads to GERD. You take the med.

Now you can't process, you, can absorb protein when you are on that drug. Yeah. So when we wonder why we're at this crash and then let's go to the really last two phases to this, because peptides play a role in all of it, The next phase is you start to lose neuroplasticity.

Yeah. And you don't, you, your not creating new neurons, right? You're not budding new neurones because the inflammation blocks the progenitor cells, the little right after the stem cell, there's the Progenitors cell.

The cortisol and the neuroinflammation block that neuron from getting to grow and now I've got what I call pushing a thought through jello syndrome, right?

I ask people that all the time, you know, I was like, do you feel like you're pushing the thought though jell-o? And their answer, it's amazing, their answers like this.

Yeah. Yeah, it's slow. Now they're cognitively foggy. They're cloudy, right? That's because we're losing neuronal vigilance because of microglial activation in the brain.

And that's where things like cell length, C max, you know, of course, the popular one that I, I yet to see it get into the country and I hope it will at some point.

You know? Cerebral lysine is incredible, Right? So then there's that. And then there's the final drop in the funnel. The loss of mitochondrial vigilance.

When you've broken down and created so much inflammation that the mitochondria are breaking down, you lose your NAD to NAH ratio. Oh, N. A. D. oh my gosh, should I inject NAAD?

Should I do NR? should do NMN? So I'd do M. O. U. S. C. No, wait, that's Disneyland. Nevermind. But the point being is we lose mitochondrion capacity And, and that's starting, that force is coming from a lot of different regions by that point, low thyroid, insulin resistance, the inflammation signaling, maybe you're on medications that are damaging the mitochondria, right?

There's all that going on. And so why is the peptide revolution kind of finally taken hold? It's because we're trying to fix this stuff and trying We're trying to get another set of tools in the toolbox, right?

That can help people at a deeper level. I would still say that people a lot of times reach for peptides as a bandaid on a bullet hole. A hundred percent.

And I think I want to, that's what I, you know, because at this point people are sitting there listening to this going, okay, just describe me. Now you can reverse it all.

Don't despair. And it's not all grind. You know what, guys? You have to do your part. But what we're going to talk about is, where do the peptides fit in?

What are the peptides that you CAN use right now? Because this was the other topic we were going talk today, is what's the current state of affairs with peptide?

People, every three days, there's a new message that comes to them. So we've got the injectable peptids, You know, a lot of clinicians have had some, including you, I'm sure have, had tremendous success with injectable peptides.

The FDA has gotten super nervous about them and so has like slammed on the brakes, which is upsetting to a lots of people. Including clinicians, frankly, that were having such success.

Gut Barrier Repair with BPC, KPV, and Lorazotide

Just as a point, we had over a million, so we went to the PECACS committee, basically the FDA's meeting for pharmacy compounding on peptides, and we collected over 1 million prescriptions.

from nine compounding pharmacies without one severe adverse event reported. And we were just presenting, look, clinicians are using these. Successfully.

We're going to take away something that was helping their patients. So really interesting topic on that. You're right. There was a little bit of a There was a hiccup.

I'm very hopeful that the hiccups going to go away. As the chair of the International Peptide Society, I've obviously written a couple of books on peptides.

They're really more, for consumers, but a lot of docs buy them. I think there's just got to be a, a middle ground that comes an area where we've got a little more, some guard rails.

You got it. Got to have some Guardrails. I mean, guardrail aren't bad. Yeah. And, and you know, it was this plethora of, you. Now I don't want to, I want, to I, don' want it to a party crasher, but it's the, uh, i am a clinical pharmacist initially and learn compounding and I teach for compound.

Uh, yeah, there is an elegance to making those for human use and rules that Guarantee safety and I think people miss that point of, you know, it's safety first.

It has to be. Yeah. And so, where are we at now? I Think we're at the crossroads. I we had this tremendous freedom. Freedom got ranked back and then we are going to get some freedom back again.

and, I'm really encouraged by that and everything I've heard says that. So I, think that it is going be really, a phenomenal next year. Good. So for when they come back, let's talk about the role.

Yeah. Let's go. Like, I mean, you've mentioned growth hormone. That's the growth hormones to create a God world. We've Mentioned Inflammation. that's where KPV BPC 157, even something like thymus and alpha one, right?

You can find this in beta four. These are really powerful. TB 506. TB506, so that was the BPC157 standard that everybody got crazy about, right? Yeah.

That came from somewhere. Yeah, over there, or over here to the left or the right, however it's showing up. So let's talk about where these will fill in.

And I would love us, if we have time, to touch on when do the mitochondrial peptides come in for when the day they come out. Because what I'm seeing is a lot of people will jump Oh, yeah.

Something like MOTC. And I keep trying to say to people, guys, if your engine's not tuned up, all you're doing is gunning an engine that's running properly and you going to do more damage than good.

So let's talk a little bit about this order of operations that we've kind of introduced conceptually. Yes. I'm so happy that you said that because what I find continually in kind And this new world of biohacking and, you know, I have people come in and I've got clinics, physicians, nurses, dietitians.

We're a team. It's been that way. And my practice all the way back from in Ohio, we, big Institute three to 400 people a week, right? We were always working as a.

People jump to step three before they get step one done. So when you're looking at your body and trying to rebuild, there's some very simple constructs that you have to think about in order to, say, for example, get rolling on, hey, I'm going to do something for my mitochondria.

So one thing isn't a peptide. You probably need to some phospholipids. You know, you know things, like phosphatidylcholine, phosphatoethanolamine, just to repair the cell membrane so it can accept the signal.

Because if you've had all that inflammation, your cells are pretty darn damaged up. So you want to, repair that. I love that thought of phospholipids.

The other thing is, is you gotta identify. Well, what could be triggering the inflammation in you? Like, where could it be, right? People talk about root cause and I guess some root causes.

I'm a believer that people have a lot of different inputs. Probably one of the big inputs is stress and sleep. And then the other input is, you know, exposure, things like glyphosates.

If you're like me, 65 years old. When I grew up, I thought of Moxacillin bubblegum flavored was a part of my meal plan. I mean, so many antibiotics. Great flavor.

Dime a tap man at night. Love that. That great flavor diamond tap. Basically I grow up with, you know, living on antibiotics, having to take allergy shots.

So I had a lot of immune dysregulation. And so when I talk to people about where they begin, it's about Where is your, because when you have immune dysregulation and your gut gets permeable.

and your nervous system, the enteric nervous connect them to get to the brain is not in balance. It's hard to really get any footing on a person's chemistry.

Now it's one thing if you're 55 years old and you need a hormone because you've run out of hormones because of your age, right? You do a little bit of bioidentical hormone replacement, or you could try using Caspeptin if your perimenopausal or almost andropausle back in the day.

But I think things like why BPC is so important, why KPV is three amino acids. It's a little baby bioregulator. Just like GHK is. Exactly. Well, let's talk about those three.

Let's just do that. Yeah. That's, just talk bout BPC, GHK and what was the other one? KPV. What about VIP? All right. So let us do those 3 for start. Why do I love KPV?

Which basically is a bioregulator. It's what it is. And we'll talk that, right? It is because of its ability to help regulate You know, this is what we're doing, homeostasis, TNF alpha release, inflammatory cytokine release out of the intestine.

So when you read about it, you know you hear all these biologics on TV, right? Embrol and all that kind of stuff. It's kind working like that, but you don't build resistance to it because it's not foreign to you.

Yeah. And that's what's kind of interesting about KPV. And I really liked that peptide because most of the people I see, they're in chronic inflammation.

Look, if one out of two people in this country, either insulin resistant or already diabetic, one or two, people have inflammation before you even get to the, with colitis is.

Well, and I was going to say then the other of, of one of to two. People that aren't metabolically imbalanced. They have information because of a different reason.

Exactly. So KPV for me is just this great solution for people to help them regulate inflammation signaling, especially given the fact that most people have the other guts are broken down, probably have improper bile acid release, right?

So those bile acids are eroding the mucosal barrier and causing the tight junctions to break up, right? So you get that whole, you know, bile acid imbalance going on.

So KBV to me is pretty important because it kind of keeps the fire dampened while I'm trying to heal. And how are you going to heel? Well, You know you do have to think about because your guts got permeable.

There's the whole issue of food sensitivity. So people start reacting to foods when they didn't used to. Why do I like BPC? I find that when people used BTC, and remember this is, when I wrote my book, I write my books because I thought, you know what?

Even if BBC's gone for a while. It's going to be back. I'm sure it is. And people need to know about this stuff. Of course, people are using oral BPC.

The point being is BTC really helps with that mucosal barrier so that you get protection on those epithelial cells of your intestine that have eroded and the tight junctions are broken and now bacteria is getting through there.

That's called bacterial translocation and that makes your immune system get mad. Peptides from food get through there and it triggers antigen presenting cells.

Antigen-presenting cells creates an allergy and so that's really bad. And so you want BPC, I always love because it accelerated my time of gut healing.

You know, me doing this 40 years ago, cause I was doing it 40 ago. It's like, oh yeah, we've got to give caprylic acid. We've gotta give cat's claw. Got to get probiotics.

Gotta give glutamine. Hey, are we going to have to do aloe? You it's all the natural compounds, you know? All the things that we used, that would do. But the thing I noticed over these 40 was that.

God, their gut just kept getting more and more banged up. That was harder and harder to keep them over that and get back to homeostasis. When the peptides came around.

That really helped that acceleration. The other one that's really interesting from that is Lorazotide, right? I was going to bring it up. I mean, I know it's not three letters, but what about Lorzotides?

That's like a new car or a great meal. Right? Well, razzatide is important because, you know, phase 3A trials, and it was designed initially for people that had incidental gluten exposure if they had celiac.

And if you, if, know anybody with celia, they get an incidentally exposure, it could throw them off for a week to two weeks. I mean, pain, foggy headedness.

It's very bad. And it turned out that this was pretty effective at helping the most severe compromised immunologic response to a food. And that did it because it helped to down-regulate zonulin.

It turns out zionulin is a compound that gets released. That's in the intestine that either by infection or by, by stress, anything that makes that cut more leaky.

So lorazetide closes the tight junction. So all the bacteria, all that stuff go flowing through there. Lorazotide goes, no, we're going to close it back up.

Oh, it's a great triple. When you, when people are out looking at it, they always talk about Loracetide, KPV and BPC together. So let's stick that through, right?

I'm closing up the junction. I am building back the barrier and I. Retraining the body not to release so much TNF alpha. That's nice combo. Right? Well, thank I have a question for you.

Is the Loraxotides naturally occurring in the. Because they don't all naturally occur in the body. Yeah. I would say that it's close, right? Like a lot of them are.

They're close. And then of course, you mentioned one of my favorite, copper peptide, GHKCU, because what we find is people get metabolically inflamed, right?

As you burn on your HLA gene SNPs and you go towards autoimmunity, you start to change your epigenetics, either you turn genes on or turn jeans off that don't belong there, on-or-off.

And so the problem then is Well, how do I get them back?

Growth Hormone Secretagogues and Recovery

So that's, is you gotta work through your inflammation cycle and get rid of all the layers of crud that you got in your body. Okay, fine. But what's cool about copper peptide is it is a genomic stabilizer.

Yes, it's good for collagen. Yes. It's actually quite interesting because it's a copper peptide protecting against Candida. Yes, it has a little bit of an antimicrobial effect, which is very interesting.

But I think one of the most fascinating things about it, nobody talks about, is it is a genomic stabilizer. it helps to keep your genes intact. Four thousand genes.

Yeah. And you couldn't even think about. You can't come up with that many things and it just does it. Exactly. So I love, and here's the thing. I actually just did a talk for…

I do a lot of teaching with SOCOM, so the dietitians and the docs for special forces. And we were just talking about this because you don't realize it is the gut's eroding and you've got this inflammatory signaling.

You're getting a change in your epigenetic expression of the tissues there. That's where the colitis has come in and then the Crohn's comes in, and, you start to get this erosion, right?

And because they're rapidly replaced tissues, right? So they turn over rates quick. So of course you think of, like I said, we think a glutamine and all those good fun things.

But I think when you have the peptides at your disposal, that creates a lot of just incredible benefit to accelerate the healing signaling process. And, you know, I, think that, once again, when we you of peptide and you hear the word and Anti-aging, well yeah, but why?

Well, because it's protecting you. All of these peptides have different roles in protecting the integrity of your cell to cell communication, as well as the entirety of the tissues.

You're only as strong as your weakest organ, right? So now we're gonna move on from there. Well, actually before, like, because I think before we've even moved on from this quadra of peptides, cause it was going to be the triad, but it's the quadri because we threw in lorazetide unexpectedly.

You were thinking it. I was thinking. But with BPC and GHK, I, think what's really interesting is when we, and even with KPV honestly, yes, they are incredibly tactical to the gut, which affects everything else.

They also have systemic anti-inflammatory and regenerative properties. So maybe we can, before we move on, because I'm with you, I am like, okay, and then there's the mental health stuff.

And so let's talk about C-Lank and CMAX and all the things. But before do that, while all this is happening, And I think this, this what, This is the magic of peptides that gets people so excited is they're so pleiotropic.

They don't necessarily stay in that one place where you think that you have a problem. they are going to affect. Other once they've taken once your body's like the way I think of it is the body has a checklist of priorities And the top of the list is what's going to kill this person first and whether you agree with that's the thing That's that first thing that is going get dealt with and probably gut health for a lot of people is at the Top of The list it's not your sore back.

It's Not your bum shoulder, right? It is not the skin that wrinkling body could give a shit about your wrinkly skin It like skin whatever But once we've dealt with that first offense, or once it's used the resources it needs for the gut, we are going to get kind of satellite benefits from these things.

Maybe we want to talk about that a little bit. Yeah, absolutely. I always use the analogy, what if you're a circuit breaker box and you've blown these circuits because of, for whatever reason, the reason for inflammation.

The first job of a peptide is to go out to the garage, flip on the circuit breaker. Cause you know what? You could be in your house that that circuit breakers that's blown on and you could turn that light on a hundred times and y'all go, wow, I wonder if it's, um, plugged.

I think I'll plug it in and out. Yeah. Well, that didn't do it. I wonder if it's an old bulb? I think it'll put a new bulb in it." That wasn't it! You've got to heal in a hierarchy, to your point, and I've always thought of that way.

And so, you know, BBC is interesting because, known as Body Protection Compound, it has a lot of different, using that term, pleiotropic, which I love.

It has different signaling capacities, so from connective tissue to bone. to helping with repair of neurotransmitter vesicles even. It's that repair, you know, things that are damaged get repaired.

And that's why I've been, I think that BPC, but you what's interesting about BBC, honestly. Tell me. At least for me, how can it have so many benefits and literally hundreds of thousands of people will attest to it, including physicians that have used it and for their patients, right?

Hundreds and hundreds and thousands would attes to the lack of human studies on it. Tell me, explain this to me. That's what I'm saying. I know. It's like, how could we not have studied this more and have all this obvious benefit when we're around this, right?

So that was to, it still is a conundrum for me because I think it's one of the most important I know my son had a Lisfranc injury, which is basically you tear ligaments in your foot.

And in football, it can be career ending injury. It takes about a year and a half to get over. This is back eight years ago. We used peptides. He went in for his surgery.

Well, first we used the peptide. They couldn't find the tear. They had to do seven sets of MRIs on his foot to find the tear. And it was significant, but the inflammation was out of it already.

The tissue's just laid back down, right? So they had a surgery, and typically with that surgery you get what's called sausage foot. It's really bad. Your foot, it blows up.

Because it's a pretty significant surgery. He had no inflammation. because the doc, the orthopod dropped peptides in, put some stem cells in the area, and then put us on a regiment.

When he got injured, we were giving him for those 48 hours before we got to the MRI peptide, you know, he ended up healing in five months. He was able to spin, not just heal, but spin on that foot that was affected.

Enough, He won the California state discus championship. Amazing. Five months after the injury, and that's what got me. So BPC, I think we've all had these, this experience of connective tissue wonderment, stress fractures that don't want to heal.

Right? Yeah. Yeah, right. I mean, so it does have that global signaling. That's incredibly important. And I, think GHK is, like I said, if you, you have genes in all your body.

And obviously, collagen is really important. As we get old, we don't synthesize our collagen as well. Our collagen's more friable, right? And we thin out our basement membranes, copper peptide helps to build that back up, right?

I just want to say to the audience, like, don't just think of collagen for what you see. Collagen for your heart, for you lungs, the connective tissue in your body, every organ in the body needs collagen and elastin, both of which are upregulated.

Exactly. And that's, and as you said, And the gut like GHK is really, really beneficial for gut healing. Again, like all of these tissues that are bound together, but GH K and BPC also have a mental component to it.

Absolutely. So GH is anxiolytic, which I only like, you know, GH case, one of those things. And I think BTC also, every time you go piling into the literature, You come up with another little.

Yeah, there's nothing getting right. But do you have any theories about BPC-157 and why, like you just said something really interesting, that it heals the neurotransmitter vesicles or it has a beneficial effect on them.

And yet I know that you've probably heard of these people who use Bpc- 157. They either stop experiencing emotion or they get depressed or I have one guy who's like my dog hides under the bed if I'm using BPC because I get really angry, which seems like a paradoxical reaction.

Do you have any theories about why that could be happening? I don't really have a theory on it. I think it is paradoxic. You know, I, we just don' know enough about neurotransmitters because we can't crack people's heads open and see what's going on while it's happening.

Now, imaging is certainly coming a long way. We had done studies at least looking at acetylcholine and glutamate ratios and those kinds of things that you can do with a tracer.

But I'm think more than likely, you know it that going to step three before step one. Right. I think more than likely there's something that's occurring that way where, you know, the body was, it's not ready for that BPC signal and that is probably what happened, or it is paradoxical.

And I don't see that as much, copper peptide other than it hurts a little bit, right? I do not see anything with that. No. And even with BPC, I know for me it's pretty rare.

What is? It's like, you know, it was reported, but it is pretty rarely. You know versus like the secretagogues where a fair amount of people will get a little bit of a histamine wheel or a rash and you got to watch that.

If it gets bigger every time you probably should get off of it. Talk about that. So let's talk about the secretagogues because they do, they come into the conversation about reducing inflammation and up regulating healing because

BPC, what does it do?

It up regulates the expression of growth hormone receptors, which by the way, if you happen to have more growth hormones around, you're going to heal faster, Which is super cool.

That's right. Let's maybe, as we're gonna try to cover some ground for people here, let us talk a little bit about, the role of these growth hormonal secretogues and what they are.

Well, I mean, there are several that were out previously. You know, one of the most I think interesting ones was Tessamoralin. Tessa morelin was really interesting.

Now that's a biologic because there's too many amino acids long. So, you know. Really? So is it off the peptide? Isn't it developed as a drug, though, for people who are having HIV therapy?

Yeah. So I think it's 42 amino acids long. It's out past the limit of peptides now, arbitrarily set. Really? What's the new limit? Because I thought it was anything under 50. I mean, it could be a moving target.

Well, there goes thymus and beta-4 because that's 43 amino acid. That's where the legislative changes will occur, where they're gonna, you're probably gonna see TB4.

Mitochondrial Support and Smart Cycling

You obviously got TA11 now, which is a different thymic peptide than TA1 that probably will even pass as a, it's a bioregulator. You know, it'll pass TA 11 will pass as a bioregulator.

It'll be an oral that you can do, but, so as getting back to the secretagogues, you know right now, sermorelin is, probably the most readily available secretagogue.

Yes. And, and then, Ipermorellin and CJC, Also, some are working on growth hormone releasing hormones. Some are looking on the ghrelin receptor. When you combine the two, you get a little extra push on your growth hormones, so why are they important?

I'll tell you why I use sermorelin. I'm not using it because, oh, your going to lean out. You're going look like you're on a growth hormon. No. Your forebrow is going start to grow.

Are you sure you want that? No, it's not that. It's the fact that if I give it to an old person, Wait a second. I can't say that I'm old. If I give it to an older person.

We're raising the definition of old to 70 plus. Do that. Gosh, I got it now. She's five years. Five years yet. Yeah. So anyway, they sleep better. Why do they?

Sleep better because it's helping to restore circadian rhythm. Right? That's one thing that that signal for growth hormone releasing at night, all of a sudden is helping with the master slave clock.

Beautiful. Superchasmatic nucleus restoration. We love that because when that's restored, the signal to all your other organ systems on what to do, when to it happens.

The other piece that's important is that it's what gets shut down when you're under allostatic load. So when your cortisol is too high or you flatten your curve, which is even worse, right?

Because once you've flattened your cord is all curve 333% increased risk of cardiometabolic disease, neurological disorders and mood disorders. Right?

That's not good. You know, you want to use something to restore the HPA axis, hypothalamus-pituitary-adrenal axis. And so getting sermoralin on board or a growth hormone sacretagogue is going to help with that repair of

allostasis, right?

Allostases is your body's ability to react to stress and recover from stress. Right. Shake it off like a dog. Inflammation? No, no inflammation. Stress?

no stress. Under sustained duress like inflammation, psychogenic stress, whatever. You get allostatic load and allostat load is when your brain no longer operates like it should.

It either fails to respond or it gets stuck in over response. So now you start making too much cortisol and now, you're not getting your growth hormone release anymore.

And so people hear the term adrenal fatigue and that's great marketing term. not a medical term, it's a great marketing term. It's descriptive. I get it.

But what's really going on and why the secreted guys are so important is that under allostatic load, the hypothalamus pituitary, they're not saying what they are supposed to say to the rest of the body.

That circuit breaker box is broke. And that secretagogue helps to bring that back. And, that's part of the process of repairing from allostatic load where your body is no longer in sync on how it should be releasing its hormones.

That's why I like secretagogues. They have a little bit of an immune response to them, which is good, right? It's favorable. It's good for healing. Like you said, you have growth hormone receptors in those tissues.

If you get that growth, hormone going, You're going to stimulate that repair that much better. That's great. Obviously they have a metabolic effect. You burn fat a little bit better, so if people are wanting to use them for fat loss, that's the people that are doing them three times a day.

I'm not big on that. As we talked before we got on, I am really big people figuring out what do you need today? And how long do we need to take it? Yeah.

So actually, that's a really good… Once we're done with the growth hormones and secretagogues, I'd love us to talk as we are going to finish up. Let's talk about cycling and appropriate cycles, and how do you know how long to go, how you when to stop, when you start again.

Yeah, the other one on growth hormone and security guys, it's real simple. When you repair the HPA axis, there's something called the HPAT axis. pituitary adrenal thyroid axis.

And then there's the HPAG axis, gonadal, right? So when people have high cortisol and are not making sex hormones, what do they do? They run to get hormones.

What should they? Run to repair their brain. Then depending how old you are, you may have to re-kickstart that. So using things like what was being used, the peptide kisspeptin, was used to retool the signal to either the ovaries or to the lytic cells of the testicles, right?

Yeah. Which are very interesting. Or FOX04, another peptide, which helps to clean up old latex cells that aren't functioning, and the other one's moving again, right?

So, when sacretic eyes are much more than the dopamine growth hormone, that's the youth hormone. It's actually necessary for longevity so that you repair your allostasis.

Now, the younger you are, once you prepare that, you probably don't need to be on it. The older you You may chronically need to be on it more frequently.

Like, Hey, I'm going to on at three months and off for a month. Because when you're older by default, you make plenty of growth hormone, but you don't get the signal anymore.

Just, just by aging, the aspect of as we get older. And that's why people sleep better on. That's what their lean mass gets better. On it. If there's someone in there years above us.

No. So when are you in your sixties and seventies, even in the fifties on Yeah. Well, I mean, we're seeing a lot of this happening in fifties and sometimes even in people's forties.

I think there's a long on testosterone replacement who are in their thirties now. Huge mistake. It's big mistake, but part of it is just the onslaught of stressors that are hitting people.

They just can't manage, right? Agreed. And whether it's environmental or, or as you had said earlier, like just social media, work, family, what's happening in the world right now.

Like it all just piles on and then you tack on an unhealthy diet. And it. The system's going, you know what, I'm checking out. And all the medications people are on and medications are a big one.

Polypharmacy is huge for this, for shutting down functions. And once again, medications save people's lives. Medications can be very beneficial for people as part of their plan to stay alive.

But the issue is if you don't do it, if someone is not going to do anything for your health, well, then medications or your future. Like people would say, well, if you go off of GLP-1, you gain all your weight back.

Well, If you didn't exercise, and you'd take in protein, You didn' look at yourself and say what else do I need to do to correct my health? Yeah. It's just like if you were on blood pressure medication and you went off of it, same answer would be, well, your blood pressures just going to go off up if your medic, if they're off the medication.

Well, of course you don't lose weight. You didn't exercise. And I'm not being critical of that. My brother was 476 pounds. I love people of all sizes.

Unfortunately, my brother also died young. So, I mean, very, um, compassionate as it relates to people have, you know, all size is all problems because I lived in a family like that, They all have problems with their health.

And I think it's what drove me to be doing what I do in my life. So anyway, now we're going to get on to this other piece to it, which is you asked an important question about, well, when do you start working on a mitochondria?

Kind of depends. Like if you're a COVID long hauler or you got SIRS, you may have to work on your mitochondrial a little earlier. And I think you got to do a little bit of mitochondrial fuel.

It's one thing just to give something like Matzi or SS31, right? But things like nicotinamide riboside and CoQ10 and PQQ, pyroquinoline quinone, or benfetiamin that help the generation of that.

And you just got remember, mitochondria in general are going to be compromised in people that are insulin resistant or diabetic. Yeah. It's just, it's, just is.

And so here's what I have seen is that some people that are very aggressive, I had some that come to me that were on, you know, they've got an Excel spreadsheet of everything they're taking.

You know they got one page for the PEPs, one-page for their nutrients, One-Page for about, for, the hormones and the, and, uh, prescription compounds.

One page, For the powders that they drink. And then one page for tracking all the things, you know, all of the, like, when do I put my Faraday glasses on?

When do i do my cold plunge? when Do I do? My infrared. When Do i Do my red light therapy? God bless them. Yeah. And yet when I look at them, and this is no criticism.

I'll look, do what you love doing. So first of all, I don't put judgment on any of it. If you'll love it and you're getting joy. Don't do that out of fear.

But the most important thing I found is they're still not having regulated glucose. A lot of times they still got marginally elevated lipids, their kidney functions compromised still.

There's all these imbalances that are still in their body because they are not doing it in an organized sense. to be able to really repair. And then sometimes the people on these super aggressive stacks, I'm on an advisory board for mitochondrial testing, just full disclosure.

I mean, on a bunch of them. 10 advisory boards in different industries. But that's one of the ones that was interesting is that we found that the People that were really deep into the biohacking, like really going at it, their mitochondria scores were the worst.

Struggling. Is that MeScreen? Yeah. Yeah, well, yes. I mean, I got read the riot act by the MeScreen guys. Did you talk to Hemel? Yeah do less. Yes. Exactly.

Go after the reactive oxygen species, go after your oxidative stress, but do a little bit less Repair your cells because until you get your redox balance, the mitochondria is going to keep getting damaged.

Yeah. So that's the big, like if somebody was listening to this, I hope a lot of people are, you know, and take it from somebody that has been in this.

I write about it. A research. Like I really do have a full thought about this I've been passionate about. This field for 40 years is it's really about identifying what you need to do.

And first, and then repair and cycle. So you talked about epitalin. Yeah. Like people don't need to be on epicalin all the time. No, there's no reason to beyond epi town all of the.

You should be cycling that like a seasonality two times a year for 10 days or three times. A year, for ten days, if that's what makes you feel good. But, you know, every town actually being that, one of, the, pineal gland or the super charismatic nucleus regulators.

Right. great, but you know, you don't need to keep screaming a signal to that organ. It gets it, picks it up. it functions and then you want to give a little reminder every once in a while.

Yeah. Now things like if you're, say you got an autoimmune disorder, a lot of times people will do something, you know, back when it was readily available and hopefully available soon again, they're using things the thymic peptides.

A lot those thymic peptide have long half lives. You don't need to inject them every day. You inject them every third day. You don't need to do them daily.

Cause once again, you think I want to build my immune system. No, You want a balance your immune. One of the things I look at when people, when I looked at, we're looking at their labs and I wrote a book called your blood never lies, right?

I've done a little book on about everything, I think, but, yeah, almost. But what the point being is.

Closing Thoughts and Resources

When your neutrophils are high on your white blood cell count, it means you're pushing your immune system really hard. Something is pushing you immune systems hard, so your Neutrophil to Lymphocyte Ratio is something that says, hey, are we at idle?

Are we doing okay? Or are overworking or have we overworked so much that now I can't work? That's really interesting because you hear of people using thymic.

So thimus and alpha one, for example, on the daily. And, and even with, we could talk about this, even was GLP ones right now, there's a trend of. Well, I'm just going to take a little bit every single day instead of using it once a week.

You know, this is part of the cycling conversation that I think that's. Yeah. Really important. Let's, but before, let's hold onto that with the BPC, the KPV that where we started.

I think that I would love to share with people, what does a healing cycle look like when you're going after gut inflammation and gut healing? Because again, I this is my opinion, if after eight to 12 weeks you haven't seen progress, you are missing something or you were barking up the wrong tree.

Do you want to weigh in on that? I'd agree. I'll probably say a minimum of 10 weeks. Minimum 10. And I would hope that you're doing other things, right?

Because, because always, almost always the guts attached to the brain, man, you got that enteric nervous system. And, I always try to get people to understand if you are under a lot of stress or your cortisol levels are high and all you doing is working on your gut.

And you're not dampening that stress response. That high cortisol activates, Clawdon too. And your lining, your intestine and junctions are up. So you gotta, you just have to understand that, right?

So if you are not getting benefit to your point, I'm going to do a gut protocol because you know, um, gassy, unloaded. I feel distended. Um, foggy headed.

No, it's a parasite. Now it is a para Candida. bacteria right it's like all those things oh i have mold growing in me which is really funny because you don't have more growing and you you have an immune immunologic response to mold so so anyway that but the point being is if you get if And you take it and you obviously should be giving nutrients that help the BPC work.

So things like resistant starch helps you to make more butyrate, right? Being on a probiotic might be good. You know, so, you know just to name a few, just for example, but the point is, I usually, it's like, if it got, and they've got food sensitivities, typically 12 to 16 weeks.

Okay. Yeah. So that's your typical cycle. Let's go back now to the people who are, you know, we're going to close with this, but let's back to this trend that we are seeing where if some is good, more is better.

And so whether it's the thymus, the thymeic peptides, I'm so glad that you said that about thimic peptides. Because again, like TB4, if you were back in the day, it is a Monday, Thursday, 72 hours, 72 hour half-life.

And you should do them daily. Like the GLP ones, you brought up the daily, but you got to realize they have a long half life and you're going to keep building and eventually you could probably have an adverse event.

Okay, and I'm even seeing people, now what about the idea of people splitting the dose? So they're saying, I mean, so I am hearing this from people. Well, it really does a great job on my appetite for the first five days and then after the next two days I get hungry again.

And I think that's probably not a bad thing because it's not the worst thing to have a little bit of a refeed and go back to less food. It's kind of like building variation.

Yeah. I mean, I guess I use that tactic when people are stopping losing their weight. But see, for me, like I always am addressing people's stress when they're doing GLP-1s because invariably they are stress eaters.

That's why they have food noise. Yeah. You have food noise because, you know, your dopamine's all depleted from all the stress you've been under. And now that potato chip or cookie equals love, right?

And you're not going to eat one, not gonna eat two, hate even numbers, at least get three. Once you see part of that Algon, You're gonna go for that whole cellophane pack.

It's like, I like that row empty, it's rationalized. So, so we teach a lot about all that. I use it for breaking it. It wouldn't do it all the time. Cause once again, you're messing with that, that half life where you, your still, You're giving us something that's got about a six day in the body, three days, and then you doing three and you are doing it three.

So now you over, I mean, it's not that you overdosing it, but you using a higher dose than you think you. Yeah. And look, I'm not, yeah, you've got everybody on, like there's Facebook groups on GLP-1s, right?

And you got people telling people all kinds of stuff. I would say there are people that have used GLPs and they stopped working, they just said they stop working.

That's your sign that you missed your spot as to what was really going wrong, or I have to keep going up the dose. You know, the way we have done this, and I teach this at American Academy of anti-aging medicine.

I mean, I have a whole GLP-1 certification course that I developed is that you have to assess. Where's my stress? How am I eating? What is my sleep like?

Obviously your blood sugar's off, you wouldn't be doing a GLp- 1. where's is thyroid hormone? Where are my sex hormones? Do I environmental burden? You get started on that GLP-1, you get it started right away.

You're going to lose weight, but you kind of want to have an inventory of what else needs fixed in the ship. So as you're losing that weight. Your knocking down some of those other barriers so that you can get to a point where you titrate off.

And you can use other compounds like, for example, everybody's heard about callocurb, right? Callocurbs, hops extract, it was going to work at about 70% of the time.

It's not a hundred percent, but it works. I mean, there's more and more data coming out on that. The other one is the fish polypeptide that won the 2025 Nutri Ingredient Award.

It's got evidence of GLP one and GLB two activity and two studies to show that people lost weight and it would be a drink that you drink. So you could, my goal, unless you're diabetic, all bets are off then you gotta get treated.

How you treated is if it's just weight loss, you want to use the minimum amount so that your not screaming at those in cretin hormone receptors. And when you take the drug away, they're going, what'd you say?

Yeah. Right? They don't hear any signal anymore because you upregulated that signal too much and that's where the real problem lies. Yeah. So I love that.

I mean, minimum effective dose. You know, extra virgin olive oil, I was just doing some research on it. It blocks DPP4, which is the enzyme that breaks down GLP1.

Right. So it's interesting how we can, you know, that whole idea of fixing the diet while we're on the GLP-1, but even fixing, the gut, right? So addressing like that, whole stack we talked about earlier, there's a really good chance if you're carrying around a lot of extra weight and now you've got a of inflammation that your gut's been damaged.

And so maybe when you start the glp-one, You're working with someone to help to heal the integrity of that gut lining. and the microbiome. This will set you up for success down the road so that you can come off the stuff eventually.

Exactly. That's the idea. Yeah. And use them as you need them, a tool and the toolkit. Now, yeah, the older you get, probably the more you're going to reach in that toolkit a little bit because we start to forget how to create those peptide signals.

But in the end, it's create homeostasis in your body, create balance in you body. Don't think supercharging, that's answer. It's about balance. Thank you.

Repair and improve. Prepare and improve. Jim, this has been a great conversation. I had every expectation that it would be, I feel like we could keep going for a really long time.

Probably. We haven't even gone to the brain yet, we're not going to have to do that someday. Wow. And we have barely, and we talked about Epidolon, but there's a whole other plethora of other bio-regulators.

All the bio regulators, oh my gosh. We'll talk about those as well. So I do want to thank you so much for today, for taking the time to join us on the summit.

And are there any resources? Is there a any place where people can reach you or learn more about what you do? Yeah, it's easy. The real Jim LaValle is on Instagram.

That's where I post all my goodies. I mean, they can obviously go to jimlavalle.com. They can look me up at Lifetime, right? And then of course, Metabolic Code is my cloud-based informatics company that I've done a lot of research in.

Love it. Thank you so much. It's been an absolute pleasure. Yeah, same. Stay connected, stay healthy, and join us next time on Doctor Talks, real talks from real doctors on the issues that matter to you most.