Introduction and Kyle's Background

Welcome back to the Bioregulator and Peptides Summit. You guys I am here with well a guy who's kind of become a friend who's a leading authority in the peptide supplement space.

Kyal Van Der Leest. And before we get rocking and rolling on the episode, I want to share with you a little bit about Kyle. Kyle story is one of those that starts with personal pain and transforms into true purpose level up, which I just found out.

Shockingly, even though I've interviewed you, what, 4 or 5 times? Kyle stands for Van Der Leest Legacy was born while Kyle was caring for his mother through a terminal illness.

That experience led a fire in him to develop supplements with genuine compassion and clinical intention behind each and every formula he built level up in 2020 at just 27 years old, drawing on his experience working across hyperbaric oxygen therapy clinics and one of Australia's busiest supplement stores every day, he saw patients taking six, eight, ten different products just to get the actives they needed, and he knew there was a better way.

And boy did he ever find it. So that led him down the rabbit hole of peptide science. And he has never looked back. His formulations. Some of our favorites in the space blend cutting edge peptide research with advanced nutritional actives and naturopathy herbal extracts.

This man has very deep, beautiful toolbox, each one of them designed to support the body's innate capacity to heal. He's also walked the walk personally, having navigated his own battle with mold toxicity and its downstream effects, which pushed him even deeper into the science of detoxification and brain health.

Kyle, welcome to the show. Welcome back, as always. I've been looking forward to this. Thanks for having me back. And on that. And yeah, that was a lovely introduction.

Took me down memory lane, working at the supplement store and the bot clinic. And yeah, it's been a journey over these six years. I'm starting to feel like an old tooth in this space when there's hundreds of different peptide companies coming up.

Six years is a pretty big milestone. So yeah, it really is. And thank you for taking the time. I know how busy you are and how crazy the world is. Not to mention the fact you getting up at the crack of dawn to do this because we're halfway around the world from each other, as usual.

So, Kyle, today we, you know, there's so many topics we could cover because your knowledge base is so deep. But what we're going to dig into today is a really hot topic in the peptide space.

And that is when do you really need to inject and when can you get away with an oral version of a peptide. And, you know, there's so much controversy in this gold rush of peptides that we're in right now.

We were just talking about that. And with a lot of people, I mean, obviously, you know, there's this whole there's a whole story or narrative about around do peptides even work?

Do they even deserve to be on the map for people? We can talk about that a little bit, right? In the absence of double blind clinical controlled studies and whatnot.

But what I really want to get into also today is this whole oral versus injectable. So I'm going to hand over the floor to you. I mean, I'll ask a few questions along the way, but help us understand how you really came into this.

Right. Yeah. So working at that hog clinic opposite the clinic on the other side of the road was a compound in chemist, one of the first ones in the, in the world doing injectable and oral peptides.

Oral vs Injectable Peptides Overview

So that's how I got my introduction to them. A lot of the lot of the clients. A lot of the patients at the, at the clinic were using them and telling me how amazing they were, and being curious minded about all these things.

I had to look into them and try myself, which led me to my introduction to peptides, which was oral BPC capsules, which did an amazing job of healing my gut.

I had some gut issues and some stress issues and my goodness. It was amazing for my brain. It was amazing for my gut and just the Swiss Army knife of peptides that to dismiss the criticism does work orally.

BPC 100% can work orally, not 100% absorption, but 100% of will work. The quick disclaimer behind this whole conversation is quite often when I'm at a conference or exhibiting a big criticism of peptides is, oh, they don't work orally.

I think now the conversation about do peptides work has been very firmly and very tightly put to bed. Thank you to the GLP for opening up that or closing that conversation loop down.

But when it comes to peptides, to say they don't work orally is both true and false at the same time, because peptides are not one thing. There's obviously, if you're in this space, you know that there's hundreds and hundreds of them in your body mates, thousands of different ones.

There's the catalog of ones that we can use therapeutically and exogenous through a capsule or, and injectable is so much smaller than the number that our body produces itself.

So but in this space there's some big ones that will work orally. And then there's ones that absolutely, I don't think is possible without, you know, doing some, some really weird and all some interesting stuff.

I don't think they'll work orally. The biggest barriers to entry on oral peptides will be the stomach acid maturation of the amino acid chain, or breaking down of those amino acids.

So if you have a thymus in beta for peptide that you take orally, that's 43 amino acids long, meaning there's 40 odd 41 to 42 amino acid links that can be broken by that, by that, by the acid or by proteolytic enzymes when you take a bottle.

So something like that. If you want the TB four to have its effects, it's probably the it can break down. And still this is an exception to it. Insulin is probably the best one to start with that has two functional groups, one being 30 and the other one being 21 amino acids long.

The full insulin peptide is 51 amino acids, and if you break it down, pass those two functional groups, it will no longer elicit any benefit. So it's not going to work orally.

That's why diabetics and you know, people who need insulin have to inject it. Still to this day, despite advances in oral delivery technologies. So where this comes in with peptides, the ones that are too big are like Euthymius and Beta four.

That's 43 amino acids long. That's too large. Anything over the 7 to 10 amino acids, I'd really push it to say anything bigger than ten would absorb orally.

Anything smaller than that has the chance and the ability, so long as the Dalton size of the peptide, which is just a fancy term of saying how big it is in a unit of measurement, anything that's small enough in chain length and size has the ability to work orally.

If you overcome those two barriers to it, getting to the side of absorption in the small intestines. The first is that acid, right? So how do we resist acid?

You can go about it one way. You can try and neutralize stomach acid with alkaline agents like sodium bicarbonate, sodium and anything that buffers that acid.

I wouldn't necessarily recommend that. And I'll think that's 100% necessary. In a capsule, you can just use an interior coated or a delayed release capsule.

And essentially that capsule protects the payload inside of it, which is peptides or nutraceuticals, whatever you put in it. And then that releases and breaks down in the small intestine once it's gotten past.

I have a question. Sure. And this is going to be my new strategy with you, because I'm going to need to interrupt you. And I don't want to interrupt you.

So you just said 7 to 10 amino acids. But you also mentioned BPC 157. Now BPC 157 is 15 amino acids. So can we explain to the audience why BPC 157, which you said and we I've observed definitely, absolutely will work even on musculoskeletal issues taken orally, maybe not as well as injectable, but nevertheless it will work to a degree.

Why does BPC special? Because there's always got to be an exception to every rule, doesn't there? APC is that exception. It is 15 amino acids long, but it is capable because of where it's made in the body.

It's made in the stomach acid explicitly for the purpose in the stomach acid, I believe, of healing the and speeding up the regeneration of the cells of the stomach and of the GI tract.

We have a really, really high cellular turnover in our GI tract. It's by design, but and it's due to the volatility of the digestion with stomach acids and enzymes, you need to have fast cellular turnover because they are dying or breaking down a lot faster than other cells in the body.

I believe your body makes this peptide, along with many other gut healing peptides, endogenously, to work with your body in regenerating these tissues faster.

So okay, like people who have gut issues I personally believe have potentially a BPC deficiency if they have Crohn's or colitis. And what might cause that is not a deficiency.

They might have a to higher of a need for it. Essentially, they've got upper GI inflammatory issues where this peptide is being utilized and sort of chewed through or used through before it has the chance to act distally in the colon or the large bowel.

So by supplementing exogenous or, you know, through a sub, a injectable or a capsule BPC, you can get your body back to a homeostatic level of BPC, or even if you've got an issue, you can get it way beyond what your body would naturally produce, which is, I guess, sort of where the healing magic of BPC comes from.

If you were to take BPC orally as an acetate form, that bond between the peptide and that said, acid or the acetate molecule is too weak and it will break down and not work anywhere near as well.

It breaks down in the stomach acid, but you can take a form called BPC rate, and that bond between the peptide and the arginine salt is strong enough that they've proven even sitting in stomach acid for eight hours in.

In a study on it, it was called Diageo, the company that did all the studies on it that it does survive the stomach acid.

BPC-157, Gut Healing, and Oral Delivery

Now, they didn't factor in the proteolytic enzymes, which is, you know, it's hard to factor in all things in the body. But

if you can just take the BPC arginine away from food, so it's not sitting around in the churn in the chime of your gastric secretions.

And it stands to reason very, very logically that it will bypass the stomach acid. And then when that delayed release capsule or even independent of that, you just take it as BPC arginine.

Once it gets to there, then it's capable of acting locally on the gut. I believe that's where from a effects perspective, you're going to get the most benefit from a BPC orally if your intention is to heal the gut, because it doesn't necessarily even have to absorb systemically, it can bind to the epithelium and elicit all of its healing benefits.

Its collagen synthesis benefits, its anti-inflammatory effects. It can do this locally in the gut. And that's that logic in that mentality of do we need it to absorb orally?

Applies to nutraceuticals like berberine or cumin. You don't have to always chase systemic absorption if GI tract healing is the goal, right? If you do want it to get systemically, then it absolutely as that arginine salt can enter the into the systemic circulation.

One of the ways you can increase this is by having permeation enhancer compounds. An example of this that we have used and we're going to continue a little bit is one called Selkirk prosaic sodium.

And okay, another more natural one that people know from the supplement industry is called bio perin or black pepper. Now we do these two ingredients black peppers combined with with curcumin because cumin has poor bioavailability.

So if you put cumin with black pepper, opens up the junctions in your epithelium and allows the cumin to basically leak into circulation, this is this same logic is being applied with by pharmaceutical companies at the moment with semaglutide.

Actually they use a heroically, in my opinion, detrimentally detrimental to the dose of prosaic sodium. We're talking 100 times more than I would comfortably use in our products.

We use two milligrams of sodium to deliver the BPC and these TB four fragments in pharmaceutical. They're doing 200mg of sodium and they have to. Yeah.

So this is for the oral. So this is for the oral form of semaglutide. Yes. So because I was about to ask you like what you were describing was and this is where there's a lot of debate and a lot of criticism of supplements with black Pepper in them saying that it induces leaky gut, which is what we're trying to fix in the first place.

So help us to, you know, so you're saying at lower dose, like two milligrams, it's going to be enough to get what the agents you need across the gut, but not so much that it's actually contributing to the leaking of the gut.

So your gut has its permeability as its baseline. These peptides are small enough, and they have that via passive diffusion can get to a percentage across.

The reason you add a permeation enhancer is because the killer Doulton size, or the Mino acid chain length, might be prohibitive to it passing through it, passing through that parece cellular permeability that you have.

Naturally. A lot of people also have leaky gut as like a baseline. So interestingly, I think the leaky your gut is the better peptides and work for you orally in formulations like our GI repair one.

I don't use these permeation enhancers because it doesn't make sense when we're using peptides like La Raza, tide, and CBV to try and seal that gut and reduce that permeability.

But for our Wolverine product, which is a combination of BPC 157 and the two small fragments from TB for they called TC, which is a fragment 17 to 23 from five and beta four, and SDK P, that's fragment 1 to 4 from the again

from the thymus and beta four molecule.

We use the cell at sodium in that one because we want those, all three of those peptides to get systemic in circulation. And gut repair for that product is not necessarily the primary goal of it.

It is if you've got an injury, a connective tissue, or a musculoskeletal injury or tear. The combination of the Wolverine stack, it's called the combination of BPC and the thymus.

And beta four works both on connective tissue and musculoskeletal system for accelerating the healing processes there. So that's why we use the permeation enhancer in that one.

We there's other ones you can use in the market. But essentially it's we do that to create a transient a short term permeability. Permeability to the gut okay.

Which is different from long term permeability. But again I wouldn't advise using these permeation enhancers. For someone who has diagnosed leaky gut syndrome or hyper permeability, I, I in their labs they have elevated zone and or cal protected and or they have any sort of history of IBD.

Probably better if they have a systemic injury to just inject it. If they're open to that 1 or 2, just take it without a permeation enhancer. So the gut lining is not negatively affected by that.

Right. And then those fragments of TB four that you just mentioned. And this is where TB four is very interesting. Right. Because as you mentioned it's 43 amino acids.

But what's since been what's been really worked on by people is these shorter chains that are part of that 43 amino acid chain. So imagine that the 43 minute chain.

This is not like a linear molecule. This it has like offshoots. Imagine. So what you and other peptide manufacturers have done is isolated these offshoots and and basically are delivering them on their own to get specific healing.

Do you want to maybe talk? This is a bit of a sidebar, but do you want to talk about the two fragments you chose for this and why you chose them? Yeah, well, those two are the ones that have the best anti-inflammatory effects, the anti fibrotic effects, the collagen synthesis effects.

And then there are other smaller chains, as you mentioned, to their TB four. But we kind of throw them out so to speak, and don't use them because it's like well that's maybe not functional or not necessary for the purpose of that.

I'm not actually sure off the top of my head, what the non those ones, the other chains do, they might have some benefit that I might have to look into.

But yeah you could take the, you could when you take the TB four parent molecule with the 43 acids long. If you were to take that orally, you're like rolling the dice that your body will break it down at those specific points to then release those, those fragments, we call them the TB four fragments.

But by not rolling that dice and not having to take this large amino acid, you can just deliver it. The exact combination, the exact sequence, these four and seven amino acid long fragments, you can deliver them in higher doses than you'd get from the parent molecule.

And this same logic is applied to TB 500 for injectable. But you can deliver them in much higher doses and get the exact effects that you want from that TB four in a chain, like in an amino acid peptide that is small enough in chain length and small enough in kill adult in size, that it will be able to absorb orally and then go on and elicit whole body effects.

Yeah, well, the whole TB four peptide really is a thymus peptide. So I think what some of those other chains are

doing is they're affecting immune function as well.

There's another fragment that's very specific to cardiac is associated with cardiac benefits. And but there's also a fragment that destabilizes mast cells now as part of the bigger molecule.

For most people that's a benefit for people who have mast cell issues. Like for example, me, I found out it can actually cause a histamine fairly significant histamine reaction because.

So by isolating the two fragments that you've isolated, there's a really good chance you kind of get away from that mast cell problem for those people that would be susceptible to it.

So so okay, so we've touched on a couple of things here. Number one BBC 157 is we'll call it gut privileged because it comes from the gut. And there's something about there.

You know that 15 amino acid chain is it gets a bye for for whatever reasons right. Whereas your TB four fragments you've now cut them down in such a way.

And I wonder if it's a little bit like the bio regulators where bio regulators are embedded in food, for example. And it when I reading the research on the bio regulators why you can take them in food and still get some benefit is that, you know the body doesn't blindly the enzymes of the body don't blindly just chop things up.

There are specific there are specific markers, if you will, within a protein that designate where the cleavage sites are. And so in that sense, it's almost like you can imagine that the bio regulator peptides that are almost like fragments are preserved in their integrity.

And so perhaps with these thymus and beta four fragments, again you've got a preservation of the like. There's endpoints that designate that they don't get chopped up into their single amino acids.

Yeah definitely agree with that statement. And to close the loop on those fragments, just so people know, the 17 to 23 one is the one that has the ability to destabilize mast cells.

TB4 Fragments and Targeted Healing

So anyone with MCA's or a mold mold recovery or what's called mold illness, avoid that one. But the 1 to 4 is the anti fibrotic anti-inflammatory immune no regulatory one.

That is the SDK. The reason I still like the 17 to 23 fragment of it is it's really good for the wound repair. So interesting. Yeah the musculoskeletal repair the connective tissue repair that one.

That's 17 to 2031 despite the fact that it destabilizes mast cells, is the hero is the hero fragment within TB four for that. And the other one is more for cardio protection and anti-inflammatory anti fibrotic okay. That's really interesting.

Prevent scarring to that's like a well I would imagine that Marcel destabilization in in in appropriate amount is part of the healing process 100%. Yeah.

Yeah. That's being released for a reason right. It's only in chronic conditions usually environmental or, you know, stress that it then being released for too long becomes a problem.

But yeah, another actually really interesting one. Sorry to go off on a tangent. No it's okay. Mine is alpha msh. That's another one that has all these little fragments that come off of it.

So alpha msh is made in our brain melanocytes stimulating hormone. And we can isolate small fragments of that, one of them being CFPB a tri peptide that has profound anti-inflammatory benefits as well as neuro inflammatory reduction effects.

The reason I got introduced and really loved this peptide is I had mold illness. I lived in model for years, and when you're in mold, alpha msh is one of the main things that goes down and is one of the main reasons you go down fast and have a lot of systemic negatives to it.

So by supplementing with CFPB, you're taking the anti-inflammatory, neuro neuro anti-inflammatory fragment of alpha MSH and just supplementing a really high dose of it.

So for me it was really important for a helping with my mast cells and my mold illness, but also helping my brain recover. And then in the gut to CFPB has been studied for IBD as a really potent anti-inflammatory.

And NF what is it the kappa beta inhibitor or. Yeah activator. Yeah. Inhibitor that's the right way. Another fragment of that alpha MSH that's used in the peptide or IU space is 141 completely, completely different effects to CFPB, but it's still a fragment of the alpha MSH.

And people who've been living in mold and have low alpha MSH tend to find that they have a terrible libido and sex drive. And again, because I believe it's because the 141 in your brain that's naturally produced is being diminished because of the mold.

So yeah, really beneficial for libido and sexual drive is 141 usually administered in a nasal spray so it gets straight to your brain. CFPB can be delivered in a capsule.

It can be delivered in a nasal spray or injectable. And yeah, those are two more fragments of peptides. And I'm sure if we looked at all these peptides, we'd find little fragments of them.

I've been trying to find them for the growth hormone secreted dogs. But from my research there's not too many that could work orally. What is it called again?

Tessa. Maryland's a really good one I love, but it's 43 amino acids long, and I don't believe there's any fragment of that one that can deliver the effects.

I think it needs to be that full, that full chain. Well, it itself is a fragment, right? It's a fragment of growth hormone. But we were talking about off camera is one that can be used orally.

And compounding pharmacies have been making it orally for a while now. Right. Yeah. Yeah. I was actually unaware. I just assumed all the growth hormone secreted Gog ones or the groups were too large until I looked into that one before I had chat and like, interesting.

I'm surprised I haven't actually made that as a product yet. But anyway, coming soon. Maybe. Who knows. The regulatory space in peptides is getting too hard.

I'm not sure, but we'll going back to other ways that you can make peptides work. And this is something we've been doing is like liposomes. Whatever you do, sucker zooms or cyclotrons or all these other things and essentially what you what you might be seeing in the space now is liposomal peptides.

We've been doing that for four years. We started by doing it with neuropeptides like deixa like PPP021I think it was called. Yeah. And Clank you can do it with sorry.

We did it with Cmax as well. And the reason we do these, these neuropeptides orally are small enough so they, they, they tick the killer and the amino acid rule.

But they're so fragile that there's a huge amount of loss to enzymatic and stomach acid degradation. So the way with level up that I've made these products work is by, where appropriate, liposomal them.

So these those TB four fragments I the product I have has them liposomal G. H. is another one that it's three amino acids long. And if any of those amino acids break or get degraded then it no longer has any function.

So we do that one as a liposome. And these neuropeptides the director, the p21 and the Cmax, we liposome them as well by using a liposome like a lot of liposomal products claim enhanced absorption, which is true because you are, you know, utilizing that fat absorption and the that fat absorption mechanisms to get them in.

And if you hold them in your mouth as a percentage of that, that can absorb via that before it even needs to hit the GI tract. However, the primary reason why I use the liposomes is not necessarily to utilize the enhanced absorption through the liposomes is to protect them.

Alpha-MSH Fragments, Mold, and Neuroinflammation

If you can get them the peptides, pass the stomach acid, pass the enzymes and then dispersing in the small intestine, then that's honestly the best chance that you have of getting them to work systemically.

So the light room is a fatty acid envelope in which inside of the envelope is the peptide. So how do you do that? How do you do that? It's a complicated process involving is it really.

Yeah. Yeah I mean our manufacturer, it takes them about seven weeks to do it. And then we take it the extra step of freeze drying them to, which is just like, all right, you've done this really hard thing.

And now remove the moisture content and make sure they don't break, which is pretty hard to. And you have to. Yeah. It's it's complicated. A lot of people think at home that they can use like a denture cleaner or something like that.

And not true. You can't do that. It's so much harder than that. Well, there is that narrative, right? Again, like, I mean, people talk about this, they're like, well, why would I pay for these liposomes?

All we have to do is, I guess, put it in I these devices that they claim are going to magically envelop the peptide or the amino acid chain in a fat envelope, and it just seems a little oversimplified to me.

Yeah, it's very much oversimplified. I mean, it's a nice idea that you could do it yourself, but it's a lot more complicated than that. And I honestly think if you did pull it off, it's a case of, well, how long is that?

Like, how long is that liposome going to be stable for? And this is a big, I guess, industry gripe and nuance that I have is people claim, be it peptides bear creatine, be it, cumin to have liposomes of a certain size.

And it's a whole thing. I don't want to go down. And we just focus on the fact that you can utilize liposome. You could also utilize sucrose, you could utilize cyclo Dexter and envelope it as well.

And these are all just protective mechanisms to get the peptide through. But if you didn't have any of that, honestly the the delayed release capsule is an amazing thing.

Or the interior coated capsule is just like the best thing. And of all of the things we deploy and level up, we've got a delayed release capsule with sodium bicarbonate to sort of neutralize any acid that might actually hit the peptide and cause it not to work.

And then we also can use liposomes to like the late release capsules, doing the doing the lion's share of the protection of the peptide. Right. And that's just getting it past the stomach into the small intestine.

Exactly right. Once in the small intestine, it's not like there's no protein degrading enzymes. So obviously that's where a cell process sodium or a relic acid or something like that.

Even MCTs, if you took MCTs with your peptides, they're negative to taking MCTs is they do create permeability in the gut. So there's like a big counter-argument against taking them because of the permeation, the permeability increase you get from it.

But you can kind of utilize that with your peptides to to get some benefits there. Right. And you don't have to take much. Right? No. It's it's so is it a little bit like taking your fat soluble vitamins with a bit of fat just to help with absorption?

Does it kind of tap into that same school of thought? Probably. I'm not. I can't say that that's true, but it probably makes sense. I just know that it was a doctor.

Stephen Gundry on a podcast was saying how much he dislikes MCTs because they are one of the things that basically shuttle through LPs into circulation.

LPs in lipopolysaccharide, hugely anti hugely inflammatory. They actually inject it to in studies on where they're looking at inflammation to induce inflammation.

LPs is a whole thing. We could go down in the peptide route but I'll leave that for another one. I think the I think the whole LPs and contaminated peptide thing is pretty overstated.

It's not impossible. It's not something that isn't there. I think it's just a little bit of a fear mongering thing from people. I've definitely been guilty of that.

But of saying why you don't want LPs, and that's 100% true. But when you're taking a peptide orally, you don't necessarily need to worry about that because your stomach acid clears it up and it's going into your it's going into your gut lumen rather than direct into a, into a vein or an artery also or a your circulation that way hopefully not an artery.

No, no. Stay away from arteries. But I think that but but the LP, I think the LPs conversation which I don't want to spend too long on it, but still it's an important thing to touch on.

It has to do with the quality of our starting materials, right? Or it has to do with the processing of the peptides. Are they process properly? Are they wash properly, or are they cleared of toxins from the processing of them, of the from the synthesis synthesizing of them to make sure?

Are they is it being done properly to protect people from the end result? And I think that in the injectable world where people are unsure where things are being sourced, where they're being synthesized, where they're being synthesized, and how they're being treated, it's a very valid concern in the oral supplement.

I've heard a lot less chatter about this, and my gut is because you have a lot more control over your entire production chain than many of the people who are, you know, just caught up in the gold rush grabbing $5 things and selling them for 150.

Yeah, well, the whole testing process for medals, for microbes, contaminants, all that stuff is a very expensive process that I, from a business perspective, wish I didn't have to do.

But you do have to do it, otherwise you don't know what you're giving people. But in the same way that if you were to eat mercury from big fish versus inject something full of mercury, your body only absorbs like 0.01% of the mercury that you eat.

Delivery Methods: Liposomes, Capsules, and Enhancers

And the same thing would apply to LPs. I don't know the exact number for lipopolysaccharide specifically, but your body, your body, not your body, your gut bacteria, if you have dysbiosis, will be making LPs.

Which is why gut health is really important for your overall overall reduction of inflammation in the body. But taking all LPs is probably something we do way more than you'd think by food and cheeses or food that's just been hanging around in the fridge too long, so it's not like it's a catastrophic, hospital inducing event.

If you'd eat that, you might just feel a little sick. If there's if you were to eat a piece of meat, that's like a day passed its best before date and you still it's a little off.

You're going to get exponentially more LPs into your body than you would from an oral peptide. But if you were to inject one with LPs, 100% of that gets through.

So that's not a good thing. That's very important. And then the metals piece to like there are potentially metal contaminants in these ones if they're not processed properly too, which again injecting metals, 100% of them end up in circulation.

And then they can go on to cause all manner of mitochondrial dysfunction issues and encephalopathy. Yeah. Forgotten word or whatever. Wherever the heck the the metal embeds itself in the body, it's not going to be good.

Right? Okay. So let's let's give people I mean these episodes are going to be a little shorter, but let's give people some helpful information about use case scenarios for something like because you have a few different formulas, you've got your BPC with PE, which has one use case, you've got BPC and the and the TB for fragment.

So important for everybody to remember this. These are the fragments of TB for that have been isolated and shown to be most beneficial for musculoskeletal skeletal healing.

And then we've got the hero formula, which you know I think it's it's a formula that has been now copied by so many people trying to do what you do, but you really came to market very strong with this a few years ago and have changed so many people's outcomes.

And this is one where you've you've stacked the BPC with the CFPB with the tide. Then you added the GHQ. Plus you're adding, you know, all these other nutraceuticals to support gut feeling.

So let's go through each one of those formulas and just talk a little bit about why you did what you did, who might get benefit from them. And then the last one I think I'd really like to touch on is the GHQ copper, because that's the other.

That's another peptide that's seen a lot of research, most of it animal, granted, but it shows so much promise. And actually we can touch on this too.

I saw a post on social media about GCHQ copper and somebody in the comments saying, yeah, you know, it impacts over 4000 genes. How do we know it's not going to cause cancer?

And I'm like, well, that's because the people that that showed that it impacts the genes was a university. And they actually showed that there's a little word in there that it beneficially flipped genes on and off to a more youthful setting, which is wildly interesting.

So let's start from the top. Let's start with a shorter one first and then move down BPC and PE. Let's talk about that very briefly and just help people to understand what is the use case for a combination like this.

Yeah. So we've got two iterations of BPC, BBC regenerate and BPC double strength in that formula. I combine it with P, and this is basically for people who just want to try a BPC by itself, get all the effects from that.

It's kind of the Swiss Army knife, as I said earlier, of peptides, the the diversity of mechanisms that it works upon and the tissues in the body that it works upon are just so wide and and it's so beneficial that I had to have it as a standalone.

It was the first product we had for people who've had an injury. I don't combine it with snack in that formula just so I don't create permeation issues, because a lot of people take it for gut issues, and it's like a good entry point for if you want to try a gut healing peptide, that is almost certainly going to give you some benefit.

Maybe the benefit might be off stream. You might have a niggling joint issue that resolves when you took it for gut health, or your brain might start to function better.

You might have deeper sleep, for example. That's why we have the BPC without the snack, because we want to give you the full range of benefits from that one.

Then the second product I made after that one was it was like I was just threw everything in it and they just went crazy. I made that product specifically for a house made of mine who had Crohn's disease, and that was a combination of every one of the peptides that would work orally, that had studies to show that they had effects for IBD and gut issues.

And that combination started out just being BPC and KBB. And then I combined it with nutraceuticals like zinc, quercetin and tributaries. That one has sold so many bottles, and I'm so grateful to it for being our hero product and help so many people with their gut issues.

But essentially La Raza Tide in that one is a zonal and antagonist. While BPC works on the collagen networks, CBV as an anti-inflammatory. And now recently, in the last sort of two years, we also added GHQ copper because of its ability to, as you said, modulate so many genes.

One of the things that it helps doing, it helps do, is induces your body's natural production of stem cells by that gene transcription and regulation.

So you got stem cells in your gut. They're obviously a very good target for healing. The gut would be to trigger intestinal stem cell production, which is why we added that one to it.

And the other reason is we have a really good dose of zinc in that formula. And the copper part of the GHQ balances are pretty nicely. So people don't end up with mineral imbalances with their zinc to copper ratios.

So that was gripper and then GHQ. We also have as the liposomal so we can get it in circulation. And it can be like an anti-aging a skin beneficial product.

It's the beauty peptide that's in skincare because it's small enough to pass through the both the GI tract without the need for liposomes if it was to survive, but with the liposomes just ensures it does so you can get in.

Which I think we started. I looked at studies on GHQ, and if you were to take GHQ without a without a delayed release capsule, without any acidity buffers and without a liposome, only about 10% of what you take absorbs.

So it's not zero, but it's certainly not ideal. So by adding these layers of protection to GHQ and liposome, it we speculatively think you're probably going to get about 50 to 60% of it absorb.

And then because we know you're losing 40%, we just upped the dose about double what you'd what you'd want. So if by the end of it you end up getting 50%, then you actually do have the therapeutic dose that we're after.

So that's how we dose these things. We look at how much is lost. The same thing applies for the TB four as well. And then we just double the dose or quadruple the dose if only 25% absorbs.

Just. So we are delivering a therapeutic amount. Next one to talk about is the CFPB. I think I already touched on that pretty well, but that is a standalone one, as is the liposomal AC fragment.

Just so you can get all the benefits of these. Take take the AC fragments with the BPC and Wolverine. Or you can just try it. If you were to want to try every single oral peptide product, Wolverine and GI repair have all of them basically.

And then if you wanted oral neuropeptides, neuro regenerate is our brain formula, which has Cmax doesn't have ceiling, it just has Cmax p21 and dehesa which is just like amazing modulated not modulated Miracle-Gro inducing

BT and F affecting neuropeptides.

Product Use Cases and Cycling Guidance

Beautiful. So for the so for the neuropathy how often do you think people should use it. Like is this like should you do you need to take it all. And I want to talk about this for all of these, right?

I think that a big question that people have was, well, how long should I use this for? Should I can I take it all the time or should I use it some of the time?

I know what my standard answer is, but what's your answer? And the neuropeptides, one that people might be tempted to say, oh, I must take this always.

Yeah, definitely cycle them. It's my always my advice to it. And I would love as a business owner to say be on them all the time. 365 days of the week.

But as a reality and as someone who wants people to get all the benefits and to do no harm, cycle them either a five day on, two day off if you continuing sort of month on month, or for every two weeks, two weeks on maybe like four days off sort of thing, or like group is one that's got a lot of intricacy.

So when people ask, how long should I take this? It's like, how long is a piece of string? How bad is your gut dysbiosis or your gut, your leaky gut or your information?

So the longest I would say someone could take that one with our break would be three months. And then you'd want to definitely take 3 to 4 weeks off after that three months.

And just assess how you feel with the neuro regenerate that one induces BDNF like exponentially more than lion's mane. And I've forgotten the exact tagline for dissected something like a miracle growth, miracle, miracle growth for the brain.

Yeah, there's some some tagline like it's a thousand times more beneficial than endogenous BDNF for inducing its release, or I've forgotten what it is.

I'm butchering it now. But anyway, these ones when you induce BDNF, it's a very energetically expensive thing for your body to utilize BDNF and to start neurogenesis and synaptic genesis and even myelination as well.

It can induce all of these processes for the brain. So giving it a break. It's like working out seven days of the week is probably not as beneficial as doing it for or five times.

And just I would always say treat the peptides like a workout for your body because they are triggering all these signaling cascades. They're binding to receptor sites that go on and elicit benefits way longer than the peptide itself is able to stay intact in the body.

Anytime you're making you're using a peptide to drive a mechanism or a pathway that comes at a cellular, energetic and resource expense that I don't think is great to do every single day, twice a day without a break.

It's the same. The same thing can be applied beyond just peptides. Is everything in moderation, everything in the right dose, and everything has an inverse U-shaped curve for the right dose.

So peptides as far as dosing and overdosing have this very nice luxury of they have a very large therapeutic window. Meaning if you were to take 100 times more BPC than your body needs, you've just really wasted it.

Not you're not going to hurt yourself too much or at all. Ld50 and all the toxicity studies on the naturally occurring peptides not talking about the pharmaceutical modified ones, they've really struggled to find any toxicities or any Ld50, even on BBC and GHQ.

And that's because the liver doesn't process them. They just are broken down in circulation. Most of them. There's probably exceptions to that. But BPC for example, if that's in circulation just going to be broken down by hydrolase enzymes, it's not going to burden the liver.

It's not going to cross reactive medications. And and then once it's broken down there just free amino acids that just go. Go on get utilized in, you know, as the same as an essential amino acid, basically just a very expensive starting point.

So that's yeah, that's the end of that loop I guess. Yeah. Well, I mean, I think what I want to add, and especially with, well, with any of these Lasso GHQ copper is a tough one because it, you know, the story around that one is that our levels are much higher endogenously when we're young.

They go down as we age and so we don't repair as efficiently. So, you know, the jury's still out on that one. I'm still a big fan of, you know, 2 or 3 months, take a month off, come back again.

There are people who disagree with me and want to take it all the time. That's fine. You're going to want to get your copper levels checked, as you mentioned earlier, and balance them out with some zinc.

But with the BP, like with the gut formula, you shouldn't need it in perpetuity. If you're also doing all the other work to heal your gut. Like these are very powerful formulas, but they're they're going to they're there to do the heavy lifting for you.

But at the same time, if you're not correcting the diet, if you're not correcting the reason for the leaky gut in the first place, you're just bailing out a leaky boat, right?

And with the musculoskeletal ones, if you're not addressing the biomechanics and doing the rehab and doing all the things to to address the reason for the musculoskeletal dysfunction in the first place, again, you're kind of chasing your tail on that one.

The good news is the peptides will help you to feel a lot better, but they can't finish the job if you don't do your part. Yeah, injury recovery peptides are a clear cut, obvious one.

If you've injured yourself walking or doing a sport, then take them. Please accelerate that healing process. But if you continue to do the thing that continues to injure you, then the peptide isn't going to mitigate that lifestyle choice.

And unfortunately, with gut health, it's not as clear cut as I walk up the stairs and then my knee or I jump, I do box jumps and then I end up with knee pain.

It's I ate this food. I don't know which food it was or I'm in this environment with this low level of mold. I don't know which room it is, that sort of thing that is injuries to the body that they need to stop for this issue to resolve entirely, and throwing peptides at a problem whilst the trigger or the root cause reason for the problem still exists, you're not going to be making inroads, or you're just going to be throwing out at throwing the product or the peptide, or the nutraceutical or whatever it is at it in perpetuity as a life jacket thing.

And I've been there living in mold GR repair, I had unlimited amounts of it for healing my gut, but the mold and the mycotoxin levels that I had was so high that it was just stopping me from drowning slower.

Essentially, it was a it was a boy. It was a life jacket that was helping me. Definitely it was working, but it had its work cut out for it. And the same thing applies to these peptides.

You really shouldn't need to be on anything long term if you're doing all the foundational stuff. But and the GOP one discussions are perfect. One right?

Don't be on a GLP one for the rest of your life. That's silly, but if you're highly overweight and obese and you need to lose, you know, 30 to 50 pounds, and please use them short term and then develop the lifestyle and the diet and

the, you know, fitness mindset to not ever need it again after you've short putted and sped up that process.

Wolverine that that stuck again. Like do the rehab, do the recovery and figure out why you got the injury in the first place. Maybe you've got too many seed oil in your diet, or you're not having enough collagen rich meats, or you're not taking collagen or something that led to weakness in the ligaments, in the tendons of your body.

And then, you know, once you're healing, of course, use the peptide, but try not to put yourself in position. Where you need these tools all the time is the, you know, the short of this big waffled response for sure and correct the movement imbalances as well.

Okay, last question before we go. And this is a big one. One of the big criticisms or fears around BPC 157 is its ability to drive angiogenesis, which is one of the reasons why it seems to help with tendon and ligament healing, which are tissues in the connective tissues in the body that are notoriously low in blood flow, which makes it harder to heal them.

And I'm not saying that oral VPCs necessarily going to fix your torn Achilles, but the angiogenesis question keeps coming up over and over again. What do you say to that?

I say it's not been proven. It's a mechanistic speculation, as is mTOR. You know, taking leucine or Hemby or something like that is, you know, you can make the exact same argument around it driving cancer growth.

BPC Safety, Angiogenesis, and Closing Remarks

And to that, I would say if I had cancer that was utilizing and you could prove by like a genetic testing on your cancer that it was utilizing angiogenesis and most cancers do, I wouldn't be taking it, nor would I be taking high dose because.

So it's not causative. It's not going to create cancer in the body. It doesn't push biological mechanisms beyond a set point. It's not like taking exogenous testosterone.

It is upstream of the downstream benefits, and it's just simply not going to be used. It's going to be wasted in your body if you take too much of it.

And your body has modulatory mechanisms for these things like angiogenesis, and it's not going to drive exorbitant amounts of angiogenic growth. And it does trigger in injuries, VEGF and all these beneficial things.

And it's even like that histamine one that we're talking about with TV4. Triggering those things in the short term is highly beneficial for recovery and for, you know, getting getting back from injury.

But long term, one of the reasons we recommend cycling it, frankly, is to mitigate that potential concern, although I don't see it as a risk and even to flip it as well, I'd imagine just mechanistically, if you're looking at all of the ways that BPC can help prevent cancer in its reduction of inflammation, which in my opinion, inflammation supersedes angiogenesis as a driver and a contributor to cancer progression or growth.

So by taking that ceiling, the gut reducing LPs and then just helping reduce inflammation, I would I would not speculate. I'll definitively say it's going to do more for prevention than it would for causation of cancer.

Yeah. And we're not saying you should use BPC to prevent cancer, just to be clear. And also just I just want to highlight what what Kyle said, which is if you have active cancer, this is not the time.

There's other things you can use, not even from the peptide. I mean, there are peptides in the peptide world. That's a separate discussion. But these are not compounds you want to be using while you're dealing.

You've got bigger fish to fry. Let's just put it that way okay Kyle, it's near and dear to my heart. If you have cancer, I'm not talking about it. I'll just drop some names PNC 27, thymus and Alpha one.

I look at those two as your starting points for peptides for the BBC. Yeah. And find yourself a practitioner who knows about these things that can integrate, who can integrate them into your program.

All right, Kyle, I think we're going to close it off here because you and I are notorious for going really long time. But thank you for those breakdowns.

I think that was really helpful. Can you please tell people where they can find you and get their hands on these? Great. And I also want to say, folks, it's level up.

Health is not just about the peptides. There are other incredible formulas that Kyle has put together for almost any number of things. Personally, I live on.

As matter of fact, I think I have my own formula of Knox file, which is on the shelf at level of health. So lots of other things there. But on the peptide side, I think we covered the big hitters here.

So thank you so much and let people know. Please let people know where they can find you and find these products. Yeah. Well social media is a trickier one.

So just go straight to the website level. Uphold com level without the ease lvl up health. And we have level up labs as well. But level up is the primary place.

Jump on the email list. That's where we basically share all of our stuff. Now considering that's not censored unlike everywhere else on social media. Yeah. Tricky times.

Unfortunately, in the peptide space, there's a lot of pushback from Big Pharma and the powers that be at peptides at the moment. So pretty tricky to find good reliable information about peptides on social media now.

And it seems the ones who put out the worst content are the ones not getting banned. Just saying. Yeah, it's a little off, I know, and I believe there's you have a code for this summit.

I think it's doctor talks. Right. Doctor talks would be the code for the summit miners. Yeah. Doctor talks okay. Thank you so much Kyle. This is amazing as always.

And folks definitely sign up for that newsletter because that's where you're going to get all the knowledge dropped into your inbox on a regular basis.

Thanks, Kyle. Thanks. Thanks, everyone.