The Hidden Dangers Of Buying Peptides Online: What You Need To Know Transcript

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Introduction to Peptide Therapy

Did you know that in 2017, it was estimated that $20 billion was spent on peptide therapy? Fast forward to 2024, that number is approaching 50 billion.

And actually currently in the United States, about 12% of people say that they've actually used a GLP one agonist, which is a form of peptide therapy.

So today I have Hayden Collier, and he's going to teach us everything about compounding pharmacies. And we're going to talk a little bit about peptides.

He's the director of clinical services at New Bio Age or Progressive Pharmacy in Florida. And he is going to tell us what he does for them every day. Thanks, Cassie.

So I get the pleasure of talking with providers all over the country about awesome peptide supplements that we have. So we do protocol development, clinical questions, we'll do patient cases, just help educate our providers on some of the cool products that we have that are out there.

Because, I mean, unfortunately a lot of peptides are still really new. And, you know, sometimes, you know, it's really hard to find a great, credible source for a lot of these things.

And sometimes I'll even go to conferences and they learn all this cool stuff.

Compounding Pharmacy Basics and Regulation

But it's like, how do you implement it Monday morning. Right. We're pharmacists. So we think about dose side effect, contraindications, things that unfortunately sometimes they don't learn at these conferences but are vital to help patients have great outcomes.

So that's I had the pleasure. And then I hear what providers are doing, what's work and what's not. And then I get to share that with everybody. So it's definitely a very fulfilling job.

Yeah. So if I didn't say that he's a pharm.d, that's my fault. And so he he is a PharmD and he helps us that modern endocrine system with some of our peptide therapy.

So I love to just text him like, hey Hayden, I got this going on. What can we do? And put him in rabbit holes. And so he's great for that. And so I brought him on really for a couple reasons.

We're going to talk about some peptides. But before we talk about peptides, you know my episode just released about supplements and making sure that you're safe with your supplements.

So I really want people to understand compounding pharmacy. And are you safe with your compounding pharmacies? And what's the difference between compounding pharmacies and who regulates those things.

And so Hayden was going to speak to that for me. So let's start with just 503503B pharmacy. What is the difference. And then like can you explain that to people you know of course.

Well first I don't think a lot of people realize like pharmacy is probably the most regulated industry there is in the United States. Besides just there's different state laws for each state.

Then you have federal laws. There's also clinical things that you have to follow specifically about scope of practice,

and then how that all fits in with managing patients.

But then when it comes, you know, that's just great. As I remember. So you know, so pharmacy is probably the one of the most regulated industries there are in the United States here.

You know, so there's different state laws for each state. There's federal laws. There's also clinical aspects that we have to follow when it comes to scope of practice and things that we can do with how patients.

And then there's different pharmacy compounding pharmacy aspects when it comes to Non-Sterile pharmacy, HDE pharmacy and then the sterile pharmacy, there's different guidelines for all of them.

And then and then the difference between A5A, three A and A5A, three b. So 5 or 3 A pharmacies are patient specific pharmacies. They follow what's called USP United States Pharmacopeia.

There's certain guidelines and it's called 797. So those guidelines specifically go over sterile technique testing requirements, things that they have to follow when it comes to certain aspects of how you compound certain preparations.

And those 5 or 3 way pharmacies are regulated by the state boards. So state boards have use USP at the guidelines. The state inspectors will come in and how they interpret the law and how they interpret those certain guidelines will come in.

Inspect a pharmacy to make sure that they're up to par. So like I said to all those are patient specific. So when they receive prescriptions it has to be patient specific patient name address all those things. They can only go for that.

Patient 5 to 3 B pharmacies or more large scale pharmacies. They and those pharmacies can do for office use prescriptions. But those pharmacies are regulated by the FDA.

And they probably there's just different regulations on on how they can compound certain things. And there's a certain formulary. So, you know, there's a there's a very small limited list that they can make in those pharmacy at at large quantities.

So, you know, there are some differences definitely between the two, you know, 5 or 3 a regulated by the FDA, 5 or 3 be regulated by the FDA and then 5 or 3 the regulated by the state boards.

So if a patient so how does a patient know that they're using a compounding pharmacy. That's a good compounding pharmacy for sure. A specific accreditation boards that pharmacies can elect to have them come in and inspect the pharmacies to get certified.

And you know, a couple of them. One is nap, PK cab is another one. So these pharmacies will elect, you know, third party companies to come in to inspect the pharmacies and then they can get certain certifications.

Right. You know, all pharmacies have to be compounding with, you know, when they order products in particular has to come from an FDA approved wholesaler.

You know, they're going to get CEOs and all of their products, you know. So of course, if patients have concerns, they can talk to their providers and maybe ask the providers these questions.

Hey, have you you know, have you had have you talked to the pharmacist or the pharmacy. Do they have these have any accreditations? Have you have you ever asked for CVS, things like that.

You know, and the pharmacy should have no problem. You know, being able to offer any of those, you know, it's answer any of those questions that either patients or providers have on their standards of quality, because it should be of the utmost importance.

So if a patient is just buying a peptide randomly online and they haven't really seen a doctor, how does that work? So unfortunately out there, you know, there are research chemical, you know, companies and they you know, they'll say peptide research chemicals on them.

And those are not for human use. If you go on there and you try to buy them, it's going to tell you three times. It makes it click your life away. Liabilities that they, you know, they take no responsibility for the quality of their product.

They'll say on there that it's tested.

Risks of Buying Peptides Online

Yeah, it may be tested that what they put in the vial, maybe the powder that's in there. Sure. But they don't do sterility testing and, you know, endotoxin testing.

So besides, what else is in those vials? You know, that you know, that they don't account for. And I highly recommend to stay away from those places. And you need to be under the watchful eye of a physician.

If you start taking those things and you're having side effects and you're having, you know, complications, you can't reach out to anybody on the on those websites.

They're not going to answer any questions. They're not going to help you. And unfortunately, you know, you can seriously hurt yourself. So definitely do not recommend those at all.

And and even if you do buy something and you call Cassie, hey, I took this. This has happened in like she has no way of verifying what was actually in those vials.

She has no idea. It's you can't really help you. She can't make a recommendation because, you know, she has no idea what happened. So, yeah, it's really, you know, there's a fine line, you know, and we just we do not recommend doing that.

Yeah. And that's one of the main reasons I wanted you to come on. I mean, I want to pick your brain about some peptides so that people know. But you know, I, I am shocked at the number of patients who tell me I bought this online and I don't see a doctor.

And I think that's what I'm injecting. And I'm just like you. You think that's what you're injecting with your body, like I'm flawed. And you know, I did this podcast with Sean Wells that where he was talking about all the toxins that you can actually find in supplements, mercury and lead and them if you test them.

And so then I just think, like you're injecting something in your body to your point that like, might not be sterile. We have no idea what it is. How do you figure out the dose?

You know, I'm just I'm floored that that people do this. And yes, it may be cheaper. It should be cheaper. I hope it's cheaper. You're really dumb, but you know it.

It's your health and you have no clue what you're injecting into yourself. And to your point, it's just it's alarming to me. So I really didn't know how that worked.

Which is why I called you. Like, how do the pharmacies, you know, because I have people coming in with these vials and I'm like, where did you get this?

And I can't even tell what pharmacy it comes from. And I try to look up the pharmacy and I can't find an accreditation. And so that makes. Yeah. You know, they're labs, they're not even pharmacies.

They're just a lab. It could be a lab in my garage. And I just I got vials from Amazon, and I'm throwing powder and a

stopper in them and then sending them out the door, you know.

So and you'll see, you know. Yeah. Because there's no unfortunately no government regulation on those things because they're not made for human use. And they say it all over the bottles, you know.

So yeah, it's definitely alarming that patients will, you know, use those products. And it's frustrating to me because then it gives peptides a bad name.

Methylene Blue for Mitochondrial Health

So I love peptide therapy. I mean it's changed a lot of my patients life. It's changed my practice. It they can be so good if they're used correctly, if they're dosed correctly, if they're cycled correctly, if they're.

But it's kind of like hormones when people are just out there throwing things around and don't know what the hell they're doing, and they don't know how to mitigate side effects or explain things to you, then they get a bad name.

And that's the thing that I don't like about this whole like, just go online and buy a peptide and shoot yourself up type of thing. So I just wanted to kind of talk to you about that.

And so I mean, I agree, obviously you if you're going to use peptide therapy and I think they're wonderful, you need to be under the care of a physician who knows what the peptide is, knows how to dose it.

You know, it's, you know, contraindications, complications. And that's what's so yeah, that answers my question why people can just randomly buy peptides without seeing it.

Doctor okay. So let's talk about a few peptides then. So I want to start with mitochondrial health. So at modern endocrine we have this ten pillar of health system that we kind of follow.

And you know I tell people gut and mitochondria is where everything starts. If you can't absorb stuff from your gut or detox through your gut, and you actually can't get those things into your cell membrane because your cell membranes and mitochondria damage, then it doesn't really matter what we're getting, right?

So mitochondrial health, some of the things I think about with mitochondrial health because of the ATP pathway, right. The five steps you have to go through nad obviously the first one methylene blue and then just blue to iron for detox.

So I want you to talk to us. Let's start about with methylene blue because I feel like that's kind of, you know, new people. What is it. So tell me about methylene blue.

Yeah for sure. So I mean, and it's crazy because methylene blue is probably one of the first manmade drugs there ever were. There ever was one of the first FDA approved drugs as well.

You know, they used to use it for malaria back in the day. And you know, in some patients look it up, it's like, oh, it's a textile dye. What are you giving me?

You know, because, you know, and unfortunately, our technicians, they hate compounding it because it gets blue everywhere. Right? It really does stains everything.

It's it gets all over the place, but super beneficial when it comes to, like you said, when it comes to mitochondrial health, what it really does is it acts as an electron carrier and it helps bypass those complexes.

There was a study that came out recently that showed, you know, compared healthy patients, but patients who were active in the patients who were sedentary, those patients who were sedentary, even though they were healthy, they had issues transferring electrons through complex one and two across the electron transport chain to help make the ATP at the end.

So a methylene blue can even help those patients when it comes to bypassing those complexes. And it helps decrease reactive oxygen species, again, because that's where you during those complex that during that that process of moving the electrons, you know, rows can be created.

And so it helps decrease that as well. And improving the mitochondrial efficiency. So you know methylene blue will help carry that across. So we get that increased mitochondrial production.

But the great part about it is it's such a small molecule. It passes the blood can very very well as well. So you actually get those benefits in the brain where you have a bunch of mitochondria.

And that's where we see some of those issues when it comes to Alzheimer's disease, you know, Parkinson's disease, dementia, where they're studying the use of methylene blue to help prevent the progression of those diseases.

So for our listeners, we're going to kind of dumb this down for a second. So fourth grade level Hayden we're not all arm DS. So electron transport chain.

So when we're talking about mitochondria that is what's in the cell. And that's what gives all of our cell energy okay. It's kind of like our gas tanks and our cell inside your mitochondria.

There is something called the electron transport chain, where it's almost like you have five doors that are closed and they're locked, and they each need something different to unlock them.

And you have to pass through all five doors. And at the end, the product that you get is called ATP, which is like gas gasoline for yourself. So if you're asking your cell to do something, whether it be provide you energy, grow hair, make your heart beat, you know, let me talk to him.

Let me breathe. It requires energy. And so in order to make this energy or ATP, there are five steps that have to happen. Methylene blue is essential.

So I think it's step four of the mitochondria. And so that's what he's talking about when he says it's an electron transport chain you know it's carrying an electron or donating an electron.

It's almost like it's opening one of those doors. Is that right? Correct. Yeah. So like the first complex, you know, involves nad in the beginning. So it bypasses that complex.

The second one is like a fad fad H2. And then the third one is where it donates that hydrogen. So you know, bypasses those. Go straight to complex four where it converts the O2 and that hydrogen atom together into oxygen, which then helps move it past two ATP into a ATP at the end.

So you get, you know, all four of those doors. But yeah. So it helps bypass because a lot like I said, a lot of those patients will have issues opening those doors in the first two doors.

And then it's not going to get to the end to make the gas. So methylene blue just gets past them. So here's your electron that you need to help make that water molecule to help make ATP.

So that's been extremely beneficial for a multitude of different diseases when we talk about neurodegenerative diseases, but also when it comes to patients with Covid, because they have, you know, some kind of mitochondrial dysfunction caused by, you know, disorders to the virus.

And then also, when it comes to patients with just chronic fatigue, and it could be due to, you know, autoimmune disease or, you know, Lyme, things like that.

So it's been beneficial for a lot of our patients. Yeah. Inflammation in general. So inflammation is the cause of all disease. And so when you're inflamed your cells are inflamed.

And when your cells are inflamed they can't receive hormones and they can't give back energy like that doorway between, you know, the cell and the outside world is, is very it's locked and it's very stringent when you have a lot of inflammation.

And so just helping any inflammatory process methylene blue. And you know I've seen it help a lot with ADHD, I'm going to say that with parentheses, because I think there are so many people in this world that have ADHD that don't have ADHD.

They're just diagnosed with it because in medicine now we just throw pills at people and give people a diagnosis and we don't know how to answer their questions.

And so I think a lot, you know, a lot of people that have gut issues and that have NAD deficiency knees and maybe they have some methylene blue, you know, or have some electron deficiencies with making ATP.

Methylene blue is help. A lot of those people which is awesome because I don't want somebody taking a stimulant. For sure, you know, and then even, you know, we see some benefit in some of the higher doses.

Like, I mean, Jenny generally let me under 50mg. We don't see the search and energy effects, but sometimes some of those patients, they do need some of the higher doses past 50 because of that issue.

You know, and like you said, gut health. Maybe they're you know, they've got isn't making enough serotonin. And that's, you know, they're having some other issues as well.

So it's been extremely beneficial. And like, I know like when you we linked it to inflammation like the besides the mitochondria and making energy, it also makes antioxidants to help produce it to help influence some of that inflammation as well.

So it definitely will help, you know, with that. So methylene blue the way we get it is an oral pill that people take. And so when you take it, it is pretty common to have very bright blue to green tinged urine.

Correct? Correct. And is not something that people should expect forever. Is that something that goes away? Is it bad if you don't have blue urine? Like talk to that.

Yeah for sure. So yeah like it is going to be blue maybe even Windex blue right. So when it comes to that you know, so when blue when the methylene blue it gets, you know when when it gets reduced it gets reduced to a compound called Lugo methylene blue.

But that actually takes the blue out of it. So if you aren't having blue urine, that just means you're you have really good tissue absorption. Something like red light therapy can help with that.

It actually helps increase that mitochondrial support. So you actually get more methylene blue in there as well. So in some of our patients who may be taking it you know, frequently, but they're doing red light therapy as well.

Their urine isn't as blue you know. So yeah. You know, that's exactly what's going on. My urine isn't blue anymore. Well you use it at all. That's a good thing, you know.

So that's definitely, you know, very important. And I thought I was dying because all of a sudden my Aaron's not blue and it's not even green. And I'm like, oh my God, Hayden, am I dying? Like, what's going on?

But I do red light every day and I do cold plunge and all the things. So I'm not dying. My tissues are just utilizing. You, utilizing it very well. So that's important, you know. And then yeah.

So it's not going to be blue. What else do you want me to talk about. Well no I just I just like people to know that like you can't have some very blue, blue urine.

And then, you know, whenever we give it to people, people who have pretty significant ADHD issues are really, really inflamed. You know, I typically say, hey, let's do it daily.

But I know there's a lot of people out there who talk about, I mean, you can do it every other day. You can do it three days a week. Is that correct? Yeah for sure. And so that's what I mean.

And even with some patients with maybe poor renal function, you know, like chronic kidney disease and but they're also having some cognitive function issues and you think it'd be really beneficial.

You know, we'll usually tell those patients like hey, like take the methylene blue and then and you know, don't you know, take another one when your urine is clear, you know.

NAD and Cellular Energy Support

And that way you know they will not. Is this not going to get super physiologic where we where we don't want to, you know, too high. So having some of those, you know, toxicity issues.

But yeah we do I mean it can't be done every other day. You know the you know we generally recommend hey, usually after like 3 or 4 months, you know, if you're not using it for the neurodegenerative diseases, let's take a break.

You don't want too much Redux after a while. Let's, you know, let the body maintain unless you're having some severe mitochondrial issues as well. So every other day, you know, if you did it every other day, every third day, you could probably take it continuously.

But, you know, every day, you know, after a couple of months, it's like, hey, just, just take a month off, two weeks off, and then and then you can start up again.

Yeah. So I usually take it about every other day and I will say to people that are listening, one of the side effects and we kind of ran into this with me is headaches, right?

So not very many people get headaches, but you can get a pretty significant headache from it. So that happened to me at the beginning. And then I tried to inhale it.

And I would not recommend that. But intranasal I mean, I tried to intranasal it and it just it didn't go well for me, but mostly because it's live. Right. And so yeah.

I was just about to ask you that, that didn't work well, did you? So let me tell you what happened. To be completely honest with you, I inhaled it and it burns a little bit.

And so then it made me sneeze. And then my bathroom wall and mirror were stained blue, and it looked like a Smurf had, like, died in my bathroom. And I had it on my face and I had it on my hands.

It was just. And then my staff were cracking up and so we just decided that probably wasn't a good result for me in the future, but it was pretty comical and I think I have a picture I can send.

You literally look like a Smurf, just like died in my bathroom. But but you know that that visual spastic headache, it went away after a couple doses.

It didn't happen. But you know what's crazy is I think I don't. Maybe it was just my mitochondria weren't in great shape because so I that was in like Ma may remember I tried it and I got a headache.

Tried the intranasal in June and then didn't really do anything. And then I've been doing red light therapy at the office, you know, every day. Not negotiable.

I've been sauna. I'm on another peptide, which we're not going to talk about that messes with your mitochondria. So I think my mitochondria have just gotten better.

You know, like I think I'm getting better. And so then I tried it again a couple weeks ago. And as long as I'm really hydrated, I'm okay. I'm not getting the headache. Okay, good.

So I've been taking you know, I've been taking it every other day. I took some of this morning for this. So yeah, I've been taking it. I usually take like Monday, Wednesday, Friday.

Yeah. Our favorite combo at the office is the methylene blue in the morning. And like a low dose nicotine truck in the afternoon. And that. Little nicotine.

Low dose like one milligram. Oh no no no no no. Yeah I think I think it's like the most under Mr.. Or under it's the most what is Frank say is the most under Mr.

Neurotrophic that there is it's extremely beneficial when it comes. To taking nicotine trophy trophies. The low doses it's extremely beneficial decreasing microbial information inflammation.

It's extremely beneficial in focusing cognition side as well. I mean, I think there are studies coming out with like Parkinson's disease and other I mean, I know people were using it for long Covid or even with Covid doing like the nicotine patches and stuff.

And patients were okay. You know, we're responding really well. Is it going to make me want to smoke a cigaret? Like, no, no. So like, I mean, look, I've never smoked a cigaret in my life.

I've never, you know, I've never vape. Never done then I've never done anything right. But I have tried the nicotine trophies. It does it, you know, I mean, nicotine is a really neuro addictive chemical, right?

At higher doses at the one milligram is I mean, I have no issues with it. I, you know, like, I don't feel like I did them all the time. I mean, Leonard loves them and he's like, oh, I got to have, you know, but, you know, he just likes that because of that focus, you know?

So I don't know if it's if it's like he feels like he needs to focus or maybe he is does have an issue with it. I don't think he does. But it's been it's been, you know, really beneficial.

So you take it like at lunchtime or when are you taking this. Yeah. Like 1 to 1:00 in the afternoon if I need one.

Glutathione and Detoxification

I mean there is some benefit to with nicotine in your gut, which is a whole interesting thing too with like Crohn's, you see things like that. But okay, I don't know.

So I guess. That's that's interesting. You know, I've never heard of nicotine for the, for gut health that I mean, I have to look into it. That's sounds.

Well, it's for people that with with Crohn's and ulcerative colitis, for whatever reason, nicotine is supposed to make it better. Allegedly. So yeah, maybe I'll okay.

So I'll, I guess we'll try some modern endocrine and see. Do you better not make me make smokers out of people? Okay. Methylene blue. Love it. Great amount to control health.

What about nad? Talk to me about it. I think NAD is one of the most under utilized peptides that there is, to be honest with you. But what you tell me about an 80. Yeah.

So you know I would say under utilized but a lot still and the unknown when it comes nad right. So when it comes

to some of an anti salvage pathway, some of the other coenzyme that it may increase as well.

You know that aren't beneficial. Right. So and I and I totally know energy has has its place especially when it comes. I mean we see it have tremendous benefits when it comes to patients who are battling addiction.

I mean either patients as well when it comes to battling like long Covid, like, you know, long Covid or lung viral fatigue or having, you know, metabolic disorders and their energy is are just run dry.

And you give a person a device or any of these supplementation, they feel fantastic. I just have some concerns when it comes to using NAD, you know, going to get NAD infusions multiple times a week or, you know, continuously for an extended period of time.

You know, there is, you know, coenzyme called NMT that can increase for Pir, which is a certain, you know, it is a, but a byproduct of NMT that can cause issues with metabolic disease and with cancer.

So that's just something that is just like, hey, you know, I love nad patients feel great. I definitely see the benefit in it. I just want to make sure that providers just aren't overdoing it because some patients are like, hey, I need to get my energy infusion.

So often it's like, let's just slow the roll a little bit. But when it comes to helping increase in mitochondria, mitochondria, bioenergetics, it's fantastic.

You know, we love combining it with maybe something like apogee and and you know, or something with one in which is in there MMT inhibitor. You know, we really like to improve endogenous NAD.

But I mean in a D supplementation has its place as well. Okay. So yeah. And I, I agree with that. Like so we use it, you know Subcu three times a week.

I don't do a lot of huge like I. V. loading doses every now and then, but not a lot. You can get the palpitations and anxiety if you run it too fast and you know you gotta wait two, three hours.

So that's definitely a barrier as well. Correct. So and then with all peptides, you know cycling is important. So okay. So nad you know and again NAD is like that first door that you open in the mitochondrial electron transport chain.

So and I do like nad you know I feel like I don't take a lot of it.

Gut Health Peptides and Leaky Gut

I take about 20 units three times a week or if I'm just feeling tired. But I do think that it helps me like it gives me a little boost, I just for. Sure.

So yeah, and that's what we see with some of the other like NMT like five amino which is an anti inhibitor will help improve endogenous NAD patients will feel like they have a little more energy will feel it.

We'll give them a little more exercise capacity. And then there's also, some soak up some cool supplements that you could take that actually decrease that threshold for nad for some of those metabolic processes like activating Ampk for fat loss.

And usually it's around like low doses of leucine. So we have like our loose synergy product that has 1.1g of leucine. It actually decreases the amount of energy needed to activate some of those metabolic processes, you know, and then we pair it with something with like resveratrol, which will increase Sirt1, which is a, you know, Ampk downstream gene activation for fat, it for fat oxidation with, you know, B6 and leucine are shown to help increase thermogenesis.

So there are some cool things that you can pair as an anti supplementation to even make it more beneficial. Yeah.

And then glutathione. So let's talk about glucose I so love glutathione or detoxification.

Tell me about glutathione. Yeah. So like you said it's one of the main antioxidants that we have from our liver. And sometimes patients who are, you know, that are going through a lot of toxicities, their glutathione on the storage will be depleted.

You know. So I think the biggest thing when it comes to that is the research shows like sometimes, you know, the supplementation that you can do either I. V.

or certain, you know, I mean unfortunately the oral one doesn't get absorbed very well. A lot of gets oxidized in the gut. So that's why they have, you know, those type of soma ones.

There's nasal sprays. There's some topical ones out there that seem pretty cool, but it's also getting it interesting getting it into the cell intracellular.

So and it can have those effects there you know. So yeah we love it as well. There's still a lot of research coming out to show like you know which products are the best.

But it definitely has a great great place in detox. Okay. And then so yeah so glutathione we use it a lot. I've you know I use it injectable. But I do feel like it helps with just the detoxification pathway along with, you know, red light therapy.

And then you have to put people like you have to because everything you can't. And that kind of loses the. Weight of sweat. So you know I have these. How often do you ask patients or how often you have a bowel movement and people say two, three days?

I know, like my doctor said, that was normal for me. I'm like, that's not normal for anybody, but it's so or. God bless the women who have hypothyroidism and are going through menopause listening to this like, you know, I'll be like, when's the last time you poop? Seven days.

I'm like, there's so many toxins in you right now. Like, this is not normal. So yeah, I own will help you detox, but you still have to poop and sweat.

Okay. Yeah. That's a that's a non-negotiable, which is why I saw it, so. Okay. So mitochondrial health, we kind of touched a little bit on that. There are some other peptides for people who are listening.

Like we're not touching on all of them. But the other thing I want to talk to you. So let's transition to the gut because that's like our you know, I love the gut.

I'm like so intrigued. I think I love it. So you guys and I use a lot of your, your gut time. So you guys have this it's a supplement and it's got BPC and Cfpb in it.

And so I just really helps with inflammation in the gut because I see so many people with high cal protected levels, which is an inflammatory marker of your colon and just all these bad bacteria.

And I'm like, Dear God we have to stop the inflammation, you know? And then the other thing is you're going to go kill all these bad things that they have in their gut that's going to cause more inflammation, right?

A lot of these bacteria that die release LPs and they release all this bad stuff. And so then I'm just sitting there thinking like, oh, your guts already swollen with start killing all this stuff.

Like you're going to feel terrible. And so I. You know, when people start. Saying. Things and I think, well, it's they cause this stuff, it's like, no, when you start fixing the gut, unfortunately, you might go through a like a couple of days of a bad period, like you said.

And it's so common that we see when it comes to gut permeability and that in like either Sibo or bad, you know, a dysfunction in the microbiome and there's overgrowth and they go hand at hand.

Right. So like when you have that gut probability issues which is going to cause inflammation and then that overgrowth and you know VPK does a great job when it comes to if you have any kind of lesions, any kind of tissue damage as well when it comes to healing that damage, K-P-D in particular does a great job when it comes to inhibiting two men or coaches.

Factor Alpha, which is one of the main inflammatory cytokines that we see in the gut. So, you know, BPC also has, you know, inhibits nucleocapsid activator some inflammatory gene transcription factors that will help decrease some cytokines as well.

So both of them together, you know, work really well. And then, you know, besides gut tides we also have La Raza Tide, which is probably my favorite gut health peptide in particular to eight amino acid synthetic chain. But what it does is it inhibits inulin.

So that protein that goes and disassembles a tight junction cells which will cause LPs and other highly inflammatory particles to be released in the body, gets inhibited as well.

So that one does a great job where a lot of your patients that have leaky gut, I mean, they study celiac disease. It helps a lot of those patients. It was a phase two or phase three trial.

But you know, like combination of the La Raza type block, you know, inhibiting leaky gut PVC weave for healing the tissues. And then also in the further decreasing inflammatory markers in the gut is a great combination for a lot of patients.

So with La Raza Tide, you're seeing that it inhibits the blood from releasing. So for people that are listening in so the cells of your gut line up. They're called epithelial cells.

They're supposed to have really tight junctions. They're supposed to be lined up next to each other really tight. No leaking no holes. They're held together really tight by something called Zombieland.

Okay. When we eat things we're not supposed to or we, our body is. You know, we have a lot of inflammation in our gut because bad bacteria are dying and releasing things seasonal.

And these little there, like, you know, ties and holding things together, they get damaged and then they start to release. And when they start to release, our cells that are stuck together start to open up.

And when our cells start to open up, our gut starts to look like Swiss cheese. And then imagine eating something and it's flowing through a tube that looks like Swiss cheese. So you've got all these little food particles leaving the Swiss cheese lined tube.

They end up in your bloodstream. So now all the crap you're eating, the red 40 and the dyes and the sugar and just the garbage leaks through this tube that it's supposed to stay in and is in your bloodstream.

And then now you've got this immune response where this immune response, like, what is all this crap in your bloodstream, like what is going on? And so then your body's like attacking the food you just ate.

Well, that takes a lot of energy and causes a lot of inflammation. And then you wonder why you feel like crap and your stomach exploded every time you eat, because that marker is not there, or the documents aren't there to hold cells together.

So that's what he was talking about with lorazepam side is it will help keep those silent pieces intact, right? Yeah, exactly. The zone and will disassemble those tight junction cells and that's what.

So when you have that good you know those those holes that LPs from, you know, being those bad bacteria being broken down, going to the gut instead of leaving the gut while you poop, it goes back into the bloodstream and causes even more inflammation.

And that's what I mean. It's not just LPs like you said, food particles there even did a study with La Raza tied at Boston, mass. General with, you know, in children that had Covid, but they also had, you know, mothers.

So you know, they did it as part of adjunct therapy. Well, unfortunately, the rising tide didn't decrease the amount of time that they stayed in the ICU.

But the one thing that it really did was help decrease spike antigen clearance. So it went from five and a half days to one day while they were on the Raza tide.

So their body was able to clear the protein much quicker because it wasn't getting redistributed back through the body. So the La Raza tide should makers and marker come down on you breathe.

You get oh yeah. It's it's definitely going to go down. Yeah okay. That's a little orally. You know 2 to 3 times a day 500 microgram capsules. It's tolerated really well even in some of the celiac trial studies they did, you know, 500 micrograms.

They did one milligram and two milligrams. After that 500 microgram dose was the most effective. But they all were compared to placebo when it came to side effect profile.

So definitely super safe. You know, we generally don't see too many side effects with it. Like you said, when you start fixing the gut, sometimes you get some bloating, some gas, some you know, maybe diarrhea, constipation, kind of depending on what your issues were.

But, you know, it's generally really well tolerated. But is this something you recommend for like three months? That's typically what it takes for like a G. I protocol is that.

It kind of depends right on the indication for patients. You know, some celiac patients unfortunately may have to take it continuously because their body just sees gluten and sees other of food and sensitivities that they may have as a bacteria and will constantly release, you know, you know, soluble in to attack those things.

So it kind of depends, you know, some patients unfortunately, may have to be on it continuously. But for a lot of patients, if you're just kind of fixing their leaky gut, fixing their bacteria issues that they have and you know, some patients can do it, you know, like I said, kind of depends.

Usually recommend six weeks kind of start, but three months is definitely very common. And then patients can, you know, maybe do butyrate supplementation afterwards to help with, you know, that that mucus, you know, barrier that on your epithelial lining that will help prevent leaky gut and also help increase the amount of tight junction cells that you have.

You know, we love uterus supplementation as well. So you know that, you know, patients may be able to be transitioned to that. You know, sometimes they need prebiotics, either something like low dose like the lows or something like, you know, at progress we have pentose and poly sulfate.

It's a pentose oligosaccharide so similar to xylitol oligosaccharide that you can use to help promote good bacteria growth as well. You know. So it kind of depends on the indication, you know, like gut health is so complex.

You know, I sometimes I hate talking about just protocols and a couple things just because it's like, you know, sometimes some things may work better than others as you really, really depend.

But a lot of these products can be used with a bunch of different indications. Yeah, gut health is hard because there's not really a protocol. You have to look at everything that's going on.

So I would agree with that. But the other thing, you know, butyrate I love butyrate too. It's great for feeding your good bacteria. So if we're you know, we want to make sure our commensal they need a mucous membrane to live in, but they also need food.

So I'm a huge proponent of butyrate as well. And then just fiber you know fiber helps a lot of things. And most Americans are very fiber deficient. Oh yes and yes.

And synthesis helps with even your own production of GLP ones. And leptin and peptide wise. So even some of your patients who are having weight loss issues because their guts messed up.

And sometimes it's just you just need a little bit rate supplementation and it'll help the patients either on GLP one or kickstart their own weight loss journey.

So yeah, that's been, you know, beneficial as well.

Thymosin Alpha and Beta for Immune and Tissue Repair

And that's why we recommend that modern endocrine, we have a weight loss package that we do with patients and we do this full workup. But we also we recommend you do a GI map so we can see what's going on in your gut, because I can give you everything in the world, puts you on track, give you hormones.

But like if your gut is not going to absorb what you're eating or the hormones we're giving you, then doesn't really matter. Exactly. That's what I mean.

We we talk about it a lot because the only ones are when it comes to reducing that oxidative stress and inflammation, sometimes it's enough to help patients lose weight, but as soon as you get it off, the GLP one inflammatory status cause it comes back, causes insulin resistance, patients gain the way back, and then they try to go back.

And the other one doesn't work as well as I did the first time because it can overcome that inflammatory status. And then patients like hold that if they think that I'm never going to lose weight and then I'm stuck, you know, it's like, oh, I thought it was just fix the guy a little bit, you know.

So yeah, that resistance, that weight loss and refractory weight gain issues. Like if you don't address that gut sometimes you're not going to have long term success.

So you heard it from the pharmacist, not just from the doctor. You're a doctor. I want to talk to you about thymus and alpha and beta really quickly. So tell us the difference between thymus and alpha and beta.

What are they. Yeah. So they're both thymus peptides but they work on different parts of the immune system particular like thymus and alpha one helps AT1 helper cells migrate a maturation and helping increase the proliferation and number of T one helper cells thymus and beta four has to do with like fibroblast migration, soft tissue injury repair, healing and things.

So usually we recommend times an alpha one when it comes to like autoimmune disease you know inflammatory status things like that. And then thymus and beta four when it comes to either acute or, you know, chronic injuries post surgery repair, you know, we will generally recommend thymus and better for, you know, in combination with VFC.

And that's a great combo there when it comes to decreasing inflammation and increasing some, you know, protein packs and infection and facilitation to soft tissue injury sites.

Both of those work really well together. Yeah, I had some dimension data with some BPC and some exosomes in my knee in May and it was amazing. Like it sucked for four weeks and then my knees like, feel better than they've ever felt in my entire life.

So I've never done Thymus and Alpha. I'm going to though I think it's great for autoimmune type stuff. And so luckily my autoimmune stuff has been spent on rats, so I haven't really needed it.

But I kind of, I think I'm going to play around with it. And yeah, I mean, it's still good to do in front of it's like a six week run just for, you know, prevention of flare ups.

But I mean, if you have patients who have, you know, some severe autoimmune disease, we see patients and be on a continuously some of our type one diabetics.

Yes, we'll use it content, you know, especially those like the late onset type one diabetic etc. caused by some kind of viral issue. And you're, you know, there are antibodies attacking the pancreas.

And we've seen, you know, use like times in alpha one, use some, you know, lorazepam and things like that. And extremely beneficial in those patients.

Yeah. And my, my Hashimoto's patients where we just can't get their antibodies to go down or they're just really inflamed. Like those are the people I'm thinking about too.

And so just, you know, so that they hear it from not just me. Side effects risk like. Oh yeah, I for one I mean they were testing, you know, so usually we recommend a dose around like 450 micrograms daily or if you're like a maintenance dose, you can do 1.5mg a couple times a week.

But they were studying in patients with Covid on the in the ICU, doing like ten milligram doses every single day. And it had no it had no severe detrimental effects to patients.

So like side effect wise and safety wise, it's super safe. You know, you know, I haven't had any patients have any kind of reactions to them as well. Times in beta four, they've tested doses up to like three milligrams even or four milligrams.

And we generally recommend like a 750 microgram dose. So we still see benefits at those lower doses. But, you know, at the higher ones, you know, it was as safe as well.

So yeah, you know, of course we talk about moderation. But, you know, some of these peptides are extremely safe. Okay. Perfect. For.