Introduction and Guest Welcome

Well, hi. Welcome to the Peptide Summit. Today I want to introduce you to my friend Doctor Amy Opinion. And, she is an awesome doctor. We actually, met through my friend doctor, Winston Ibrahim, who is, entrepreneur and, amazing person.

And, we have talked, quite a bit about addiction and nab and some interesting things that, Amy's been involved in. She, is going to talk today about, peptides, addiction and neurobiology and, ways to help treat trauma in the body.

So welcome to the podcast. Thank you. Doctor. It's always good to see you. And I love I love the work that you're doing. And so I'm excited to be here. Okay. Great.

Well, well, where should we start? I, we have so much to talk about, and I think that it's a lot of overlap. Maybe, maybe. Let's talk about this addiction conversation.

Know we were just talking before we, started, and I was I was super impressed with your background in and using energy. You were one of the early people doing it like me.

And, had used that. What what what was your experience, your sort of initial experience with addiction and, and and then how did that bring you kind of to this moment?

Yeah. This is, this has been something that's been a game changer for me. And nad has been, personally and professionally, something that I have, now used quite a bit.

And I still remember that first time that I tried nad and it was through it and I've, and I don't think that it was that big of a dose. I think maybe 500mg.

And my goodness, like I was, I was a believer at that point. I was it was a rather fast infusion just because I was short on time. Right. We're always running busy.

And so I'm like, all right, we're going to do this. I want to give this a try. So let's get it in. And so I remember all of the side effects that I had while I was having the infusion.

My my chest was really heavy. I thought my heart was going to beat out of my chest a lot of stomach cramps flushing. But I was like, I gotta get I gotta get through this.

And what what I found afterwards, though, was my whole life was brighter and clearer and crisper. And I remember driving right after that and just noticing, like, how much more aware I was and how fast my brain was making decisions.

NAD, Trauma, and Addiction Biology

And then I get to the the detox clinic that I was running. And I noticed that when I was typing my notes, I have never been able to type that fast and make such few mistakes and it was like this realization of, oh, this is what it feels like to be superhuman, right?

Like you're doing these things that it's it's without any additional effort on your part, like it literally is just flowing out of you. So at that point, yes, I, I leaned in to Nadia.

I'm like, all right, I need to know more about this. I want to figure out how I can apply this to the people that I'm working with. And when I've looked at really how trauma and stored trauma in the body has affected the nervous

system, what I've really landed on is how much of an energy problem it is.

And we can talk about the regulation of the nervous system. We can talk about all of the, the state of the nervous system that runs on high energy until it collapses and goes into overwhelm.

But then once it goes into that overwhelm, it really is an energy problem. And so I say that, hey, trauma is an energy problem, and addiction is just one of those downstream effects of these stored trauma patterns in our nervous system.

And so when I started to look at using NAD for addictions, which again, is is just, a downstream effect of stored trauma in the body, and I saw how much of a difference it was making just by bringing energy into their system and what their bodies were able to do.

It's almost like you're giving the body the the nutrients and the assistance that it needs to now heal itself. And so I found that everything else that, that we were doing, it just worked so much better when we were bringing NAD into the equation because of its effects on, on the body, on a cellular level and allowing it to have more energy available through its effects in the mitochondria.

So NAD is something that no matter what addiction I'm working with and whether that's even behavioral or whether that's a substance that in the body is a core, nutrient in that protocol that we're using.

That's a good one. What do you mean by stored trauma in the body? How would you tell me about that? Yeah. So so we know that we know that trauma has an effect on the body, but that's kind of where we've left it.

And it's been rather. And nebulous thing. And and looking at how trauma affects the body. We want to differentiate between stress and trauma. So stress is something that stresses us out.

It puts our our nervous system into a sympathetic state, which is a high energy state. And if we can get through that stress, then our bodies can kind of come back to its prior state of health.

It's when things either become a chronic stress or become a trauma. And trauma is defined as anything that overwhelms the nervous system. And while people will experience that overwhelm on an emotional level, what we know is that that overwhelm is happening on a cellular level.

So some thing is happening on the cellular level that cues the autonomic nervous system to say, hey, this is bigger than what we can sustain, rather than staying in a high energy sympathetic state, we actually need to shut down.

And we call that the dorsal vagal response. And the body shifts into a an energy conservation state. And so there's just heaviness. There's fatigue. There's a lot of inflammation associated with that.

Even inflammation in the brain with primed microglia. And so it's this whole different state and that overwhelmed state, that low energy energy conservation state.

That is the the chronic effects of trauma stored in the body. And that those are the patterns that we see. And what happens to the nervous system is just that.

Now, now it's operating on such, kind of like, let's just get through this mode. It doesn't feel like it has enough nutrients. It doesn't feel like it has the right chemistry or even the neurotransmitters.

And so something has queued it to say, you know what, we just need to shift down, go into an energy conservation state. And then that pattern of overwhelm gets wired into our nervous system so that now with future events or triggers, it doesn't take much to go from, oh my goodness, there's a potential danger and I'm just going to immediately go into overwhelm.

And so that's, that's that's the stored trauma in the body. It actually gets stored in the nervous system and goes into

this pattern of overwhelm that happens on a cellular level okay.

That's a good one. That's a good one. So then if I was going to play ping pong with that, then. So then if you're stuck in fight or flight, if you're stuck in, basically the balance of the nervous system gets sort of upset and stuck in a trigger and pattern.

Then the downstream effect of that is, is we tend not to feel good. Our limbic system is not working as well. And then one of the side effects that we use in terms of a coping mechanism is dealing with that as it is, is substances.

And that that leads to addiction. And so then another way of saying that might be that putting co-factors that optimize biochemistry, like NAD or peptides, suddenly resets the balance of the autonomic nervous system.

Reese. That's basically neurobiology. And so then we're going upstream of addiction to try to get people to feel better so that they're not trapped in, in, in that addictive spiral that, that, that is that those downstream.

Exactly. We're actually able to address the true root cause that's kind of fueling these downstream effects, like an addiction. Right. You know, I, I, had I had always hoped that that was going to be true.

And for me and for my even my clinical experience, I feel that that's true now. But, you know, I don't think that this was really broadly known, even when we trained and and I think when we trained, there was an idea that, like, diabetes was a medical condition and addiction was like a weak, constitution.

Yeah. And even even trauma. Right. So trauma addictions, up until now it really all has been seen as you're just a weak person. You are you it's all in your head, it's all in your thoughts.

And you need to do therapy. You need to go to counseling. You need to talk about things and. Yeah, what what we know now and what I'm kind of contributing to the field is that.

No, you guys like this is biology. And this is all things that are happening on a cellular level. And it doesn't it doesn't really matter what kind of all goes into that sense of overwhelm on a cellular level.

But by the time it goes into that overwhelm, it always involves nutrients. It always involves mitochondria, it always involves inflammation. And and so by being able to address that and bring bring energy and bring solutions and bring tools for these things, then it helps the nervous system have more resources and have more resilience.

So we're really talking about building resilience on a cellular level.

Peptides for Inflammation and Gut Repair

Whereas many people have still just seen resilience as, oh, you know, you just change your mindset, change your thoughts. And that's just simply not true.

So then this is the Peptide Summit. So then we we're going to try to build resilience at a cellular level. And you know we have it nad out there in many forms injections, I. V.

subcutaneous injections, patches and stuff like that. What about what about peptides? What's your experience with addiction and peptides. So again, peptides are something that are so powerful.

And being able to address these biology aspects that keep a person stuck in this state of their nervous system, where then they're they're looking and they're needing things to help regulate and, and and and not feel the intensity of the dysregulation of their nervous system.

And so just even mentioning the inflammation, right. Like inflammation is a big piece of the biology of trauma. And thankfully we've got some pretty powerful peptides that can address inflammation, even just BPC 157.

That's that's something that can be very specific. So many people use it for different sports injuries, for example. Right. I'm using it more for the injuries that are happening to the digestive system or, the general inflammation that can happen as a result of substance use or that will continue to fuel substance use.

And so I'm using it both in the injectable form to address, general inflammation, but even general inflammation in the whole digestive tract. But then also sometimes it's more limited to the stomach and gastritis and some of these things that you wouldn't think about it, but that the pain from that or the, the downstream effects that that has on the whole digestive system that will continue to fuel substance use or an addiction because of the the effects that that has on everything else in the body.

And so having the the oral capsules for the BPC 157 allows me to really target the damage that's been done to the stomach lining and to that early digestive tract, and bring that back to a place of health so that the body is able to have more of the nutrients and less of less of those energy draining, problems that are happening in the system.

But then we've got other peptides that address inflammation as well, so that those are exciting tools that I find very innovative and very helpful for addictions.

So it's interesting the, the, the self-medication sort of coping aspect of addiction is, is that a lot of times if, if someone drinks too much and, and then they start to have neurological inflammation as a side effect of drinking, then one of the coping mechanisms is, more drinking.

And then same with same with almost all sort of addictions. And then also, you know, you get gastritis and all of these other things, you know, BPC 157 is actually secreted by the stomach that I, I think just layering in, it's something that's anti-inflammatory as a coping mechanism that's going to help.

You can be so helpful because all of a sudden if if you start to have something that kind of can reset things, suddenly there's the trigger to self-medicate.

It's not as intense that and it allows for that pause. Right. So you have maybe what would be a normal life trigger, an emotional trigger for you. But now, because your inflammation levels are lower, you have that moment of pause to be like, do I really want to do that?

Or do I want to try something else again? It gives you a greater capacity to actually make different decisions, whereas if you don't address inflammation, it it is nearly impossible.

It is such a strong pull to I know this works. My brain knows that this works and that it relieves the, the the pain. It it brings on this sense of numbness.

And I you know, I don't I don't really care. And that's a very welcome place when there's all of this other stuff going on in the body. And so when there's this unaddressed inflammation, my goodness, it is so hard to break what has become a self fulfilling, feedback cycle.

What about we were talking about Cmax and C lag. Yes, I, I've been fans of what what's been your experience with those. And in general and maybe even specifically across a couple, different types of addictions.

Yeah. So I have been using some of these peptides that are more like cognitive peptides as well. And they have been very helpful and especially even the C max.

Right. Like C max is something where in the studies they noticed benefits for symptoms of ADHD. Well, if you look at ADHD that is really a nervous system that's just dysregulated and it can't focus.

And there's usually inflammation involved with that. There's usually also some neurotransmitters involved with that. And so here we have this peptide that is able to address the true root cause of those symptoms.

So it actually elevates the brain derived neurotrophic factor. And and that even by itself will help with the neuro

plasticity, which is what we need to enhance when we're working with addictions.

And for me, new pathways forming, new habits in the nervous system. But some of the other exciting things about the Cmax were its anxiolytic effects and its antidepressant effects.

And it also has an effect on the immune system. So all of all of these, effects from the Cmax have been really helpful. There's been another one the RG three.

So regenerative growth factor three. That's been another kind of cognitive peptide. That's been helpful, for addressing some of these more brain types of symptoms associated with addictions.

And again, it's not going to be enough just by themselves to be like, oh, you have an addiction. Go take some C max, go take some RG three. But the more tools that you have, then the more you're able to just bring in that resilience on a cellular level so that like you're talking about those those triggers, those pulls are just not as intense as they would be otherwise.

And so the RG three, this was I was using this more as a nasal nasal spray. And it actually helps with increasing the cellular resistance to stress in the nervous system in the brain.

And it will act on the brain immune cells and, and kind of reduce the inflammatory cascade that can release especially with addictions, especially with substance use.

There is so much brain inflammation that is associated with that. And so these peptides, it really helped target just bringing down that inflammatory cascade that can happen is so helpful.

I don't I don't know enough of your background story, Doctor Cook, to know if you have how much brain inflammation you've had. I've, this has been something that I've lived with.

I've had a number of concussions over the years and never, never knew about this Prime microglia and brain inflammation until, several years ago. And so always just thought like, my goodness, I'm weak, right?

Like, I just need to have more willpower, because I saw some of the things that I would do in the brain fog and the depression and the anxiety. Like, I thought that those were all just kind of like my psychology and my thoughts and, and needed, to work through those some more.

And once I learned about this brain inflammation piece, and I started to use peptides myself to help address that, oh my goodness. Like everything changed.

And so being able to bring that in for these, addictions where there's, I have not seen one person who is actively involved in a substance use and does not have brain inflammation.

So that kind of brings me to the other. Well, I should I, I like to call it a cognitive peptide because that's how I use it. However, it is actually listed more under a proposed sexual peptide, which is fun.

Cmax, C-Link, and Cognitive Support

And so Milnerton two is one that I use, for brain inflammation. And it's been powerful and also for gut inflammation. So Milnerton two has been one of those like secret little little weapons I can bring in.

And when someone has a lot of digestive issues, when they've got even food sensitivities, or maybe their gut is so messed up that's like they have pain with no matter what they eat.

That is a good time. When I bring in the Milano tend to. And there's such a correlation between the gut inflammation and the brain inflammation through that vagus nerve connection that Milnerton two actually addresses both.

And so it is neuroprotective. And it it actually is acting on the Milano receptors, in the brain for these anti-inflammatory effects. And so being able to bring this in for both the digestive system and the brain, inflammation has been huge.

And of course that there's other there's other effects some good, some not so good. Right. It can be associated with a lot of nausea. And so people actually use this peptide for a weight loss peptide as well.

So, I know it's kind of it's interesting. The diversity is sort of yes. Of of uses and sort of strategies, but it's kind of interesting. You know, we're hearing you is, is, you know, traditionally there was an idea, okay, maybe we just kind of put somebody on Prozac if they're depressed, it's like a, a mono drug as a to to work on one pathway that would have the end result of doing something for, you know, like increasing a neurotransmitter.

But then often then the body starts to compensate for that. Whereas what is this is sort of a multi, multi strategy, concept of trying to optimize biochemistry through a variety of different different mechanisms.

Absolutely. And that's been one of the most frustrating things for me being in conventional medicine, which is why I eventually love conventional medicine.

Right, is because all we've had are medications and those medications are foreign substances. And so we're introducing foreign substances into a system that's already all over the place.

Already struggling with so much havoc. And what I inevitably saw was that they may work for a time. They may not always right. And especially in the context of an addiction, because of the other substances that they have been using.

It seems it's harder for medications to actually help them the way that they might help somebody else. But even so, if they if those medications did initially help them, they soon were off and they were needing higher dosages, higher dosages, higher dosages.

And now we have them dependent on this other foreign substance that's not actually addressing the true root cause. And so what I love about peptides is that I can use them and have the peace of mind that I am not introducing anything foreign into their body.

I am only enhancing signals and communication systems that are already existing in the body, but maybe just have been dampened down by everything else that they've been doing.

Their lifestyle, their their choices, their diet, everything else. And it's been dampened down and I'm just enhancing things that are already there. And so it's a very natural way for me to address more of the true root cause and help them not to become dependent on another substance that eventually will not work for them, either.

So then on Milana Tan. So then interestingly, what I, what I found is sometimes you can start very low, very low thing. Yes. And, and so then that'll be helpful because that, that low dose will will allow you to come up with less nausea sometimes.

Some people have told me if they take milk out of town with BPC, they'll have a little bit less nausea. Which is interesting. You have to be you have to be careful, with that one because, the other side effect, it can give you a tan.

And so then, I and interestingly certain like a friend of mine who's, who's Jewish, and fairly was, was somewhat light skinned, but then got fairly dark and surprisingly dark and, and then certain ethnicities that are in, well can get darker a little bit more.

So that's a that's important to know. I need more of that. But, my, my skin color definitely changed with melanin tan. Definitely 100%. And not only that, but but in my myself and most of the people that I have used this on as well, they're freckles will get darker and and they'll notice skin marks, freckles that were so light before they never even

noticed them.

And then all of a sudden they're seeing them and like, I never knew that I had a freckle there. And so yes, it is an important thing to note about about the melanoma tan too.

And yet, being someone who has been so light skinned my whole life, I've got the blue eyes. I've got so many risk factors for skin cancer. I've got, you know, the many awful, awful sunburn burns during childhood as well.

It actually is one of one of the the additional benefits of the melanin tend to that. It is protective against sun radiation effects. And and so for me, even when I'm expecting to travel, I've got a trip coming up to Mexico, for example, and I know that I'm going to be, you know, in more of a southern hemisphere area and more exposed to the sun.

I'm dosing myself on the land lantern to before my trips so that I have more of those protective effects, and I'm not burning. But I'm I'm more tanning.

And so helping helping myself reduce my skin cancer risks. Right. That's a good one. And I like that one a lot. And then a lot of people will tell you that they have like better erections in the morning, like, when they take Milana Tan.

So then. Yeah. So then there's this one thing that has this diversity of effects across multiple biological systems. And, and as we bring but bring kind of balance to multiple biological systems that the I guess that's, that's at the very that's as upstream as you can go kind of because you're at the cellular level, which then the side effect of that has you feeling good.

We were talking about, see like that's another one that's kind of a feel good. Peptide. What's been your experience with that. And, and, and sort of neurological health and, and then also in addiction.

So I've seen a good effect when I've been mixing Sealink with C-Max. They seem to have a synergistic effect on their mood properties with the brain. I don't know if that's been your experience as well, but they, their effects and it seems to be affecting especially low serotonin and low dopamine types of symptoms that we're seeing.

I'm not one that usually tests for neurotransmitter levels. I, I find our methods of testing, inaccurate. And so I'm mostly going off of symptoms in history for people.

Sometimes I will also look at genetics to see who has, just genetically in their enzymes and their proteins for those symptoms are more likely to have lower serotonin and lower dopamine levels.

But those are the populations that I'm seeing responding better to the C link and also the C max. And so if it's something where they have they have the money to invest in themselves.

That's a combination that I that I like to do. You know it's interesting. You know, you were the the C link acts on the Gabba system. And then C max increases brand derived neurotrophic factor then.

And I also I agree totally with you. I like using them together. And so then a lot of times I'll well I'll have people do is make it an a concentration where they can take 25 units of Cmax in 25 units of C link, and you can put it in the same insulin syringe.

And so the concentration they end up taking is like 750 micrograms of each. And so then that has been kind of my favorite just from a dosing perspective.

Perspective. And then interesting. And I think they work better together. I've had a lot of people tell me who couldn't sleep that it was very helpful for sleep.

Melanotan 2 and Other Peptide Effects

There are some people that have polymorphisms and their genetic code, which is basically like a little, a little, error that, make it difficult for them to make brain derived neurotrophic factor.

And so I'm, we're starting to do genetic testing to see and, and it may be that some of those people respond better to to C max, but then, you know, I have a lot of friends, now who if they're in that kind of one day out of 5 or 1 day out of ten where things start to spin and things start to go sideways, they'll, and even even I will, also like, if there's a kind of a day to just kind of like, it's just not going well, I'll take C max and see, like, and then it will kind of turn things around and I've, I've really, I've really seen that.

And so then I kind of encourage kind of on this part of the conversation. That's a fantastic coping mechanism. And so I don't, I don't I feel like that dosages commercial, I don't, I don't always take peptides, but when I do I, it's kind of it's a little bit like that.

I don't know what your experience with that is. Yes. And I was also going to say when we talk about the brain derived neurotrophic factor, this is where I also bring in De Hexa.

And I actually is not one that I reach for right away, because oftentimes when people are first coming to me, I need to focus on the inflammation. I need to focus on the big things that are really disturbing.

The whole system. But once we have that better controlled, better managed, now I'm really bringing in things to fine tune the system. And so De Hexa is one of those that fine tunes and is and according to the studies, I think that they've shown it to be seven times more powerful than brain derived neurotrophic factor.

And so when I'm working with someone and now we're kind of also getting over into some of the trauma recovery side of things where I'm needing to help enhance their neuro plasticity, I'm needing to help their neurons make new branches and make new pathways.

Then I Hexa is is kind of one of the best for that phase. It's been more used in the past for Alzheimer's and, and improving memory because it's kind of pruning some of the older neurons away.

But again, like when we're talking about trauma and actually having to change how the nervous system is wired, that involves a lot of pruning, that involves forming new branches, new pathways, and, and kind of, replacing some of the damaged ones that either are damaged from substance use or chronic stress or high cortisol, all of these things that can damage some of those neurons.

But but they hexa is one that then I kind of bring in at the end to really help solidify the work, the personal emotional development work that people are doing and helping that kind of integrate faster by its effects on the nervous system.

Tell me about how that works. Yeah. So the De Hexa is one that actually works on, both hepatocyte growth factor and it induces the dendritic branching.

And so again it does cross the blood brain barrier and has been more used in, its effects with Parkinson's and Alzheimer's. And so that's where it's been studied most.

I think that there's quite a few animal models that show that it actually reverses up to 60% of damaged cerebral neurons. And so that's been the bulk of the the emphasis and focus on that.

And certainly for all of my older patients, I'm asking them to get on day Hexa just again for more prevention. Right. Even before they have Alzheimer's or memory loss, I'm wanting to prevent us from getting there.

But then because of its effects on, kind of removing damaged cerebral neurons. And we know that with chronic stress and addictions, that is a big part of that process that happens.

We can see that from MRI's. We can see that from brain imaging studies that that certain areas of the brain are

damaged. And so being able to have this peptide that comes in and actually works on the dendrites and is, doing similar work to the brain derived neurotrophic factor, but has been shown to be more potent that in its effect for, pruning and cleaning up the neurons.

What what, how do you dose that? That is a good question. And I'm trying to think of the dosage off the top of my head. I use it as a cream. Yeah, that's what I was going a little.

Yeah. So I have them usually put the cream on their, on their neck or on their temples and, and so yeah I don't, I don't remember the dosage off the top of my head but but so then that's a this is a useful one for people, who are listening, who might be a little phobic of needles, because the day Hexa comes as a cream.

And so then, you turn and do a number of clicks and then, you can rub it, on your wrist, you can rub it on your neck. The idea if you're rubbing it here, and it gets absorbed, it might go to the carotid artery and go to the brain, but then, the arteries are right underneath arteries and veins, right underneath your skin.

On your rest, the, you know, I, I have found also that, another group of people who will do real well with this Hexa is, some of my neurological alignment mole patients. Yes.

Yes. And that and that there are so many of those people who identify with kind of this cellular overwhelm and what has happened in their, in their biology.

And so what, what I see, on the trauma side of things is that there are many people who have this pattern of going into overwhelm who either were, because of that, more prone to Lyme and mold, because there they kind of were a better host and recipient for that.

But then certainly once they have those exposures and they've had those reactions to it, those are hard cycles, harder cycles to break and and so much of that is part of this overall kind of biology of trauma that happens, that keeps people stuck, then also in their anxiety and depression and overwhelm that we associate with stored trauma as well.

De-Hexa, Neuroplasticity, and Brain Repair

So a huge, huge, huge part of all of this is that linemen mold and their those effects and contributions on the nervous system and and and yeah so so so many people who I think really struggle with addiction have 4 or 5 underlying functional medicine.

Things I think I've seen are, Lyme mold and then all of those things create neurological inflammation. And then then like alcohol as a temporary, coping mechanism that makes you feel better.

But then over time, worse. And then those people have a harder time because they're under the gun, because they've got they've got the addiction now and they've got that whatever that baseline illness was. Yes.

And and sometimes it's hard to know what came first. Right. Because by the end, by the time that they're coming to see us, it really is just this cycle that they feed off of each other.

And so, you know what? What came first? Did the Epstein-Barr virus come first and then that contributed to this, or did this kind of start because they had some other dysregulation in their nervous system.

They found that that really helped them feel better, but then that weakened other areas of their biology that made them a more open recipient to those kind of things, lowered their immune system so that they couldn't, mount the response and actually fell into kind of chronic conditions and symptoms from from those infections.

I had, just I just got a memory. I, I was, I was at, I was at my parents house and it was, 1990 or 1991. So I was studying anatomy and, somebody came up to the door and knocked on the door and started, like, talking.

And they were kind of drunk, but they were making up stories. And so then I would say something and they would just make up a kept making up. And wherever you went, then they he would make something up and then you realize it was all sort of made up, but it was kind of so hilariously funny that I ended up getting sort of indulging it.

And so I talked to him for, you know, 15 minutes because I'd never seen anything quite like that. And then I noticed also that he was walking, but he was walking with this kind of wide based gait, you know, and so that was that was fairly unusual, too.

And so then I, I went to my professor and I was like, hey, you know, this this thing happened to us yesterday. This person came to the house and, I explained everything.

And then basically he explained to me what Wernicke Corsica psychosis is. And so then it's, there's, parts of the brain basically that get destroyed by that long term alcohol poisoning.

And so then if you think of that, the time course, over time, progressive neurological inflammation ends up leading to cell death. Then suddenly those parts of the brain come off line.

And so then and then in parallel to that, that leads you to start to feel less safe. And so then as you start to feel less safe, why do you feel less safe?

Because the autonomic nervous system is one of those areas that I think that starts to get imbalanced. And so then people don't feel good from their limbic system.

So it's kind of progressively sort of, but that everything we're talking about has the potential to sort of turn the direction on all of those things and left us up.

Yes. And what a great example with that, Wernicke is, of course the coffins have apathy, because what happens is that that is that area of the brain is very sensitive to thiamin.

So B1 and so it's that deficiency that really causes that degree of damage. But what happens is and this is important for people to know, because if you go in and you see somebody with with those types of symptoms and you give them a ton of thymine, you're actually going to make it worse.

So even though that is the downstream effect, and that's now the problem, there is still, the right way and the right dosage and the right sequence to bring in things like you have to have enough sugar, you have to you have to be feeding the brain everything that it needs, or else you can make things worse.

And so, when we're talking about stored trauma in the body and oh my goodness, yeah, we've got all of this information. We've got all of this digestive issues.

We've got some mitochondrial compromised. Let's throw nad at it. And it's like whoa whoa whoa whoa whoa. If you throw nad into a system that is low in and selenium that is low in Coke, U10 that is low in some of these B vitamins, you may actually be trying to rev the engines without the nutrients that it has to be able to operate at that level, and you may cause a bigger crash.

So some people talk about a timer reaction, right? And I've even had some of that with the Mylanta ten. Where it almost like is, is building up some of that, some of that mitochondrial activity.

And if there's other the deficiencies, if there's other aspects going on that we have not yet addressed or we're not addressing at the same time, it can be too much.

And that can be you know, we mentioned the nausea, but but I have seen some people kind of experience, like a fatigue crash. If we start at what would be a regular dose from for someone else, but for their system, that's just too much.

And so there's, you know, the body is an amazing thing. The body is an amazing thing and should be should be treated, gently and with very personalized approach based on everything else, based on all of all of the stuff that's going on in your biology and not just selecting one thing and saying, well, here's one thing, let me just address that.

I feel like that's, you know, it's it's similar, even though it's better. It's similar to just finding that one pill or that one drug that will just solve that one problem.

And it's like, no, this or our body is a system. And so, things can go wrong if we just focus on one thing for one part of our system and our neglecting, like the bigger picture and, and acting synergistically to bring everything into a place of health and wholeness.

Yeah, that's an interesting one, because I'm sure you've seen this. But, you know, back when, you know, Doctor Maddie a who I think was the Godfather or at least one of the godfathers of using NAD for addiction.

And so I found out about that. And so then and, and was super interested in it. And so then we started using his protocols and so we were using, you know, 1000mg of nad, you know, and interestingly, there's a cohort of people with alcohol and I think this is this people that are drinking like a bottle of vodka a day and there's a cohort of those people.

It's just the greatest thing in the world for them. And then they can take that. And then yet there's also a cohort of people who have a particularly on the chronic infection side of things.

And this is this kind of dual diagnosis thing where they can't take that much. And, and and so then now that's a super interesting thing away from the addiction side, a lot of the a lot of the people who are really sick, they couldn't they can't take one drink.

And so then they're kind of managing their way through that. And they may get into that, pickle. But a I found that one to be super interesting and then be you know, we were we were talking about peptides.

I have really seen the immune peptides be very helpful in addiction. Maybe, maybe almost like the most helpful thing that I've personally seen on addiction, I don't know.

Well, what's your experience been with that? I am right there with you, doctor. Like inflammation is is so much a part of any addiction process. So it's it's been a piece that I have to address early on if we're going to make any progress.

Yeah. The otherwise otherwise they still continue to feel like they're just white knuckling it. Right. Like they may be sober, they may be absent, but they are white knuckling it.

And it's like, yeah, that's not sustainable. Right? Right. I'm going to last for so long. And I even would, you know, meet, people who are sort of famous in anti addiction or in addiction circles, you know what I mean?

And then I would meet them and I would just be overwhelmed by the sense of like, oh my God, this is like totally white not killing it. And then I would be like, oh, and a lot of those people, I got them to do an ad and they're like, oh, that just solved that.

And so then it's like there's a percentage of people where that's just going to solve it. However, I think there's a much bigger percentage that, need more support.

And so then the, the, the, the ones that we, you know, we've seen time is enough for one to be very helpful.

Immune Peptides and Microglia

And, and I think that's and particularly people with immune things like things like Lyme, the chronic chronic viral stuff and mold. And I think that that's a big one.

We've seen a lot of benefit with thymus and beta for, we're seeing people taking thymus and beta for some of the fragments that I was a beta for. And, and so then I, I don't know, what your thoughts are on that, but I'm a really been a fan of the immune, the immune peptides.

I think that probably the most important thing to me. And they are they are ones that I personally use myself as well. I will say that I love thymus and beta for especially in this context of addictions and stored trauma in the body because of its effects on, neurons and restoring them after any kind of a head injury.

And what what we know is how big of a role head injuries cause and inflammation and then mood and addictions. And these don't even have to be concussions necessarily, but just injuries.

And so thymus and beta four is one of those that if I have someone with any kind of a history of a head injury or any, any time that they would have had kind of that priming of microglia, then the thymus and beta four is one of my favorite ones, because not only of its effects on the immune system, but then also specifically it's, repairing an ability to the nervous system itself.

And those neurons talk about priming and have microglia. Yeah. So we have these micro glial cells that surround neurons. So neurons are just the fancy word for the nerve cells that make up a nerve.

And you have these, I call them like gardeners. They are the protectors and they are the cells around the neurons. And they are responsible for cleaning things up and protecting them and protecting them means also that when there is some kind of bacteria or some something that should not be there, it's going to release inflammation in order to kill that off and protect the nerve cells.

But what happens is that with, certain events and those events can include a head injury, can include any time where there was low oxygen to the brain.

So this could have even been at birth if, like, the cord was wrapped around the neck, that could even be a reason for priming of microglia, periods of time where there would have been low blood flow, all of these, and even high stress.

So we now know that high amounts of psychological stress can also cause priming of microglia. But what this priming means is that we have had them be triggered to now become rather than, kind of, just protector and guardians.

Now they are like these monsters, and they are constantly on the lookout for anything that might be danger. Their threshold for releasing this cascade of inflammation is much lower.

And so now what happens is that they release the same amount of inflammation in response to things like inadequate sleep or, alcohol or of food sensitivity that causes some inflammation in the digestive system or, even lower amounts of stress, whether at work or home or travel.

So now all of a sudden it's responding to all these other different types of triggers and releasing this huge cascade of inflammation that will cause the brain fog, that will cause some, like short term memory that will make you absent minded, that will make you a little uncoordinated.

It depends on where exactly in the brain this priming has happened, but that's what primed microglia refers to. And what we want to do is we want to address that by keeping them in a, resting state rather than in an activated state there.

There is only one way that you can actually reverse priming, and that is with fasting. But otherwise you're looking at managing it and managing it is in the form of everything that we can do to keep those cells in a resting state.

And so that is partly what, for me, like what the Milnerton two and the thymus and beta for help do in the brain is keep those micro glial cells that are always ready for a fight and keep them just, you know, everything's good,

everything's cool.

We don't need we don't need inflammation right now. Know that's a good one. And then I would just piggyback on that. The the one thing that I've seen is thymus and beta for initially can be super helpful over time if people take it.

And particularly sometimes some people will take it and higher dosing. And then I've seen it a little bit in addiction with people take it in higher dosing.

So there are some people we're taking a very high dosing once a week like 5 or 10mg. And then people were taking like 1.5mg a day. And I will see people at those dosing sometimes have some anxiety or paranoia.

A little bit. But then with, with lower dosing I won't see that. And so then, so then that becomes something where, with this whole diversity of everything that we're talking about, we've got, you know, C Max and C, like we can improve certain biomarkers, we can, we have immune peptides and we have nad with sort of this whole diversity of different things that are going to manage inflammation.

Have you seen, have you seen that anxiety with TB for. Yes. And how I've dealt with that is that I usually depending on the person and the severity, you know, of their inflammation, then I usually will do a daily dosing, for a week and then back off and only do it once every three weeks.

Once every four weeks. And so that's, that's how I've managed that. I don't know if that's been similar to the kind of your protocols that you've developed, but that's something where again, initially, yeah, we got to get the information down and so it's it's daily dosing not high dosing but daily dosing for a week.

And then I back off and kind of let let there be these intermittent periods where there's nothing. And then I'm reintroducing the signal. And that seems to to avoid most of that.

Yeah. So so that's a good one because that's like here we are two people doing kind of a similar thing. And like I we haven't talked about this but I do the same thing.

And so then that's cool. That's awesome. That's kind of that's awesome for me to hear because and then it's, it's also the opposite of what was a traditional approach to just getting on one drug for a long time, because it's like going to the gym.

There's going to be muscle confusion if we cycle through a variety of different things. Cycling, speaking of cycling through a variety of different things.

Another if if you said all in, if I had to pick my number two after immune peptides for addiction, I think I would go with mitochondrial peptides. I have have you with have you had much experience with that?

I have, and I am still, treading very softly with those because probably the majority of people that I see don't just have an addiction. They, they also have some of these other diseases, some of these other chronic conditions.

And so it's been something where when I introduce a miracle angel, a pure mitochondrial peptide, I, I see that I have a higher percentage of people who I'm kind of like taking their, metabolism to the max, and they're just not quite ready for that.

And so I have been using them. Mont C is one that I've been probably using more of, lately. And, and I'm just, I'm finding that I'm needing to do lower dosages than what someone else would do who is maybe using it for other purposes.

So I'm I'm loving what I'm starting to see and just needing realizing that, let me titrate some of the dosages to see how we can get the most benefit from this without taking their mitochondria, because they're not they're not ready for that.

They've had so much damage in their body that they're not ready for just this. All right. And let's let's rev up the metabolism. The yeah I, I like them I'd say I also there's a couple other ones human and and one called FCL that are mitochondrial peptides.

That can be helpful. Just human is pretty easy. Is the least intense of the three. And I find that to be, you know, fairly helpful. You know, it's interesting when you think about all inflammatory conditions and particularly chronic viral things can sort of steal energy from the mitochondria.

And so then that, that lead and that ultimately these what do we call chronic viral infections, chronic fatigue syndrome.

Mitochondrial Support and Energy Restoration

Because basically we're kind of stealing from the mitochondria at some level. Energy efficiency goes down. And so then, you know, in parallel to that kind of having a strategy of kind of optimizing mitochondrial function, I think is is potentially like the heart and soul of of addiction from a certain perspective.

Yeah. I have my certification course for providers in the biology of trauma. And one of the I have a whole module just on energy and what I call the freeze response.

And so we hit the mitochondria pretty hard in the energy module. And this is all the stuff that we go over. Right. Like what are all the different things in a person's lifetime that will slowly start to just compromise the mitochondria and its ability to perform and make energy and do all these other things right as well.

Okay. So drop some knowledge on me. So then what? So if I, I want to I want my mitochondria to, get going. What would be the top. Your your favorite mighty handrail support strategies.

My top ones are going to be addressing the oxidative stress bringing down that burden. And so even just depending on where a person's at, but even just a simple things like vitamin E and vitamin A and some of you know, these, these antioxidants, I use C60 for antioxidant as well.

So that would be one category. And then of course, for me, another category would be actually the building blocks for what the mitochondria need. So I have a whole list of things that, you know, you are obviously very well familiar with.

But the CoQ10 and the PKU and the selenium and all, all of these nutrients and the building blocks, and then with that, then I bring in the NAD and that's, that's kind of like all of all of the, the main things saying that like that's just that's just to address the, the actual, kind of acute way of bringing an energy to the system because then we've got to address.

All right. And what has been compromising it, what are the viral infections that we've had? Are we dealing with Lyme? Are we dealing with mold? Are we dealing with toxins? Are we dealing with heavy metals?

Do we have a high copper to zinc ratio? Do we have some methylation imbalances? Like what are the things that have brought in these compromises? What are the things that have brought in oxidative stress?

Because now we got to go find those so that we're not just, again, dealing with the downstream effects, but not really truly dealing with the true root causes.

Right, right. So then that that ties sort of everything back together. Everything good. And it's, it's a, it's a it requires sort of a full court press.

Yes. Of, of, that's a basketball analogy for you people out there. A of of a, total approach to everything. Because basically what happens in addiction and is everything sort of everything's broken.

I feel like this should be a song. When, if before we go, maybe just to chat a little bit about the trauma because I've been so interested in this, you know, I spent a lot of time, a big chunk of my life doing emergency surgeries and, you know, trauma from kind of a high level.

What what are your thoughts about trauma and and how do you like to put it together? And are we talking physical trauma? Are we talking emotional trauma?

Are we talking just life trauma? You can talk about anything you want. Sure. Okay. So, when I, when I look at trauma, I really like to start with, as early on in the developmental process as I can, because that's where the nervous system is forming.

And so by the time that we're leaving, even early childhood, we already have the, the formation of our nervous system. And now we're just kind of piling on life experiences.

And so it's been fascinating for me to really lean into neurodevelopment and even pre-verbal neurodevelopment. What are the things that a baby needs in order to have their nervous system start, start to be developing in a way that will lend itself to feeling safe and secure.

And, there's so much work around, movement and some of this neurodevelopmental reorganization that can happen later on in life if we don't get the right movement that we need.

So one of the things that is foundational to this is even how much tummy time does a baby get? And we don't think of, you know, tummy time and trauma.

And yet when we look at, hey, this trauma is all about the nervous system and how much capacity for stress it has before that stress becomes too much and it breaks us and it overwhelms us.

And so when we look at what is the capacity of our nervous system, we do we have to go back to how does the nervous system even develop and form in a way that allows it to have this capacity to hold stress and to not break?

And so there's been so many social changes that have happened over the decades, doctor cook, that have lends itself to more and more people being more prone to trauma than ever before simply because of our early childhood experiences.

And now we have baby carriers, now we have cell phones. Now we have all this kind of stuff that actually directly disrupts the healthy neurodevelopmental process that is designed to instill to inquire into our nervous system a sense of security, a sense of safety, and especially over this last, you know, a couple of years with a pandemic and everything, it's been so obvious that most people have a nervous system that is wired for fear, that is wired for insecurity.

And that's where trauma starts. It's this felt sense in the body. It's not in our thoughts. Right? Like our logic will only reach so far. It's actually the felt sense in our body, the gut intuition, all of these things that we that we need to start to realize is our autonomic nervous system.

And our autonomic nervous system is what drives our health, is what drives our decisions on a subconscious level that we are not even aware of. And so all, all of, all of life experiences become important in the sense of how it is affecting our nervous system.

And is it fueling our sense of insecurity, or is it fueling a sense of security?

Trauma, Nervous System Development, and Closing Thoughts

Because out of that will either come inflammation and disease and chronic conditions and addictions and relationship problems and fear, or we are fueling a biology of health and wholeness, where we feel generally secure in the world, where we feel like, hey, I can I can solve problems, I have creativity, I can stay grounded, and I

don't lose myself.

And with that, then you have this biology that is balanced. You have your hormones balance, you have your your immune system balance where it's fighting off infections and yet not overreacting, over here.

And kind of like the biology of trauma. There's a lot of autoimmune things that develop. And so there's there's just such a clear distinction that happens with a nervous system that has a basic sense of insecurity, which is trauma.

These are trauma patterns and, a nervous system that is wired for security and safety and does not have those trauma patterns wired into it. And I think there I don't know what the numbers are going to end up being, but I bet I bet you that 10 or 20 or maybe 30% of people that get Covid, well, it will probably qualify, right, based on certain diagnostic criteria for PTSD. Yes.

Because it's such a it's it has the potential to be such a life and death type of, situation. And so then it's an exciting moment for us to, to begin to realize, oh, okay, we have an ability to begin to, you know, potentially reset that.

And the sooner we intervene to, to rebalance the nervous system after a big and stressful immune event and the and so then it that's a good one too because then you go oh okay.

Probably immune peptides probably thymus and peptides are going to be pretty helpful for those people because that's a two for one. Yep. Yeah. And this is where we can see clearly how addressing the immune system is going to affect the nervous system.

It's going to help bring a person back from this biology of trauma and this cycle of trauma that's all developed into this biology of health and wholeness.

And then it's going to affect our thoughts. It's going to affect our mood. It's going to actually help improve any PTSD symptoms. And yet we're looking at their immune system.

It's like, how cool is that? Yeah, I did a cool, treatment yesterday of one of my really good friends was here. And so then the for some reason, I don't know why, but we decided we decided it's kind of like you never know what you're going to talk about.

And so then there was all of this, the topic of, child had a lot of childhood trauma and, and the trauma of the womb came up. And so then you just reminded me of that.

And so I was trying to figure out, you know, my take on that. And we, and so that I did a stellate ganglion block which turns the fight or flight nervous system off and a vagus nerve or dissections cut, and it kind of brought him into kind of like a super calm state.

And so then we were lying. He was lying there, and I was just kind of talking to him and kind of guiding him through meditation. And so then we we went and we saw him in the womb.

So I did this meditation of him being in the womb. And then I we saw we made this. I said, imagine that you chose to go there. And then because you knew that you were going to be exposed to that trauma and all of that stuff.

And then we went back and then into the future. And then we saw him as like a wise old man who'd solved everything and, and was sitting under like a tree.

And he had a visualization of, like, a 5000 year old tree. So sitting under that tree and he'd come to complete peace with everything and, and total balance.

And so then we, we did this meditation that the trauma of the of infancy and childhood and being in the womb of was, chosen so that it could eventually take him to this place of total, total total peace and balance.

And now he was just in the middle of it. And so then we went back and forth, and then he got all of these interesting realizations and, and so was just like, kind of amazing.

And, and you realized that, and so I so then I told him, I said, I said, you know, this is, I go, this is just a trauma rebranding exercise. And, you know, in a way that's a that's probably I was listening to you.

I feel like we we have probably very similar approaches and think about things, in very similar ways. So I'm, excited and honored to kind of hear your perspectives for likewise.

And it's always nice to have, colleagues that that I can relate to. I think that for both of us, so much of our journey has been like we're we're the oddball, right?

We're different than the other than many of the other doctors. And so it's it's been so nice to to connect, connect with like minded colleagues who are doing amazing work like you are Doctor Cook.

Thanks. You are too. And, you know, I think this is just going to be like the normal practice of medicine because I hope so. I see that happening. Yeah.

So, well, I'm, delighted to talk to you. And I look forward. Well I'm going to plan on doing another podcast with you again soon to hear what you're up to.

Sounds good. Thank you. Okay. Have a great day.