## Introduction and Dr. Milesu2019 Background

Hi, everyone, it's Dr. Jen. Welcome back to the Peptide Summit. Today we're going to be talking to Dr. Miles Nichols is a functional medicine doctor. He specializes in Lyme mold illness, gut, thyroid, and auto immunity.

After Dr. Miles personally struggled with chronic fatigue in his early 20s, he decided to dedicate himself to figuring out root causes of illnesses he suffered with and recovered from thyroid dysfunction, autoimmunity, a gut infection, Lyme co-infections, and mold illness.

Dr. Miles has authored two books. He founded the medicine with Heart Functional Medicine Clinic in Colorado, as well as the medicine with Heart Institute that trains other doctors in functional medicine.

Welcome, Dr. Miles. Thank you for being here today. Dr. Jen, thank you so much for having me. Hello, everyone. Yes, well, why don't you introduce yourself a little bit more about how you got involved in what you do now? And it seems like healing yourself has made you such an expert with healing others.

It goes back to starting with the family that I grew up in. My dad was a doctor also. He had a master's in public health as well as being a doctor, he really was focused on helping send mobile clinics out to rural areas to give checkups to the working poor and teaching in the medical school.

And then he became a state legislator and then a state senator, and was working to to get a lot of legislation passed and to get access to resources for people who needed them for health purposes.

And and I remember at one point it got so busy for him, so stressful that he called my mom and he said, I think this job is going to kill me. And the next day I got a call from someone from my my church, and it was that that Claudia from church said, something's happened.

It's your dad. He's in the hospital. And and he had literally passed away from a heart attack. I was 15 years old at the time. It was a significant shift for me internally to try to understand, to try to come to grips with what had gone on there.

Why did that happen? For me, it was I was convinced that stress was a part of it, and I started to become obsessed a little bit with how do I manage stress?

How do I not do this to a family someday? How do I help other people? So I kind of shifted gears. I was I had started college in computer engineering, I shifted gears, I went into psychology and mindfulness and spirituality and then, found Chinese medicine and then functional medicine and really looked at how can I help people in a way that that transformed stress.

Because for me, I was also experiencing moments of peace, moments of of really feeling like like I was I was good, I was content, I was at peace. But then stressors of life would kick in and I'd feel irritated and frustrated and and I really decided I wanted to try and figure that out for myself and to help others.

And through mindfulness practices, through movement practices, and through meeting some important teachers, I went to this workshop and I was 22. I sat in the back.

I was, the youngest one there, not by a couple of years, but by a couple decades. And, and I was trying to figure out it was a movement practice and meditation and, and, but the teacher was talking about, you know, this possibility of transforming stress, of being outside of the, the, the worries and concerns of the mind to be in this in the moment and in the body.

And and I'm like, oh, yeah, well, I've heard all this before. I've been in all these yoga classes.

## Stress, Trauma, and Autoimmunity

I've kind of been around the spiritual block and but then he said, I'm going to show you and I'm going to do a movement and I'm going to do it with this state, and I'm going to do it not with this state.

And one time I'm going to do it like I'm just normal exercise, physical movement, another time, like, you know, like you're on vacation. no worries, no concerns, no obligations, nothing to do, nowhere to be, just this sense of complete bliss and openness and love in the body.

And he showed it. And he, when he showed the movement with this, just a smile on his face, he did this movement like, oh, everything so wonderful, so nice is doing this movement.

And I thought, oh, that's, that's what I've been really looking for and feeling that I've needed. So I really took a deep dive into that, that piece of how do I embody that?

How do I really live that? How do I get into that in my own body, in my own life, in my relationships, in my, in my work? And and that did a lot for me.

I found this sense of of contentment and inner peace. But what it didn't do is it didn't resolve the chronic fatigue that I had and some of the other stuff.

So so then I had to go through all the testing and get into some of these, these novel, treatments like peptides that we'll be talking about today in order to really recover my soul energy.

So first, it for me, it was important to transform stress and find peace. And then I really had to figure out the migraine headaches, the chronic fatigue, the brain fog.

I was a lot more happy with those things, but but I wanted to solve them, too. And and by testing and resolving these things, I was able to. It was a long journey.

And I saw practitioner after provider after integrative and and everything that I could find. So I wanted to streamline that for people and help them to go more through a step by step process.

So how do we how do we go straight to the things that are going to be really effective and helpful and go through a process that leads towards feeling not only healthy, but also happy and content?

Thank you so much for sharing that about your dad. I'm sure that is so difficult. And it brings up a great point that stress can really affect our health.

And we're all just living. We're bathing in stress every day with notifications on our phone or emails and it's you have the rushing syndrome. And, you know, I feel it.

And what I'm trying to get my kids ready for school. And I'm like, like I need to just not care if they're late. And sometimes I do just let that go. So we need to recognize it, though.

And you've probably had patients that are like, I'm not stressed out. And you, you can tell by their labs or how they're not healing. Well that that there is some sort of stress.

And it might not be stress, it might be trauma too. And I'm sure that you have to work through a lot of that trauma. So, I mean, this brings up a good segue way to, you know, what you're an expert in, you know, autoimmune diseases.

And why are they on the rise? Well, I actually do literally think that stress played a big role in that, not that stress

causes autoimmunity, but stress acts like an amplifier, acts like an amplifier that amplifies dysfunction that's underlying, and that dysfunction that's underlying today gets there's a lot of reasons why that's the case.

there's an emotional component and a traumatic like you mentioned, trauma, stress. It's hard to unpack it all, but I'll say there's absolutely there are a number of a number of, of experts in the field of autoimmunity that really do believe strongly.

And there's data starting to come in about a relationship between the way in which a person relates to stress, challenge, struggle, trauma, etc. in their life and autoimmune diseases that we know from the Aces study.

This is adverse childhood experiences studies. There's little as two adverse childhood experiences. And these could be things like parents getting divorced.

It can be a parent ending up in jail. It can be emotional abuse. It can be a traumatic event. There are many things that classify as an adverse childhood experience, and even as little as two of them, and increase auto immune rates dramatically.

And so we know autoimmunity has some connection with history of events and how, the ability of the developing child was able to and mind was able to handle those events at that time.

And those that exceeded the nervous systems capacity to stay regulated may actually play a lasting role in later health issues. Now, there are some promising research as well on even autoimmune conditions and mind body therapies like internal family systems.

For example, IFS there was a study with rheumatoid arthritis and it showed some significant improvements Wim Hof method, which is breath work, cold exposure and mindset, has shown some actual benefits in the inflammatory marker reductions and is being investigated for multiple autoimmune issues.

Right now as a potential therapy. So we know there's a direct interventional aspect and there's a causative aspect that does relate to stress and trauma.

There's also an environmental aspect. It's very big. When we're looking at the world today, the environment is significant, and we know that there's quite a lot of exposure to environmental toxins.

That's not only going to be from things like homes where the estimates are even in the United States. I was just in in Philippines, and we're much worse there.

There are places in the world where it's much worse. But in the United States, even the estimates are that between a quarter to a half of U. S. homes have damp conditions conducive to things like mold and bacterial growth that can produce endotoxins, mycotoxins, acting on MCTs.

These things can really actually be causes for many people to trigger, to trigger something that is maybe dormant or latent until it presenting with that environmental exposure.

And that exposure then can trigger a process like an autoimmune process as one example, an inflammatory process. And that then can lead to damaging tissue and all the other things that come with autoimmunity.

And the symptoms come later. So environmental issues are big. And of course today the gut issues are significant in the microbiome, both in the gut and the rhino biome in the sinuses are both significant.

The bacterial populations in the body are dramatically impacted by overuse of antibiotics, by hygiene, and how hygiene can sometimes be too little or too much.

You know, excessive hygiene or too little hygiene can both create imbalances in the gut microbiota in the rhino biome. And there are many other reasons why the use of pesticides, herbicides, fungicides and other things have

impacted the gut significantly.

And we know there's a big gut immune connection. And so we do see also that gut issues and intestinal permeability and and gut brain connection can contribute to the onset of inflammation in the body systemically and neuroinflammation in the brain.

That can include mental health issues and worsened stress response and trauma response. And it can cycle here. So what we're dealing with today partly is environmentally related, partly is related to drug use.

Antibiotic use partly is related to exposures and partly is related to some of the chronic stress and the way in which the world has created busy schedules and a lot of obligations and things that are different than they used to be.

And a lot of electronic use and a lot of screen time and a mismatch between the light that we're receiving from devices and natural sunlight and disconnection with circadian rhythms and, and nature.

So many things. but the big one really for autoimmunity, we want to look at are the exposures and the triggers in the gut dysfunction. These are going to be some of the big ones with autoimmunity specifically.

Yes, absolutely. And it can be overwhelming. Right. But it's you have to know about these things because then you can pay more attention because autoimmunity is is on the rise and post pandemic for whatever reason, whether it's the the virus or the vaccine, I've seen a lot of just new onset autoimmunity that we can kind of pinpoint back to that.

But it's interesting because. So I'm in the Midwest, in Ohio and Northwest Ohio, and literally where my patients live used to be a swamp. So a lot of mold.

And also there's a bunch of oil refineries by us. So if patients live near there I'm like, consider moving. We also have 5G towers. You know, you have to be careful about those.

Those can disrupt your cells and possibly lead to autoimmunity. And glyphosate in the Midwest is hit. it's so bad when I test people's glyphosate levels.

I know they're going to come back high, but they're bad. I mean, where you're at in Colorado, glyphosate probably isn't as bad, but it's probably still obviously in the food, but environmentally, maybe not as bad.

Do you think? Yeah, I don't think it's as bad environmentally, but certainly a lot of food supplies can contain some. And when we do test people, the know it's not everyone, but a lot.

People do have elevations and life sea levels as well. And so so if we're going to boil it down just add three big you know, big things. We can we can say thanks for bringing up infections.

That's important because viral infections can be a trigger. Bacterial infections can be a trigger. We do know autoimmunity can trigger from those. So infections toxins we can say as a broad spectrum for the environmental aspect, we can say infections, toxins and gut dysfunction would be the top three plus the stress amplifier and the trauma amplifier on top of that really creates a picture for why is it so bad today, where the CDC is now saying 6 in 10 Americans have at least one chronic disease and 4 in 10 have two or more chronic diseases.

So it's really a majority are chronically ill today. It's not a minority issue. It is a majority issue. You are chronically ill today. And one of those chronic illnesses that are on the rise are autoimmunity.

And as research starts to come in, it tells us there are more and more autoimmune issues. Like one thing I've done a lot of testing on in recent years that a lot of people don't understand yet or know a lot about our antibodies against the brain.

And so we do a whole panel of antibodies against tissues and structures in the brain, such as dopamine receptors and such as as anti cerebellum antibodies and antibodies against tubulin.

And these there are some that have shown to be able to actually induce things like obsessive compulsive disorder or anxiety, depression, other behavioral changes.

And in children even. And so this really is a big issue. We see we see a number of basically a post infectious or post toxin exposure, autoimmune onset with the brain and changes in behavior, mood, and changes in the ability to focus and concentrate and symptoms that are neurologic in nature, arising as a result of brain autoimmunity, but often never gets diagnosed as autoimmunity.

Often it gets diagnosed as, oh, someone has a mental health disorder, they have anxiety, they have OCD, they have or they have something like, behavioral issues.

So it's and an ADHD diagnosis or maybe it's a diagnosis of chronic fatigue syndrome, multiple chemical sensitivity or migraine headaches or, you know, and and often these aren't thought to be or known necessarily to be autoimmune or they haven't gone through such a high level of proof yet that that people aren't fully embracing that.

## Environmental Triggers and Gut Dysfunction

But there's enough research now for me to say fairly confidently that that not all, but a number of neurologic and mental health diagnoses are caused by or contributed to by antibodies against brain.

Wow. Yeah. And you can get that test. But unfortunately, your conventional medicine doctor is going to look at you like you have a couple heads, 2 or 3.

Right. so you probably would have to work with a functional or integrative doctor that that is used to working with those specific tests. And I think it's very sad that people are, you know, they're going to their maybe regular conventional doctor.

They're saying that they're feeling low mood or maybe anxious and they're treating that symptoms because that's like what we're brainwashed to do in medical school.

Like, oh, it's a symptom. So you call it a disease, you can treat it with a pharmaceutical and you know what I like to say a lot is these, like anxiety is a symptom of a root cause, right?

Whether that's an antibody against the brain, whether that's gut health, whether that's blood sugar, sugar dysregulation. Even so, you know, just if you're listening out there, just to know that these feelings that you're having, especially from a mental health perspective, their symptoms are your body telling you, hey, like, something's off, I'm dysregulated.

And like, you pointed that back to this could be even an autoimmunity against certain, receptors in the brain. And, that could be causing the problem.

So when you see these patients, you often, like bring peptides into the mix, right? Yeah. Absolutely. No. Peptides are. They're interesting because they're natural in the sense that these are amino acid genes.

The body makes a lot of peptides just like hormones. So body makes hormones. And hormones have an effect in the body. Peptides have hormone like effects sometimes or even stimulate hormones to be produced.

But they're a little bit different. They're amino acid chains. They're smaller amino acid chains. So just like a protein is a bigger amino acid chain and peptides, a smaller amino acid chain, one of the first peptides to enter medicine is actually insulin.

And insulin. Entering medicine was a game changer for diabetes, especially type one diabetes, where the insulin isn't being made in the pancreas anymore, and or late type two that can become type three, that can start to reduce in insulin production and come with severe insulin resistance.

This was a game changer to save lives. This is one of the very, very powerful peptides. So that was one of the first peptides to hit medicine to become a treatment.

That's shown to very strongly take sugar out of the blood and put it into the bloodstream. And that's how powerful peptide can be. Now, many peptides do are much subtler than that.

some even supplements are peptides, like glutathione, for example, is a three amino acid peptide. Now glutathione can be very powerful, but it's not going to be used in the same way like insulin would be.

You're not going to have to be as careful as you'd have to be with insulin. So peptides span the gamut and they span the gamut from in terms of the effects that they have being very broad or very narrow.

They also can, be very strong in doing something that's very impactful to the body that you want to be a little bit careful of, or very broad spectrum doing things that, that you don't really have to be so careful and can tolerate very, very high amounts and very, very strong safety profiles for a lot of peptides.

So peptides are really useful when, for example, in autoimmunity, if we're looking at brain antibodies let's use that as an example. Let's say we've we've discovered that brain antibodies.

And we want to help the immune system to calm down. Well we do with autoimmunity. We want to figure out what exposures or triggers have there been. And resolved those triggers.

So if it is let's say it's it's a multi environment a multi hum and a mold trigger was involved. Of course first thing to do get out of that home or mediate.

And that's going to be really important to if there's an ongoing toxin to get rid of the toxin. Once that's sorted out then we need to get rid of the accumulation of the toxin, the body, when it comes to accumulation of toxin, the body often will be using things like binders, will be using certain detoxification focused supplements, will be doing some dietary change, some lifestyle changes.

Sometimes some off label medication uses that may be helpful with finding and getting rid of toxins and up regulating detoxification function. And we'll often that peptides into the mix as well.

Peptides that we'll use in fruit specifically related to auto immunity. Often there are few. So k-p-d is one that I really like KP V is just like glutathione.

The three amino acid peptides. So escape v kp v is strongly anti inflammatory. And that and we know there's such an infamous lamb story component with autoimmune diseases that one of the prime treatments conventional medicine uses for autoimmunity are steroids.

And steroids are highly anti inflammatory. Problem with steroids are not only are they anti inflammatory but they also suppress the immune function that's defensive against infections.

And they really change how the cortisol works in the body and the adrenal responses in the body. And so while they're very strongly anti inflammatory and that gives a benefit for symptoms it doesn't get at the trigger.

So it doesn't if you're exposed to toxins or you have a chronic infection it doesn't get rid of that. And it also doesn't. It has a a secondary effect that's that's problematic on on the ability to be able to defend against other infections and for the body's defenses to to be impacted on that.

So if we can find anti-inflammatories that don't possess the innate parts in the defense, parts of the immune function, then those are really, really helpful in autoimmune issues.

And KP v is one of those. So we see KB v is part of the, the there's this whole milana cordon pathway. And without going into too much of the technical detail, I'll just say lanta court and there's a lot it relates to.

There's a, there's a hormone commonly inside stimulating hormone. And this does more than I possibly could have imagined until I dug deeply into the research.

This it relates not only to sites on the skin and skin pigmentation and tanning, but it also relates to sexual function. It also relates to immune function, inflammation.

It relates to neuro protection. It relates to other hormones. It's very, very important pathway. And this pathway gets highly, highly dysfunctional in many autoimmune issues.

And HPV targets the inflammatory part of that pathway.

## Brain Autoimmunity and Mental Health

So it's not going to tan your skin like another Milana Corton peptide like Milana Tan to for example, or Milan a tan one will actually tan your skin kp v not so much.

It's more focused on the anti-inflammatory part of that pathway for autoimmunity is really the part that we want to target most. So KP v is fantastic and VIP is another one that we'll use in VIP is a nasal spray.

It's delivered as a nasal spray. KP v can be injectable or oral. Use and VIP use a nasal spray VIP is a peptide that really helps to. There's actually been a study showing gray matter in the brain changes.

So the damage that's done, the let's say there's an auto antibody against the brain, or let's say that a toxin, an infection has done damage. And we know on MRI with AI analysis called a neuro quant MRI, we can see that there's atrophy or there's breakdown in gray matter in the brain and important brain regions.

We've actually seen VIP at a high enough dose over a long enough period of time, usually at least three months better six or longer. We've seen actual restoration of the gray matter of the brain that atrophy, regenerating and improving.

So and VIP is is also impacting this MSH and this, this Milan pathway from a different angle. So that and kp v really really helpful important famous and helpful.

One is I'll go. Ahead I'm sorry. Let me ask a quick question about VIP. So this is used a lot with mold illness. And that's helping with the brain inflammation.

But I have had patients that it's it's hard to kind of get them off of it. So do you just wean them off and can you talk about that. Because sometimes VIP gets a bad rap a little bit because of that issue.

Yeah. So VIP has it. It can have a very powerful effect in the sense that people can feel better on it. But if they go off, they may or may not continue to feel better.

Part of that depends on what happened before VIP and where a person's at in their process. If it were VIP doesn't tend to work well is if someone's still in the midst of a chronic inflammatory response when it's used, usually first, we really have to get a person to a certain point of having removed some of the exposures and having calmed some of the infections and inflammation, and having gotten rid of some of the bio toxin accumulation in the body.

And before VIP can be tolerated well and then gone off of. If those things haven't been dealt with, then things like Cfpb and a couple other peptides, BPC 157 times another one can help with coming off of of a VIP even because they will help with that inflammatory and immune dysfunctional component.

VIP really helps with repairing. I think about it as a repair. We're generating focused peptide and epigenome change peptide is making epigenetic changes and it will help to an extent with inflammation, but it's really not meant or intended to be used.

Primary for minute and for for inflammation. It's primarily used as the the end step of of resolution and repair and regeneration, not of during the middle or the beginning or getting the.

It really does come at at the right time for it to be helpful. But if it's if people are having a hard time getting off it, then look, are there any triggers that are haven't been identified and you toxin triggers infection triggers.

That's one. And then two is is to once you've gotten rid of the triggers and removes some of the toxin is to consider some other anti-inflammatory peptides like KP v or immune regulating peptides like BPC 157 and thymus.

An alpha one as ones that can really help to to deal with those underlying issues that that might be a challenge with VIP. Yes, absolutely. That's such a great explanation.

And I know with mold, when we talk about environment, a lot of people, they they are still there. Their remediation didn't work. Sometimes they just have to move.

You mentioned it to know minuses and other VOCs, volatile organic compounds. So it it's sometimes it's tricky to get people that are so reactive back to normal and sometimes it takes time.

But that's why peptides are great because they can really move the needle a little bit faster. For these patients that are suffering. What other peptides are you using your practice?

I mentioned BPC 157 but haven't really talked about what we're using it for. So BPC 157 is a 15 amino acid peptide that is similar to is discovered through stomach acid secretions.

And what we know about BPC 157 is that it's nice because it's orally bioavailable.

## Peptides for Autoimmune Support

Many of these peptides don't work when taken orally, and they would be kind of a waste to take orally because they're not going to stay in tact. They might break down, they might not have their effect, they might not stay intact through the digestive process.

What we know about BPC 157 is there is research supporting that. It does signal its effect, even if it's taken orally in and, and its effect is also a repair effect but different than VIP.

Its effect really can. The studies have shown a lot of intestinal repair. So one study in in it was an animal study. But what it did was it took high dose NSAIDs, nonsteroidal anti-inflammatory drugs.

And these can cause at high doses it can cause stomach problems. It can cause ulcers. It can cause lesions. It can cause, liver and kidney damage. So that they did with these mice.

They gave them high doses that would cause this kind of damage. And they gave them BPC one, five, seven at the same time in one group. The other group did not get BPC one, five seven, the other group got arginine.

So they did a couple different groups and the control group that it wasn't taking the onset. Now it was fantastic because they showed these pictures of the of of the the stomach and duodenum area of the which duodenum, the upper part of the small intestine right below the stomach, and the ones that had the Nsaid without BPC 157 really looked in a bad way.

You could see the necrotic tissue, you could see the discoloration, you could see the black, the gnarly, like the abscesses forming. And then the BPC 157 group.

You could see it looks beautiful, just like the control group, as if no damage had occurred. So why is that? Well, BPC 157 seems to be able to recruit repair and it can recruit repair into the the gut region.

So it may be helpful clinically. We find it quite helpful for people who are struggling to get off of antacids or proton pump inhibitors. BPC 157 can be quite helpful for getting off of those and for doing the repair to the stomach, to the duodenum, to the intestinal area.

For leaky gut, which intestinal permeability or leaky gut is actually one big part of autoimmune issues. We do know that if the gut's leaky, these bigger proteins make their way through into the bloodstream and they become systemically inflammatory, the immune system sees them, says this is a threat, and some of them look like other tissue in the body.

Might look like the thyroid and instigate thyroid autoimmunity, or might look like parts of the brain and instigate autoimmunity against the brain or against the pancreas.

So we do know that the proteins need to be appropriately broken down into amino acids before they're transported via transport proteins in the small intestine into the bloodstream.

If they're not in, they're too big and they get through because there's intestinal permeability or leaky gut. That's a big problem. BPC 157 can help with leaky gut, and we know that it doesn't limit itself.

Even if you take it early, it doesn't limit itself just to the GI tract. It actually will. But one study called it running. It will run to different tissues, tendons, ligaments.

muscles. It it crosses the blood brain barrier so it can stimulate repair. In a mouse study, it showed heart repair. In another study it showed and in ligament repair.

So when there's damage to tissue which with autoimmunity what is autoimmunity. It's the immune system attacking tissue. So we want to repair damage to tissue.

That's a really important part of an autoimmune treatment in BPC 157 can be quite helpful with that. Yeah. Do you have one of my favorite. And with BPC 157 also like you could play on the offense a little bit if you're traveling to somewhere where maybe there's a lot of infectious diarrhea, you could take that, if you would get sick.

you know, I tell my patients that a lot, like, once we fix their gut, you you always have to be careful. Especially around here. I have to do a lot of preventative things because there's so much glyphosate.

So BPC 157 can be used for that if you, you know, eat, eat out. I remember I had this burger that wasn't really cooked enough. It was like before a Pittsburgh Steelers game anyway.

And I ate it. And after that my stomach. I had to do some repairing. I had to take some BPC 157 because I didn't want my stomach to stay inflamed. also like ulcerative colitis, any, you know, inflammatory bowel diseases, I've had patients that have refused conventional treatment.

I'm like, okay, we're going to hit up the peptides and BPC 157 can really help decrease flares. So I mean I'm excited. Hopefully there's more more and more studies on this.

But that NZ study was amazing. That's a they should they should put those together right in a drug. Yeah yeah. If someone is saying hey I need I'm in so much pain I need to take ibuprofen regularly.

I say you know let's code. Mr.. BC 157 in many cases because I can be really helpful, really helpful post surgery is a lot for people. They're going into surgery.

I found people say, wow, I really repaired quickly. Both my my my surgical team said, wow, you're recovering so quickly. And BPC 157 often as a part of that.

And then and we also use BPC 157. Like you said, preventatively can be used early in treatment. It can be used throughout. It can be used preventively when being exposed to certain things.

Really a lovely way. And one more study on it just to they took it, used it together with some drugs in mice that cause interval changes in the heart.

So heart rate abnormalities, heart rhythm abnormalities caused by medication. So these are like anti-epileptic medications. These are there are certain class of medications that can cause these heart rate abnormalities and code administration.

Would BPC 157 showed to regulate to to regulate the heart. Again we seen that there's this normalization of an abnormality associated with medication.

So so for we know for sure right now heart rate abnormalities and Nsaid changes are two that are studied in animals with BBC 157 not say this will pan out in humans, but certainly worth considering as a co administration with pharmaceuticals that may have certain kinds of side effects and seeing if we can, have the repair to the repair to the damage that's being done by certain pharmaceuticals may be quite helpful as well.

That's cool. That's really cool. And your body makes it so, yeah, side effects are minimal. you were going to mention another peptide before I cut you off.

I know that's. Yeah. Timesand alpha one is a fantastic peptide for immune function and immune regulation. We know this immune balance, the size of the immune system can get out of balance.

Thought immune issues t h1 h2 t h 17. These parts of these T helper cells and T regulatory cells are really important in how the immune system is able to regulate, is able to create a defense against something that should be defended against, but not attack self and your own tissue.

And also to be able to, regulate against not having things like allergies to things that that normally wouldn't be harmful to you. So, so anything in the realm of allergies, certain skin responses, rashes, certain eczema, things like that, or anything in the autoimmune category and anything in the immunodeficiency category are all going to relate in part to this delicate balance of the different aspects of the immune system and the T regulatory cells.

And one of the things that we find to be quite helpful are we know that that that at young childhood years, the the thymus gland is something that produces a lot of these.

It actually kind of educates the immune, the developing immune system about what is self, what's not self, how to how to defend against different pathogens.

And that starts to shrivel and dry up. These, these peptides that normally are produced more quantity in younger ages are not produced much at older ages.

## BPC-157, Thymosin Alpha-1, and VIP

And the the studies on so now for one in particular show antiviral effects show ability to defend against the pathogens. Show ability to regulate the immune function.

So what we know is that a lot about immunity is infectious related and immune to an immune imbalance. Related. So thymus an alpha one is a fantastic one to add into the mix.

For people who are struggling with immune function, dysregulation of varying kinds and infections of varying kinds as well. Yeah, thymus and alpha one really cool about being, subcutaneous is how it's administered during the pandemic.

And a lot of studies about its use with Covid in the hospital in China. And I missed that one. We it's harder to get now. So unfortunately, it was really helpful because it's supporting that immune system.

And we know with certain viruses it shuts down that response or dysregulated it confuses the immune system. And

then you have that overreactive immune system where you have the the problems that we saw with Covid.

So yeah, that one is great for auto immunity, even chronic autoimmune problems too. Once you get the inflammation down. So that one like I said it, it's a little bit harder to get it because it's an actual, biologic drug right now on the market.

Unfortunately. Yeah. Yeah, yeah. Which which brings into the question all these, these challenges with, with getting, peptides and getting the right quality of peptides and knowing how to dose them and, and working, you know, the, the risk or the, the place.

I see a lot of people go wrong that I just want to educate about real quickly here is is I do see some people taking right. They're looking for a natural approach, a functional approach or a root cause based approach.

And I see, unfortunately, some people take a more empathic approach with peptides of what peptide is best for this. You know what peptide is best for my condition?

For my symptom. What's the good. You know, we I mean, we write blog articles on our website about peptides all the time. And we get these messages like which peptide should I take for my X symptom?

Or you know, what peptide is best for fatigue? I mean that there's no good answer to that because, you know, you're unlikely to get a result on fatigue if you're relying on a peptide alone.

And I can say the same about a supplement, I can say the same about a drug. There's not one thing that that cures fatigue. It's a very complex issue, and there are a lot of underlying causes when it comes to autoimmunity.

I want to make sure that people understand that remove ING the triggers is absolutely imperative and critical, and you cannot get around it by applying the right peptide or peptide combinations or cocktail.

And there is no peptide that's good for autoimmunity. Yes, peptides can regulate the immune system and can help, but it's not that they're going to solve the issue unless you if you are still living in an environment where you're exposed to a trigger that's triggering your immune system to attack health, then sure, you can regulate to a degree, but you're likely to continue to have some degree of underlying chronic inflammation and ongoing issue unless you really look at the bigger picture.

And that bigger picture is really want to look at infections, you want to look at toxins, you want to look at gut function, and you want to look at immune regulation.

And you want to look at inflammation and dealing with all those things in the right proportions and relationship together really can make a big difference, especially if coupled with stress management, breathwork, trauma work, rain retraining, meditation practices.

Now we're looking at if you're making in a really some of those changes, really working on your gut, your sleep, your stress levels, your trauma, you're addressing the infectious load and toxin exposures, and then you add some peptides into the mix.

Now very effective. But I want to encourage like don't miss the boat. And like just because insulin is incredibly powerful, to get sugar into the cells doesn't mean that insulin is a good treatment for resolving diabetes.

It doesn't do any resolution to type one diabetes. It just manages it and is very good at managing it. And it does an excellent job at managing it. But if you want to try and reverse it, and I'm not going to say type one diabetes is is reversible, we don't see that happen much.

We do see decreased need for insulin. there are lots of things that we can we can see metabolic improvements. Absolutely. but you know what we want to what I do want to emphasize is that, we if you just add a peptide, you will often, especially if it's applied with a mindset of what peptide is good for, this thing will often do the same thing.

It's still in the same mindset as a drug for a problem. What drug treats this problem? What peptide treats this problem? We want to take a step back and we want to say, okay, there's a problem and there are probably multiple cascades of things that are underlying that problem.

How do we address the multiple cascades and apply something that's helpful for the problem. So I encourage taking that kind of approach with peptides.

That's a great discussion point. For example, if you have a gluten intolerance or celiac where you can't have gluten at all and you're still consuming that trigger and you're like, oh, I'm going to take BPC 157 it helps at the junctions or it's going to help with the inflammation.

You're not going to get anywhere. And because peptides you know they're they're they're not super pricey, but you're just going to be spending money on something that you're not going to get your results.

And similar like small intestinal bacterial overgrowth, SIBO or Candida. Yes, you can you know, you can take BPC 157. It might help decrease inflammation again, but you're not removing those triggers in the intestines that you're not going to get the resolution that you want.

And hopefully, you know, the resolution of the autoimmune disease. Once you fix that leaky gut. So those are some examples that I thought of. And mold patient.

Same thing. Like if you don't get it out of the mold or get that remediated, you're not going to heal. Your body is going to be on high alert all the time.

It's like a constant fire in your house or something. So I love that you brought that up. It's such a great point. Yeah. You know, when we get these powerful treatments, they occasionally can become a disservice to people because they think, oh, I don't need to.

Do, you know, the basics and the basics are the most important to really get, you know, get clean, clean food, clean water, clean air, good sleep, good rest, good time, enjoying nature.

## Using Peptides as Adjuncts, Not Replacements

I mean these things like so so important. And a peptide should be an adjunct and not a main focus. But they're very powerful adjuncts. And and and I I'm happy to lean on them when, you know, when when life is a little stressful, there are challenges maybe traveling and it's hard to get access to clean everything.

you know, like it was for me recently. Traveling in the Philippines is really not a place where it's easy to get access to clean everything. So sometimes, you know, circumstances, we have experiences, and we choose those experiences not because they're going to be clean experiences.

And we may need to do some repair after that. And we may. But, you know, if if it's a temporary if it's we know. Okay, I have this, you know, two week stretch.

It's going to be really stressful. I'm going to have, you know, not enough sleep or exposures or more stress, you know, then do our best in that. But then, then that's luckily that's not an ongoing thing.

Then peptides repair just deal with the inflammation the repair whatever you know resulted from that okay. Really going to get things back. Fantastic.

it's those low grade ongoing things, those toxins that are still there, those chronic stressors that are still going on every day, day in, day out.

## Where to Learn More and Work with the Clinic

The, you know, issues that that really aren't getting resolved, that we need to pay really close attention to and make sure to address and use peptides targeted precision therapy for things, together with really getting a solid foundation.

I love it, I love it, such great advice and such great expertise that you have in the autoimmunity field. So I'm so glad everything you've shared with us today and all the information about peptides.

Of course. How can our audience reach you, find you, work with you? So one place we read a lot of articles, a lot of blog articles, MedicinewithHeart.com you can find a bunch of articles about peptides.

They're a great resource for information. If you have any specific peptide type in the search bar MedicinewithHeart.com You may find a nice article. Lots of information about it.

And you also, there's a place on there to book a call with staff, and that's a complimentary call with staff. If you're interested in looking at the clinic and working with the clinic and what that looks like, then you can book a call with staff and they can discuss what that would entail.

And then the website also has lots of resources on specific conditions. So if you do have an autoimmune condition and you want to look a little deeper into that, you may be able to find information in the blog articles and on the website as well.

So that's the best resource for how to. It's a central resource for how to find out information about me, about the practice, about, blog articles that are available, free information that's available, upcoming events and working with the clinic.

Awesome. Thank you so much, Dr. Miles. I really appreciated talking to you. You as well. Dr. Jen, take care and have a lovely day.