## Introduction to Dr. Matt Cook and Bio Reset

Welcome to this exciting episode of the Reverse Alzheimer's Summit. I can't wait to introduce you to Doctor Matt Cook. He's the founder of Bio Reset Medical.

He's a board certified anesthesiologist with over 20 years of experience practicing medicine, focusing the last 14 years on functional and regenerative medicine.

I had the pleasure of going up to Doctor Cook's office in the Bay Area in January, and seen all of the magic that is happening right now about reset. He's taken great care of a handful of my patients, and so I invited him here today to discuss more about how his unique approaches impacts cognitive function.

Matt, welcome. Hi. Thanks. I'm delighted to be here, Heather. So let's jump into some of the things that you guys focus on really uniquely, in terms of chronic infections, environmental toxins and how what your approaches to evaluating them and then most importantly, treating them.

Oh, that's a good one. So the the interesting thing is the stress from a variety of factors can be, a significant trigger that can cause, stress that can impact your immune system.

And the, this is something that, you know, people like you and me, we're focusing on for a long time. And I think it was not deeply embraced by the Western medical community, but I think we're really getting a lot more engagement, sort of in this post-Covid moment when, suddenly millions of people all over the world, got a viral infection that created immune stress.

## Root Causes of Cognitive Decline

And a lot of people have physiological and neurological stress as a consequence of Covid. It turns out environmental. One of the big the big, elephant in the room environmentally is, mold and mycotoxins and then the the other big player that, has caused a lot of immune dysregulation and stress, over the years has been Lyme disease and the, the vector borne infections associated with that.

And then, like Covid, can cause long term immune stress. There's some other viruses that can do the same thing, like CMV and Epstein-Barr. And we think of the totality of those.

And often it's multiple, combinations of those, immune stresses that can that can, they can cause, inflammation and stress to the immune system, but also to the nervous system.

And then the other thing from a toxin side is just to start to think about metals. Right, right. And so how do all of these things impact cognition. Well, so then that's a good one.

At a, at a high level, one interesting way to think about it is that, all of these things can begin to impact, us at a cellular level. And so then, for example, infections and toxins can cause stress at a cellular level that can cause mitochondrial, stress.

And so, one thing is, is that, our ability to functionally cycle energy through the cell and then into the mitochondria can, can be limited in the setting of viral infections.

And that's why, one of the names for, viral infections is chronic fatigue syndrome. So the, when, when, and so then if, if we're not able to efficiently utilize energy in the body and then we have, then then we're not making enough energy.

And so, if at one expression of that could be, not enough energy and not, not feeling enough of that, get up and go. Another expression of that is if, if, if the cells in our brain are not able to make energy efficiently enough, then that could mean brain fog or difficulty concentration and difficulty thinking, right?

I think we've all had that experience right after maybe not having enough to eat, or not having the right good foods, or not having good sleep, that it's hard to turn our brains on and come up with that word, or remember how to get where we're going, or remember what was on that list that we made.

So, when you when you approach someone who comes into your clinic who's describing brain fog or cognitive decline, what if they how do you decide what to tackle first?

Because it can start to feel overwhelming. Yeah. So then yeah that's that's a good one. And so then what I would what I like to do is build a model of what I think is going on.

And so in, in the setting of, significant cognitive change, then we're trying to gather historically, from, from talking to people, Has there been exposure to a water damaged building?

Because I think mold is such an important player, typically where we're often having people check their houses and I've, I've, I've probably had 150, 200 people who, we've seen over the years with a variety of problems who, you know, we, intuitively I thought, you know, this seems kind of like mold.

And I said, is there any water damage building they go definitely now. And then I go, okay, is there any chance it could be in your house? Definitely, no. It's a brand new house.

And it's and, you know, and then, we have time and time again, you know, somebody will call back in a month and go. You're not going to believe that there was a leak in my bedroom.

Bread behind my bed. And so then, you know, some environmental testing and thinking about the house and environmentally just keeping that house. Crystal clean, I think is super valuable.

We try to gather a history of a have you everyman bet biotech or have has there been any exposure to cat bites can be associated with Bartonella? But then we can there's a fairly robust amount of testing that you can do.

So we do, we can look to see if you have, been exposed, based on looking to see if you're making antibodies to, any of those infections, we can do a test as a T cell assay, that will begin to look and see.

Are your are your T cells actually responding to any of those things that I actually mentioned? Well, do some, tests of the immune system and, and look to see, are there signs that the immune system is really in a lot of stress?

And so there are inflammatory mediators that we we begin to look at, and in, in doing so we and then we'll do genetic testing. So there's, you know, some, some people that have some genetic susceptibility to cognitive change.

And so then, you know, try to gather history.

## Plasmapheresis for Brain Fog and Immune Reset

And, you know, it's just surprising, you know, you know, occasionally you'll find, oh, I'd suddenly, you know, nobody was talking about it. And then suddenly, oh, guess what?

They actually drink quite a bit of alcohol. Right, right. So I'm kind of picking off all of those pieces and then trying to kind of work. It's a little bit of, Treasure hunt, of trying to figure out what's going on.

And so then we try to do as much of a thoughtful conversation and history and lab testing so that we can kind of build a model of, of, of what we're dealing with.

So you're a peptide and regeneration guy. And I want to go deep into those things. But before we go there, I wanted to highlight a few things about what you guys do, a reset that really stands out and that I don't do it my office.

So like up until this point, you and I are totally on the same page. We're doing a lot of the same testing, a lot of similar work up, a lot of similar questioning of our patients.

And then you offer these unique, procedures like ozone and plasma freezes. So ozone dialysis, plasma freezes and the stellate ganglion blocks, those stood out to me a lot.

And so I'd love for you to just take a minute and describe each of those and describe the type of cognitive decline and cognitive decline patients that that might really benefit.

So, so let us I'll start with the plasma. You that's a good one. And then I'll go through all of them. The, in your blood. And it turns out it's about half cells.

So red blood cells, white blood cells. And those cells are, either carrying oxygen and they're or they're the cells of your immune system that are floating around in your blood.

And then the rest of your blood is, proteins and plasma and, but it also carries a lot of toxins. And so basically what happens is, is there are toxins that are in the blood and ultimately those who are going to get filtered through some of the filters in our body, the kidney and the liver, and then we get rid of them.

But, sometimes toxins can, can build up and, and also sometimes patients that have an autoimmune condition will have a lot of antibodies because they're trying to fight infections.

And so they're making antibodies or, sometimes people can have excess of, antibodies, which is in many autoimmune conditions. And those antibodies are also in the plasma.

And what, what's that. And cytokines and cytokines. And so then then and so there's there's a host of inflammatory mediators in that plasma. And so then what we do is we put an IV in one arm and then an IV and the other arm.

And then we run the blood out and you can either run it through a plasma separator or through a centrifuge. And we do both. And so then what that does is that separates plasma off.

And then the cells come back in. And so basically it's kind of like coming in for an oil change where we're pulling off, toxicity and then just giving you your cells back and in the process of that, that, it kind of clears the deck from an immune perspective because you're taking a lot of, some of those excess antibodies off.

You're taking off some of those cytokines. You're taking off often toxicity, toxins. Probably if there's mycotoxins in your plasma, you're going to be pulling some of those out.

And it's it's a, probably a fairly significant reset to the immune system. So the a few of my patients who have experienced this, where after getting plasmapheresis, often during the procedure itself, they noticed that their heads clear that they don't have as much of the brain fog.

If there was anxiety, often the anxiety is a little bit less. They can also feel a little fatigued, but they get a general sense that they are better.

But there's this sense of well-being that comes with getting some of that. It's kind of sloughing off some of the excess that's in the plasma. So do you guys see the same thing?

Yeah. And then and so then I'm glad you mentioned that because that goes back to the, the question of brain fog. And then this is a this is just like, a great sort of trajectory of conversation for us because when you think of difficulty concentrating and brain fog, there's a diversity of things that could be going on with that.

So one thing maybe that the American area are not working as well, so there's not enough energy. And so then we're not thinking as clear as possible. Another thing is, if we have too much stress from an immune perspective in our blood, then the blood is too reactive.

And so there's antibodies that could be reacting to, toxicity with within the blood. For example, let's say people have leaky gut and little bits of undigested food gets into the bloodstream and we start to have an antibody reaction to that.

If there are a lot of immune reactions going on in the blood, the blood gets kind of thick. When the blood gets kind of thick, it has a hard time going through the capillaries.

And so then as a result, then people will start to have difficulty thinking because there's just not as optimal of blood flow going through the small capillaries in the brain.

Now interestingly, the the mitochondria piece is a total different piece than the the lack of the blood flow and the viscosity and the thickness of the blood.

People may be hearing about this because you hear of some people that will have clot like clots in their brain. For example, after Covid. And that's because they're having an exaggerated version of, what we call a global or an increased kind of clotting effect in their blood.

But there's mild versions of a technical brain fog. And so then when we pall antibodies off and we're kind of detoxing and cleaning up that plasma a lot of times, then blood flow to the brain gets better.

And so then people will go, oh man. All of a sudden I think really clearly and often I'll think clearly for a while afterwards. And so then that's partially diagnostic for us.

But then that's also now we're and we're working at multiple levels. But then that's an awesome way to begin to reset immune function. And, and then that helps us think about, physiologically what's actually happening.

And in terms of, in terms of what is the actual cause of that, there's also a little heparin in that procedure. And so that helps with anticoagulation as well.

Like getting all that, that blood flow moving. So there's so many ganglion block. You know, we've talked a lot in this summit about how related stress is to cognitive decline, how caregivers who are at high, high stress levels, they have a two and a half times the risk of developing, dementia in their lifetimes.

Also, people who have struggled with depression and anxiety are at higher rates of getting dementia. They kind of seem like flip sides of the same coin in terms of how the brain is working.

So tell me a little bit about how you use the cell ganglion block, particularly when it comes to mood. Okay. So then this is super interesting one. So and basically what happens is we've got a little computer chip in our brain called the amygdala.

And, and the it's the fight or flight control center. And then you're you're what? You see what you hear all of your senses, your consciousness, and then all of your internal organs.

All are mapping into that. And then as long as everything is amazing and everything is chill, then what happens is we run and everything is cool program.

But then when stress starts to impact us, then we and we get triggered into a situation where we realize, oh, this is fight or flight and we may need to get out of here.

Then the amygdala turns on the fight or flight nervous system, and then it goes through these nerves that go through the front of the neck, and then they go to all of our organs to increase heart rate, increase blood pressure

and turn off digestion.

And, and then ultimately, what it does is it drives putting epinephrine in our bloodstream, which when you're, when you're young and, healthy, it feels kind of awesome, because if you get scared and you're a little kid and you go into fight or flight, you get that up and and you feel amazing, but if you've been having that for the last 20 years in a row and you get a little tired of that all of a sudden, what used to be fine when you're a little kid turns into something that's fairly anxiety provoking.

And also, it turns out that if you're in fight or flight, then we were kind of intelligently designed this way that if we're in fight or flight, then it kind of turns memory off because we're reacting more instinctively.

## Stellate Ganglion Block for Mood and Stress

And there's also an intelligent design, because then sometimes we don't really remember the terrible things that happened to us when we were in fight or flight.

And I talk to people all the time. They're like, you know what? I don't even remember that two years at all. Who were horribly traumatized in something.

And the definition of PTSD is that it's that where you get stuck in this fight or flight state. And so then what we do is we I use an ultrasound and then I go to where those nerves are, and then I use some numbing medicine that puts them asleep for about six hours.

And then I also put the vagus nerve, which is right next to a person, to sleep for six hours, not the and the nerves. I put the fighter flight nerves and the vagus nerve to sleep.

And then I like to say that it's kind of like you're coming in for a fight, and then it's kind of like, oh, hi, Heather, how's it going? And so then what happens is, is now instead of using that fight or flight nerve, it kind of forces you to go back into rest and relax and turn these other nerve pathways on.

Another thing that it does is, is that the fight or flight nerves vaso constrict all of the blood vessels. And so when we do this, it relaxes the carotid artery.

And so you get an increased blood flow. And so the one of the side effects is that as you can get a little bit of a headache, where is the first spot where all of that blood flow is going as to the deep brain structures and the limbic system.

And so the, the we use systole ganglion block, kind of most commonly for PTSD and depression, because there's a fairly profound increase in blood flow to the limbic system and part of the brain in general.

And often that is enough of a reboot to kind of bring things back on line. And, and then I have found that there's a very high percentage of people that have cognitive change that have a lot of limbic stress, because they're they're struggling a little bit because there's like the they're there, they don't have all of their the capacities that they've had before.

And so then helping to reset that and then get into a better mood can be profoundly helpful for, for for these patients. And so then the interesting thing is, is that before we do it, we do a lot of work.

So we do a lot of IV therapy that is very helpful. So we'll do phosphates that'll call in which has lipids that are helpful for the brain. And so then we're opening up the the blood vessels.

And then we're giving these lipid IVs. We're giving vitamins. We're doing mitochondrial support. And so then the the the products that we're putting I. V., we're sort of driving to the brain and then we'll do the right side, is kind of more PTSD related.

The left side is often more clear, intellectual thinking and cognitive processing. And so sometimes but and interestingly, a lot of times women will respond better to the left.

And so, but will, will most commonly often do both sides to kind of create a balance of resetting, for blood flow and if you think about the fact that we have this huge diversity of problems that can lead to cognitive change, and so then that that could be genetic, that could be mitochondrial, that could be toxic, that could be infectious.

And, and and when I first started, you know, I was a little nervous to do something that I felt was like a bigger neurological intervention with some of that.

For example, people with infections and were now doing that for 100% of our patients with cognitive changes, because we noticed they all do better. Wow. And there's probably multiple mechanisms, right?

When the stress is lower than our immune system functions better. Right? There's so many pieces of how these, these are complex, interwoven and that when we can get into a virtuous cycle, then, you know, we don't have to fix absolutely everything.

We can kind of tip everything in that direction, and it starts to fix itself. And sometimes, hopefully at a percent of the time. So then, you know, cognitive change, I think is, as you know, is one of the most challenging ones to do.

And, and 100% that it's, a thoughtful trajectory. And yet. You know, I think as, as, as, you know, probably more than anyone, I think there are many simple problems that, there are eight Aids, and any one of those eight ideas will work, and I, you know, I, I really enjoyed meeting you and understanding what you do, because I think you really have gone to the extent of understanding that it takes a, a totality of support around the cognitive change.

You have to kind of manage all of these pieces. And, and so that, to, to really impact something that is, is so profoundly difficult. But the great piece is, is that if you can kind of build a mental model of all of the triggers that are that are causing it, then now we have these different tools that that can begin to impact and and I think, the mental, emotional, spiritual in the depression and anxiety is a huge piece because when I talk to people often, they I hear, oh, yeah, you know, there was this one crazy stress.

And that was this trigger that started us down this whole road and and helping to redefine that and reframe and contextualize that. It has been, I think, a valuable, aspect of our journey and helping people.

Wonderful, wonderful. So then, well, let's talk about ozone real quick, because I think that is also unique and especially the way that you do ozone. So take us through how you do it.

When you do it. So, ozone, is a, medical procedure that would, was developed in Russia, in Europe and as a, as, regulated procedure in many parts of the world and not in other parts of the world. The there's, I'll run you through the, the, the, sort of the, the variety of types of ways that people would do it.

It turns out ozone is an oxidative therapy. And so it oxidizes whatever it comes into contact with and can donate, all our from and, and so we can't breathe it in because if we oxidized our alveoli, they're very sensitive.

And so they're susceptible to that oxidation. However, it turns out blood has an enormous buffering capacity. And then when you put something that's oxidizing in blood, it there's a whole bunch of little batteries that, that are sort of oxidative, reductive, molecules.

And so that you can if you take an ozone molecule and donate an electron to it, it will go from a low energy state back to a high energy state. And then when it's in a high energy state, it can then, donate an electron to some other process.

And so the classic example of that is NAD. And so NAD is always converting from Nadp+ into NAD H.

## Ozone Therapy for Infections and Cognition

And then it needs to get an electron donated to it to circulate back to Nadp+. And so then one thing that happens with ozone is that it will donate that electron and recycle and that, acts kind of like a battery, within cells and helps to restore our cell membranes and do all kinds of things.

The and so then, one strategy that was the traditional strategy has been done for 30 or 40 years is that you can take some blood out of the body into a bag and then inject some ozone into that bag and then mix the, the, blood with that ozone and then the ozone.

Will dissolve into the blood and then it can go back in. So that's a safe way to do ozone and has been done for a long time. That's called major autohemotherapy.

There's some, a doctor named Doctor Le Harden. He came up with a concept called high dose ozone therapy. And so then what? That is, is there's, a machine, there's two machines, that will pull blood through a vacuum out of the body, mix that with ozone and put it back in.

And if you do that one time, it's called one pass. If you do it ten times, it's called a ten pass. And so that's kind of, helpful because people will hear about that as as an idea.

The nice thing about that is there's just one I. V. pull blood out, goes back in. Then the next one is, is that you can put an IV in one arm and an IV in the other arm and pull blood out and then run it through a dialysis filter and then back into the body.

And there's a handful of different versions of this that are all fairly related to each other that, people are doing all over the world, in slightly different incarnations, but they're all fairly similar to each other.

And, the thing that happens when you do that is, is that when the blood goes through the dialysis filter, it acts as a very large surface area for the ozone to mix with the blood.

And then the blood's going through a filter. And so what we have found is, is that there's, a dramatically more surface area and more ozone that can be mixed.

Because of that, we do a micro dose of the ozone. So, we do, a concentration that is basically like, like about 15 times less than we do with the ten pass.

And people will have a better experience, less in terms of detox side effects and and then we'll find it to be fairly helpful, particularly for people who have infections, whether that be viral or bacterial, because the, the ozone can donate an electron if it donates an electron to one celled, bacteria or to viruses, it can kill that virus.

And so it's a, it's a it's an intriguing technique to use and, and from, from that perspective and the, and then there's also a version where you can do plasmapheresis and then do a, micro dose of ozone along with that which, which gives some immune modulation.

And we find is an easier procedure to do than the full plasma plasmapheresis. And, people recover a little bit quicker and also feel a little bit better.

The ozone, one of the side effects of ozone is, is that it will improve viscosity of blood. So that also when and whenever by anybody does that sound almost immediately, mentally they start to feel more clear.

The it the by by increasing energy levels, ozone has an ability to help mitochondrial function. And so then that can help with sort of mental clarity and thinking.

And then when I think of cognitive change, then what I'm thinking about is okay, do I think that this is being driven by an infection or do I think this is this is more genetic, or is there a little bit of a, is there a combination of 2 or 3 things going on and then within, within the, chronic infections, sometimes people may have had Lyme disease and they're having an immune reaction to maybe some proteins of the Lyme disease that are, hung around, but they

may not have an active infection.

And then other people may have a very active infection. So we're sorting we're sorting that out with testing. And then we will use a diversity of these, approaches.

But I think of ozone like an antibiotic. And so then with that as a tool that can help, support immune function and help fight infections, then what we'll do is we'll use the ozone as, as sort of one tool.

And if you think of and if you think of people who are taking care of complex Lyme disease and infections, there's sort of two, two camps out there. There would be one camp that says, if we could give 3 or 4 antibiotics.

And this is particularly for like neurological Lyme. They said, we need a, a model that would we could use to think about neurological Lyme and the model that they came up with, West drug resistant TB.

And so then in drug resistant TB, they often have to use 3 to 4 antibiotics to get enough penetration into the central nervous system. Now the that is a, a thoughtful and interesting and probably a good way to think about neurological alignment.

And one approach, the other group of people that probably I'm more in the second camp would say, well, what would be some alternate strategies that would have, anti-microbial functioning, but that would not be an antibiotic.

So ozone would be one, peptides could be the there could be a number of peptides that have some antimicrobial function. There could be herbal strategies that have some antimicrobial function.

There could be other things molecules like methylene blue that are in there. And so then what we, we, we will try to build and then and then there are cellular therapies that can have an impact in effect there.

And so then what we try to do is take, look, build a model. At times we'll give antibiotics, but we're generally focusing on strategies that reset, regulate and modulate immune function.

And then using these tools, depending on where they are from an infection perspective. And then we see how they respond. Yeah. Very a very comprehensive and nuanced and sophisticated approach versus like, all right, let's go in and kill it and then hope it all.

We win the war. So let's let's segue into kind of this regeneration and, and I, I don't want to put peptides fully in that camp there because peptides do some of this support that can help us with fighting infections, with reducing inflammation, with getting toxins out.

So the peptides are really this arsenal of signaling molecules that can help us tell ourselves kind of how to behave. So you are the peptide guy you just hosted the the peptide summit.

Tell us what we need to know in terms of peptides for cognition. Okay. So then this is kind of like a theme for the conversation. So then if you go back to we've got these different causes of cognitive stress.

And so then with that in mind then what I'll do is kind of run through a variety of, causes and then some ways to think about it. So the first thing that I mentioned was, the idea that there could be mitochondrial dysfunction and that mitochondrial dysfunction can be a challenge for thinking.

So then it turns out that there are peptides that will stimulate your mitochondria. And so one is S 31, one is, human. And those are probably the two best.

The next one would be might see we might see. It will also have some benefits in terms of glucose regulation and in terms of cognitive change.

## Peptides for Mitochondria, Inflammation, and Brain Support

We do think that, one one definition of, dementia is type three diabetes, you know, and so then if to the extent that we can, begin to optimize mitochondrial control function, but then also think about regulation of glucose, and that's going to be interesting.

So that that would be sort of one, one category. Category two is how much immune stress is there in this conversation. You know, it could be that it's just a pure vascular problem or it could be a pure toxin problem, but.

When I see people, I almost always find when we do our testing, a component of immune stress and so then there's a whole category of peptides that regulate and, and balance immune functioning.

And if we can, if, you know, people have heard about Covid and, you know, you hear about a Covid, cytokine storm, the long term consequence of immune stress is not really a cytokine storm anymore, but it's kind of a smoldering kind of, drizzle.

And, so then we will use peptides that regulate immune functioning. And so the, the regulation peptides for, that seem to work the best neurologically would be thymus and alpha one, which may or may not be super available in the States, but we have people all over the world that we're talking to.

And then there are, a handful of fragments of thymus and beta four. There's a fragment, the, the 1 to 4 fragment. It's just four amino acids, very anti-inflammatory.

And a lot of, neurological patients will benefit from that decrease in inflammation. The 17 to 23 fragment is also known as T 500. And, people have heard about that for a long time.

And that one, is a connective tissue. And, has also has anti-inflammatory effects and has some immune, regulating effects as well. On the immune side, if people have actual infections going on, there's a peptide called L 37, that is, fairly significant.

It's a significantly powerful antibiotic. And so then that that can be very helpful if there's an active thing going on, kind of from an infection perspective on that sense.

The, the next category would be, let's say there's things that have an anti-inflammatory effect and, and, and the a classic one would be BPC 157. Interestingly, BPC 157 has an anti-inflammatory effect in the brain as well as in the gut.

And when you think about, you know, cognitive change, you have to think about the gut. And there's this gut brain access and a lot of times a little leaky gut that causes immune and antigenic stress can be a trigger for driving neurological dysfunction.

And often the neurological dysfunction is a case of one plus one plus one is six. And so if we could begin to kind of work on that. And so we'll often find that, BPC 157 is can be helpful at managing overall, immune stress, but also by helping to heal the gut.

And that one's interesting because then you can take that one orally. Another another one that would be interesting on kind of an anti-inflammatory perspective would be, this another one of these small peptides, kind of like the fragments of thymus and beta for us, called CP v and Cfpb will give to a lot of people orally if they have gastrointestinal, leaky gut and inflammation.

We give it to a lot of people with mast cell activation. And there if you think about the mold spectrum, what happens is, is that there's, a protein called MSA Ige that really is probably an anti-inflammatory protein that kind of regulates and manages, a lot of aspects of neurological functioning that gets depleted.

And patients who have mycotoxins and Cfpb is just a segment of, message, it tends to regulate mast cells and kind of calm them down. And it seems to have, fairly significant anti-inflammatory, almost wherever you give that.

And so people will give that IV people will give that, orally, people will give that subcutaneously and, and as we're walking through this journey of peptides that do stuff, that one, my experience has been that for the, the mold patients is particularly helpful, but it's can be fairly helpful for a lot of people.

Next would be there are some, peptides that are that people would classically think of as being the neurological peptides. One is called C max and one is called C lang Cmax.

Well, increased brand derived neurotrophic factor C link is kind of a Gaba calming peptide. We like both of them. Some people will give them IV, some people will give them subcutaneously.

And I will have some people, interestingly, who will sleep a lot better when they take them. And so then that's, an intriguing category for, for neurological peptides.

The, if you said we're going to do peptides and you can only do one category of peptides for neurological functioning, I would do, this category of peptides that are called bio regulator peptides.

And this this is probably the most interesting area of, of peptides. And directionally I think is going to be an area that's going to be profoundly important to think about over the next ten years.

And that is, is that there are small peptides that regulate every organ. And so then there's, two that are from the pineal gland, pineal gland, and epitaph One.

And then there's one for the, cortex called codegen. And these were developed and worked on by, Doctor Cabin Sun, who is a famous Russian doctor who I think is probably the godfather of peptide sort of thought and consciousness in the world.

And is that extremely, high level, person. And, and so then traditionally what would happen is they would, always combine the bio regulators for an organ with the, the blood vessel by a regulator, which is called vessels.

And so then, people are using microdosing of these peptides and sort of a regular basis. And the interestingly, the pineal peptides, will sometimes help to, reset the circadian architecture.

And so often people will sleep a little bit better. You can there's low dosing and high dosing. If people are really not sleeping, I'll go to high dosing and then transition to low dosing sort of as a bonus to kind of get going.

So I'll do like go up to ten milligrams and then come back down to one milligram. The and then in parallel to the neurological bio regulators, then there's three immune bio regulators.

And so then if I'm, if we go back to that model of thinking about all of these causes, if there is an immune component, I'll think about adding in the immune bio regulator peptides on top of the bio by regulators that are working on the actual brain.

And so then that's bio regulators, which is super interesting. And then there's going to be like another one, there's a peptide called K that seems to have some fairly interesting neurological effects.

And you most people, you hear about it as the copper peptide. And so then, you that's the great copper. But K without the copper you can given higher dosing.

So that's going to be interesting as a as a, as a as a concept peptide wise. And so that's a little bit of an introduction of sort of thinking about peptides.

And so and then we'll cycle people through that diversity based sort of on testing. But it, it you begin to realize, oh, so there's a fairly robust, amount of things to begin to do and then to begin to think about, these are the, how to synergize with, the, the other things such as ozone and, so, for example, ozone will increase mitochondrial function.

We use NAD to increase mitochondrial function. And so now ozone plus NAD plus mitochondrial peptides. So now we've got a stack of three things. The final thing that I just wanted to mention in, on top of all of those, there's one other peptide called fgfr that I think is outside of by regulators.

If I had one peptide to give someone for neurological and cognitive enhancement, it would be FCL. And that one's going to be an interesting one. It can be, and I've seen it to be fairly helpful for a lot of young people who have long Covid and profound neurological sort of consequences from that.

And, and also with older people with cognitive change. And so then so then and so then now we're basically sort of building this model. We've got big IV things, we've got peptides, we've got supplements.

And then sort of trying to cure. Right. And then support kind of and an overarching strategy that kind of guides people, through their journey. And interestingly, then the stellate ganglion block pairs very well with those things.

And then the final thing that we would think about in parallel to all of that stuff is kind of the regenerative medicine piece. Yeah. So let's go there. So we get to this, this stage of the journey and people are feeling way better.

And now they want to live to be 150. And how can we support them, their stem cells and growth factors and hormone replacement. And what is what is regeneration look like a bio reset.

Okay. So then you mentioned hormone replacement. The, the other just since since you mentioned that. What I'll tell you about is, is that one thing is, is that when we age, hormones can go off of a class.

And so then there's the thought of, supporting hormones that as we and as a way to kind of some more support an optimal, biochemical milieu because those hormones are doing something.

And so if they fall off a cliff and we support you up, then we think that, that will, support an anti-aging process and also just help you mend kind of your biochemical bio, biomechanical structure and stuff like that.

Another hormone that kind of falls off a cliff is growth hormone. And so then, just for completeness, now I will I've kind of covered a fair swath of peptides, because there's some peptides that can tell your brain to secrete growth hormone.

And I think that that will be another helpful thing to think about for patients with neurocognitive and neurodegenerative issues that sometimes people with significant Lyme and mold and, and, and inflammatory neurological conditions can have some side effects in terms of headaches and symptoms with the growth hormone peptides.

And so then, I mean, I'm glad I mentioned at last so that we so we just know that. And typically what I try to do is I try to do all those other peptides first and then and then if I do the growth hormone peptides I'll start super low for these fragile patients.

Whereas if if you came in and you're like, hey, I'm running a lot and I just want to be in better shape, I might start iron out right away. So, so the, the, the hormone replacement conversation, I think is a super interesting one and a good one.

And then we have a diversity of ways that we can do that. And, and for people that don't want to do hormone replacement, there's like peptides that will help support testosterone.

Like just popped up. So then you say what about, stem cells and growth factors and stuff like that? The, the potentially one of the most intriguing things about stem cells.

## Regenerative Medicine: Hormones, Stem Cells, and Exosomes

And we've been doing this for years because we have, clinics in Mexico where we take people to for stem cells

and, at Bio Reset International and the, the, the patients who have had, the most long term success, have been patients with autoimmune conditions.

And, often there's an autoimmune component to neurological, conditions. But, but, stem cells tend to regulate immune function. And so then we were talking about, all of those peptides that regulate immune function.

And so now, stem cells kind of do the same thing, but the stem cell is actually a cell that's floating around that's regulating that immune function. And so then if the immune system is really stressed, then the stem cells might be one strategy to regulate that.

But then the the in and five years ago that was kind of like all we had, you know then then but now all of this tech is coming on board. And so now we've got all of these peptides that can regulate immune function.

And then, it turns out the other, the other kind of significant player in the regenerative medicine space is something called exosomes. Exosomes are stem cell secretions.

And the the stem cell secretions are the things that actually regulate the immune function. And so then exosomes are another strategy for regulating that immune function.

Now that both exosomes and stem cells tend to have fairly significant anti-inflammatory effects as well. And so then we know that the the inflammation that is in blood vessels, in the blood or in tissues can be a driver of dysfunction and particularly in neurological dysfunction.

And so then these can be strategies to, use to manage inflammation. And then not just neurologically but all over the body. Yeah. We think the incredible benefits for, residents at Miramar who have had the benefit of getting stem cells and just seeing them sort of like perk back up.

And, we had one, resident over there who was on hospice. She had a pressure wound and, she and everyone was sort of preparing for the worst, and they decided to do stem cells.

And it was just at this miraculous, completely miraculous turnaround. Really amazing. So helpful. I think with, with wound healing as well, with, with so many things.

Right. Because we're getting the signals for growth and recovery and regeneration from that. Right. And, and so then now the the, the and as an idea, you think, oh, okay.

So let's say something happens over here like an infection. And so then the body goes oh my god that was crazy. And so it created a cytokine storm. And so that storm starts to wind up.

But then what happens is is that's a signal then for your stem cells to come in and wind it down. And so then we we were always winding up in distress and then winding that back down into balance.

And so then the, the but if there is too much stress for the body to handle, sometimes we just get stuck. And this wound up so, the, the, the cell therapies I think are very interesting.

And then and the exosome or the growth factor therapies are potentially as interesting or more interesting, because those may be something that could be at a, at a significantly lower cost, that can be repeated on a regular basis.

And then I'll, I'm starting to talk about this, which is that if you do a there's there's a couple theories out there for how could we drive more growth factors to the brain.

And so then one theory would be to, give the exosomes live and then do an ultrasonic treatment that would, increase blood flow and increase permeability, within a segment of the brain, which tends to be fairly difficult to do.

And, requires an MRI and it requires a lot of technology. The other thing that you could do is you could do the

stellar ganglion block and then do growth factors I-V, and then those growth factors then and because the blood vessels are dilated and potentially maybe even a little bit more leaky, that could, achieve the same benefit or potentially, I think, better based on sort of our sort of what we've been seeing people.

And so then now we're using, we're trying to drive product to the brain. And then that could be peptide, that could be growth factors, that could be cells.

And then we're trying to then, then manage that in context of this sort of total, thought process of really optimizing biology up to, optimizing cell physiology.

And and then supporting people with, with and, telling a positive, heroic story about them. Stop as they, sort of, as, as they're going through their healing process.

Well, I'm so happy there are doctors, smart, intelligent, dedicated doctors like you who are putting all these pieces together because so many people have been told, you know, by certainly by well-intentioned humans, that there's nothing that you can do for dementia.

And yet talking to you, it's almost overwhelming how much and the complexity of options that we have when it comes to reversing cognitive decline. And so hearing from you, the the pieces of the puzzle and how we might fit them together and how we can individualize this and come at it in a, in a systematic way, based on what that person is experiencing and then what they're responding to.

And there's really like talking to you, it's there's there's no limit to the benefits that people can potentially get from this sort of approach. But now but and then but and went one then what I want to my reaction to that then is that.

This is this is the most borderline, the most stressful thing that can happen to a family that I know of. And so it's it's it's so overwhelming and it's such a challenge.

And, and there's there's not a perfect solution. And, and any one of those these things is not a total magic bullet. And even all of it could not be a magic bullet.

And then cost is is an issue. And so then and, and so then you go, oh, okay, this is a big deal. And then also what are we going to do. Where where are where are they going to live and how do we take care of them.

And what you have created is probably going to be the state of the art that all systems are going to be based on, in terms of your your approach to where what you've created in terms of a living center. But what my current trajectory of and is in terms of thinking about this and talking about this is, is that, we now have some very low cost ideas that we can support people with.

And so then the peptide module is kind of relatively low cost. Has some potential to be helpful. And so then now we're beginning to think of, oh, okay, let's do some things and just see how people are responding, building some low cost testing kind of concepts and then doing some simple functional medicine.

And so then you begin to say could, could, could without spending a lot of money, could we start to get some benefits, can we manage inflammation and then see if, you know, a lot of times I feel like just with that, the whole experience of people's family life gets a little bit better.

Stress starts to come down. Then you've got some more interventions that come in, like the solid ganglia block. That tends to be relatively low cost too.

## Practical Care, Low-Cost Strategies, and Closing Thoughts

And so now we get a diversity of things that are going to be helpful. Hyperbaric oxygen I think can be very helpful. And so then now we're building we're building a whole bunch of things before kind of the expensive things and seeing how people do.

But I think, this is something that we can impact. And so it deserves our attention. Yeah. And, you know, you and I work with the people across the board in terms of resources and when we can have when somebody comes in with with resources, who wants to push this really hard and get creative and, and just keep going and try everything we get to see, we get to kind of do the research, we get to do the experiments, we get to get the clinical experience, and then over time that informs, and creates basically economies of scale that can then help drive the price down and make things more accessible for people.

So it's definitely a both and strategy and no one wants to forget. Our conversation today was definitely about the exciting new things that we're learning about, and that we can layer on top of foundations, but that by no means, would suggest that, like, we can't focus on sleep and exercise and great diets and all of the healthy, foundational pieces that we know are critical to brain health.

And then this is just what you can do. In addition. Yeah. And, you know, we talked about and then even I like, I like to dig into these low cost things because like we talk about all this stuff, there was kind of sexy, complex stuff.

But then if if we find mold, then we're going to give these people binders and pull that mold out of the body. And so then and sometimes with neurological patients, you'll see like mold toxin levels that are like hundreds of times above the normal limit.

And so then when you start to bring those down, sometimes that'll change. And so I think, I think I, I sit here, cautious, thoughtful and optimistic about the future.

That's exciting. Matt, thank you so much for joining us. I want to make sure that everybody knows where they can find out more about you and bio reset okay.

Go to bio reset.com. And I think, you you're going to find us. Excellent. Thank you so much for sharing your wisdom, expertise and experience today. It's been an absolute pleasure having you.

Oh awesome. Thank you so much for.