Introduction and Dr. Titus Chiuu2019s Background

– Hey everybody, I'm Dr. Diane Mueller, host of microbes and mental health. Welcome to another episode of this summit. I am so excited to bring on leaky brain expert and a dear friend of mine, Dr. Titus Chiu, Welcome to the show, Dr. Titus.

– Thanks Dr. Diane. It's great to see you. Great to see you to tell us a little bit like. So let's start with, just like, foundational stuff. Tell us a little bit about your history, your past, how you got to be so passionate about leaky brain.

– Yeah, sure. So it began over 20 years ago actually, 21 years now and I was in a terrible car accident that nearly took my life and I dislocated my shoulder, I broke ribs and thank God I survived, but I ended up with experiencing chronic pain as well as all the, you know, fallout from a concussion. So I looked with in conventional medicine, anything I could get my hands on to figure out why I was still suffering from this chronic pain and concussion symptoms and you know, I didn't find anything.

So I decided to go outside the box and I went back to school, I got a post doc in clinical neurology, I got a masters in nutrition, I studied functional medicine, chiropractic, acupuncture energy medicine, anything I could get my hands on to figure out what was going on with my brain and body symptoms and I'm glad that I did because along the way I began to experiment with some of the things that I learned in school and at conferences and a lot of my body symptoms went away. My chronic neck and shoulder pain from that car accident literally just disappeared and melted away.

So I knew I was onto something, but I still found myself stuck on this up and down roller coaster with my brain symptoms. So although my body symptoms have gotten better, my I was struggling with all the symptoms from a concussion, things like brain fall, things like vertigo, even psychological symptoms like um, anger management, as well as when it really got to the worst parts points of my journey, like the deepest, darkest parts, a lot of paranoia.

And it was really, it was kind of frightening because growing up, I never experienced any of these, especially the psychological symptoms, right? Obviously if if you have an injury and you develop some neurological symptoms like vertigo, that that's always a little concerning, but more so for me, were these more psychological symptoms that developed.

And it wasn't until I discovered this one thing that it all made sense, it all connected. And I began to explore this one area this little known struck within the nervous system and I began to heal.

That that's when all those things began to improve. Not only the brain symptoms like brain fog and cognitive symptoms, mental fatigue as well as the physical neurological symptoms like vertigo, but also those more psychological emotional symptoms.

And so I was knew I knew I was onto something, but I was shocked because when I began sharing this with my patients, they didn't know everyone know about it and then let alone many of their their doctors didn't know about it. So it made it my mission to educate the world about this one little known yet crucially important structure of the nervous system that really connects our nervous system as well as our mental and emotional states, but also, you know, as the point of this whole summit, believe it or not, the microbes, so that's how I entered this whole world has been in continuous like rabbit hole, but it's, it's been really quite fascinating every time I learn something applied to my life, my health just gets better and better.

– So, I feel like the question that everybody is asking right now is so is he going to tell us what this little known structure is? So, you want to tell us about this little known structure, because you've done a great job of rising curiosity?

– Yeah, absolutely. And the thing is, you know, before I dive into that now that everyone is curious, one thing that I in addition to this little structure that I discovered, I think what's really important to answer or to kind of bring awareness to in this conversation, especially when we talk about when we're talking about mental health is another discovery I made known as the three pillars of brain health.

Three Pillars of Brain Health

So, uh, Over that 21 years, in addition to learning about this one area of the nervous system, I also discovered that in order to heal the brain and nervous system, we have to look at things holistically.

So I'm going to share the screen here in what I call the three pillars of brain health. And don't worry, we'll definitely get to the structure. It's it's the main focus of my talk. But when I share this, it'll make sense for people who are watching or better sense that is.

So I discovered the three pillars of brain health, right? What I call physical pillar, chemical pillar and the emotional pillar and what I've learned is in order to really get to the root cause of why you might be struggling with some mental health or mood challenges like anxiety, depression, anger management, impulse control. We have to look at things holistically and so what I mean by that the physical pillar refers to the actual physical structures that make up our brain is what we call the brain cells that are known as neurons and they make up and form these communication pathways we call neural networks.

And the interesting thing is when we have neural networks that we have different types of neural network signatures and each of the different signatures and how they communicate literally creates the experiences of ourselves and the world around us.

So there's neural networks for joy, for gratitude for feeling positive in challenging times, right? And there's also neural networks to help keep our mood stable and help us calm our nervous system. So we don't feel things like anxiety, that's when they're working, right. But when they're not you can have neural networks that are either overactive or underactive.

Okay? And when you do you can experience things like anxiety or depression or you can experience things like bipolar, you can experience things like paranoia, a lot of things that I was struggling with in my concussion recovery. So that's the physical pillar and that little known structure is actually important. Part of that.

We'll talk about. The second pillar is what we call the chemical pillar and that refers to like the neurochemical milieu that our brains, our physical brains existence. So just like this little fig tree behind me here, it has nice strong roots, right? And a strong structure and branches and these beautiful leaves.

But then it's because the soil is optimized if that soil, if it you know, became depleted of nutrients, if there is toxins, If there is any type of pathogens, then guess what?

No matter how strong the structure is, you wouldn't experience health, right? So just as important as the physical as the chemical pillar of brain health, that's that neurochemical meal you that your physical brain existed. And then finally the third pillar is the emotional pillar and very important for our conversation for this summit is the emotional pillar and that really refers to our mindset, it refers to our ability to handle stress and our stress resilience. My whole point in sharing this though, dr diane is what I've learned is in my experience healing my brain from both.

You know, the more mental cognitive symptoms like brain fog, but also more emotional symptoms. I've learned many times when people have, even if they have psychological symptoms or emotional symptoms many times, there's things going on in the physical as well as chemical.

And not only did I discover, you know, when you work on these things many times, I find when you work on these things first, then it gives your nervous system and your brain the band with the then be able to process these more, you know, harder things to face about ourselves and the things that are, you know, we're challenged with in our lives. So that was one of the biggest discoveries that I made. You know, it's all connected and it's actually not even

my opinion, it's there's a whole scientific, you know, community and disciplined school of thought called psycho neuro immunology and that's that's what we're talking about right here cycle, meaning the emotional euros this physical neural network pathways and the immune immunology is referring to that chemical piece as well. And so what I've learned is and part of my healing journey is by addressing the physical, by optimizing the chemical then then I was able, when I did therapy and I showed up to my, you know, talk to therapists and work through that stuff, then my brain in its innate ability for healing began to integrate that. So that's one of the most important discoveries I made. So the whole point is number one, we have to look at things holistically. And then number two, you know, many people who are struggling with mental, you know, challenges or emotional challenges. What I've learned is when you optimize these two pillars first that it makes this work a lot easier.

It's not by any means easy, but it makes it a lot, you know, makes it go a lot smoother. – So I love the link and the explanation of connecting this to the very complicated term of psycho neuro immunology?

Because I think that's a, just a mouthful term that is hard for people to wrap their brains around. So I love this so much. And I feel like some of the questions that are probably coming up, you answered here just at the end, but just to be clear, like when somebody comes in with any sort of mental health type of imbalance, right? Whether it's brain fog, whether it is paranoia, any of these things we're talking about, I want to, I'm I'm trying to put myself in their brain as far as what questions they could be asking. So would you tell them that no matter what the mental health imbalance is, we're always going to want to address these three pillars or there ever situations that you've seen where somebody might want to address more.

That more of just one of these. – Yeah, that's a fantastic question and that's really a big part of how I triage my patients when they come to work with me, everyone is unique, right? And so, I mean, even stepping back a bit further, even at the, you know, 20,000 ft view, my philosophy and my firm belief is that a lot of the mental health challenges were experiencing, you know, we can use words and diagnoses and labels to describe them.

So we have a similar, you know, lexicon to understand each other, but the way I look at it, what's happening deeper underneath the surface, right? So if somebody is diagnosed or struggle with anxiety or depression or bipolar more important to me, isn't that label? But it's actually what's happening within the three pillars for them. So for example, if a person comes to me and you know, they're struggling with anxiety and I work with a lot of people of anxiety, especially after something like a concussion. Like I'm gonna look at all these things and many times they'll be like, yeah, I tried meditating, I tried doing therapy, I tried all these, saw a psychologist and it helped, but I was still struggling and so I did a deep dive into their specific situation, I found that boom, there was inflammation in their nervous system or they had an imbalance in their gut, write this bio sis and that was one of the crucial pieces for their healing or for other patients. I find that, wow, they had a great diet, They didn't have too much inflammation, they didn't have toxins, They had a good meditation practice. But bam there was a huge missing piece in the physical, the neural networks. So what I was talking about earlier, the areas of the nervous system that were under or over active.

So for example, again, in the case of anxiety, what I found and what the research shows it is that when you have the hemisphere tears of the brain, by the way, we have a left and a right research shows and what I see in my clinical practice a lot of times, people with anxiety actually have over activity of the right hemisphere of their brain.

And the cool thing is through the miracle of neural plasticity. We can actually bring balance to the nervous system with sometimes some simple physical exercises, sensory based exercise, things like eye exercises or color Therapy or aromatherapy that we can literally bring balance to the nervous system and target these different neural networks that I spoke about.

What Leaky Brain Is and Why It Matters

But that's just for you know, that one particular patient, everyone is unique and personalized or the approach needs to be personalized. But that's what I've discovered.

So an answer to your question. It really depends on the person. But what I found right in my over 21 years doing this usually, especially if people have already tried, you know, meditating or tried talk therapy and they're still

struggling. Usually I find that there's something going on in the physical and or chemical and I found that one of the most important first steps though is to address the chemistry. So not only doing the right thing for the right person, but doing it in the right order. That makes all the difference.

And again, kind of going back to what I was talking about earlier, that one unknown structure within the nervous system. It's kind of like the interface between all these things, right? Um as you know, and probably a lot of people on this watching this right now know or are learning there's a huge connection between gut health and our microbiome or just microbiome overall and our mental health, right? And that's when I think about gut health or you know, the microbiome found in all different parts of our body, not only just the gut, but also the or cavity and the sinuses and the skin so on and so forth.

What what I think about is it's it's that chemical piece, right? But what I found is this this discovery, I made this little known structure is really the link between our microbiome, our nervous system and then our mental health.

That's one of the biggest things, but again, we'll get to that in a second, but yeah, one of the another big discovery is not only do we need to look at things holistically. Number one, not only do we need to address things in a very personalized fashion, number two, but then number three, we need to do things in the right order. So in answer to your question, I usually find if people already put some energy into here, you know, you keep knocking on that door, it's gonna be a frustrating journey, It's like time to shift gears. Let's let's explore what's happening chemically with the microbiome, let's explore what's happening physically with the different neural network pathways. Point is healing is possible once you can get to the root cause of what's going on with you.

– Yeah, and the definition of insanity is doing the same thing over and over and expecting different results. So we're not gonna do that. – Don't get me wrong, I've I've not that many doors like that, that's how I learned. You know, once you continue knocking and you're not getting the results that you're looking for with your health, you got to shift gears, but that's, you know, it's it's not your fault.

If you're on this call and you're just like, oh my goodness, that sounds like me, it's not your fault because it's this, you know, I hope this little dia helps people understand and make sense of the noise and the chaos of it all, but this took me 21 years to discover and put together this, you know, But I hope this kind of framework helps people understand Yeah, maybe now it's time to shift and look at what's happening with your microbiome, what's happening with your actual physical structures of your brain or that little known structure of your nervous system that will get to I promise.

– Yeah, I love the simplification of this so much Dr. Titus, it's it's amazing because I see one of the things I see my clinic is so many people with mental health stuff wind up. There's still like this disconnect I think in our field right. Of like the body is all connected, but like the brain is its kind of own different thing.

So it's such an easy way to I think, grasp the fact that all of these three pillars are actually involved in proper and healthy, you know, mental health.

So, absolutely, you're absolutely right. It's all connected. It's all connected, right? And we can go all into day carts air. But yeah, there's not enough time for that station.

– So, do you want to talk about leaky brain next, I know you have a book coming out on that. You want to tell us a little bit about that and how it's connected to these three pillars.

– Yeah, absolutely. So like I said before, one of the biggest discoveries I made in that whole healing really. You know, I healed my learning all these different things in school at conferences.

I was able to heal my body, right? But I was still struggling with these brain symptoms, but not only just brain symptoms, but it was like I felt stuck in this up and down roller coaster where I would feel okay one day and next day I feel completely brain fall stressed out, wouldn't be able to sleep and I had no idea why.

And so I went deeper, right? And I was struggling right? I was especially like I said before when I started really

struggling not only with those physical symptoms but with more the mental emotional, I knew I had to change something, something ahead of this shift.

So I went back to the drawing board and went deep into the world of neurology, neuroscience, but also natural medicine. I discovered this little known structure of the nervous system that once I began to address that he'll that everything started to fall in place and that structure was what we call the blood brain barrier.

So let me share with us, everybody here um this picture here. So all throughout our brain and body, we have barriers and just like uh probably other speakers in this summit have talked about, there's what's known as the gut barrier, very important for mental health, very important for immune function, but in addition to the gut barrier, we also have a lung barrier.

We have skin barriers, more important for this conversation. We have what's known as the blood brain barrier. And so the blood brain barrier is extremely important is the single cell layer made up of what we call endothelial cells that surround your blood vessels, that pretty much they're like the gateway from what's floating around your blood stream and what gets into your brain and nervous system.

And so you can see here the single cell made of what we call endothelial cells and there's these things we call tight junctions are kind of like the glue or the nails that keep that all together. In addition to that, we also have what are known as astrocytes. These are part of the nervous system, different from those neurons I talked about earlier, these astrocytes are really important for detoxification and yeah, here's kind of the star of the previous show.

We talked about the neurons that allow for that communication for us to experience things in our life like joy or gratitude or positivity. So anyways that is the blood brain barrier and nutshell and one of the most important functions of the blood brain barrier, it allows for protection. So things that are literally floating around our bloodstream right now is that things like toxins, things like inflammatory chemicals, things that we call antibodies from our immune system.

They're literally we have a lot of people actually have different levels of that stuff floating around right now. And so the blood brain bear is so very important because it actually protects those things from entering our nervous system because if they do all hell can break loose and things can go south really quickly. Like again when I first had that was first had that car accident and that concussion, it was like I was in the red, I was feeling terrible, I couldn't function, right?

And I know a lot of patients who I work with who have been in those situations, they're like, yeah, I got that concussion and I was you know, out for like days and I couldn't like move, I didn't want to get out of bed like lights and sounds are super sensitive to and a lot of it guess what is because that barrier boom, it became leaky and because that is what we call leaky brain answer to your question.

And that's the thing is this single cell layer right here. It's very thin, it's thinner than like a piece of tissue and you can actually have micro tears in your blood brain bear then allowing all those things that might be protected from your nervous system from getting in. Boom, they can start to get in and create massive massive inflammation. So this is that interface between what I was sharing with you earlier, right? With the physical and the chemical and the emotional, that blood brain barrier protects anything, you know, any type of things that we don't want in our nervous system from getting in.

It's that blood brain barrier. And so when things get the fancy term is what we call a breach of the blood brain barrier when you have micro tears of that, then these compounds again to our nervous system and just wreak havoc.

And a lot of times again, many of my patients I work with, you know, it's like even people who haven't had concussion, they maybe they developed symptoms after long extended periods of chronic stress. Like over time they did start developed rainfall or anxiety or depression, right? And they'd be like, yeah, just over time I started developing but then something happened like, you know, I got sick ones and then after that, like I didn't get better and like I go through, I was stuck in this up and down roller coaster where I feel anxious and then I feel better and

then some days it just be so like I couldn't handle the anxiety at all.

And again, one of the number one things hidden things I found that cause that up and down roller coaster of setbacks and flare ups is the blood brain barrier.

When a person has leaky brain. – Yeah, thank you for that. I think one of the biggest first questions people are gonna have is leaky gut, right? So leaky gut has a lot of reputation.

People been talking about it for a long time and leaky brain is definitely a newer term for people.

Leaky Gut, Leaky Brain, and Testing

So can you talk to people a little bit about, you know, the relationship, what you've seen in your research, like if somebody has leaky gut, is that an indication they're gonna have leaky brain?

Is there a similarity correlation causation is a relationship there? – Yeah, absolutely. That's such a great question. And again, it goes back to this whole idea of barriers because when you look embry a logically back at what actually the structures like these cells I showed you like, the blood brain barrier looks very similar to the gut barrier, Right? And again, that's why, especially when we talk about mental health, when we talk about brain health, the blood brain barrier is crucial because research shows that, like, like I said, we have a lot of these things that already floating around our bloodstream, right? But it isn't until the blood brain barrier starts to break down and these things could start enter the nervous system, then people start to expiry, it's either mental, emotional or neurological symptoms, it's that important. That's that gateway.

But going back to your question. So, the gut barrier, as you know, there's like, all throughout our digestive track and you know, especially high amounts in our small intestine, we have this gut associated lymphoid tissue and it actually looks very similar to the blood brain barrier, we have this really thin layer of cells and then underneath that we have a whole immunological like alarm system. And so the gut barrier is very similar to the blood brain barrier and it prevents things from getting into our bodies that shouldn't be there.

And I remember when I was going through school and I learned this concept of the digestive track, right? The digestive system, our guts are actually on the outside of our body. It's just like this then riddle.

What if you think about it? Imagine like our bodies are like a donut, right? And then the donut hole is what, that's the digestive tract from our mouth to our anus erect.

That hole is on the outside of the donut. Isn't that wild anyways, just like when we talk about the gut barrier, the digestive track is actually on the outside of our system. So when we eat foods that might be contaminated with certain, you know pathogens or bacteria or exposed like toxins from pesticides are gut bear is so important to prevent those things from entering our bodies, right, are actually getting inside. So then anything that we don't want in our bodies gets pooped out, right? So the gut bear is very similar to our blood brain barer, the differences rather than getting into our bodies.

The blood brain barer prevents things from getting into our brains and nervous system. But the point being um going back to another question you had about leaky gut and leaky brain. Yeah, there's a huge connection and correlation between the two because and a lot of it actually boils down to this right here, that's why I brought it up really. It's what we call the tight junctions.

Okay, so this blood brain barrier, right? So you have here is actually a pretty good diagram I'm gonna share with you. So you can see here on the right is a nice picture of the blood brain barrier. You have these endothelial cells, you can think of them like the different sections of your fence, Okay, those are the endothelial cells preventing things from coming in.

And then here you have, what are these proteins known as tight junctions? That's kind of like the glue and the nails that keeps your fence intact. So then these things that shouldn't get in can't and then it's it's kind of like, you know,

you have a bouncer at the gate to your home, right? You have a security guard and the people that you want in inside you allow them in and the people that you don't want to like, you know better next time, right, clean up your act and then we'll let you back in.

So that's what happens with healthy blood brain barrier, right? But then you can see here when you have a breakdown, what we call leaky brain, then these things that come in and create massive inflammation, what we call immuno excited toxicity and a bunch of different symptoms like anxiety, depression and so on and so forth. Right?

Going back, the interesting thing is the the gut barrier looks very similar. We also have the cell layer and we have what are known as tight junctions but guess what?

A lot of these tight junctions found in the blood brain barrier, they're also found in the gut barrier. And so if you have a breakdown let's say for example, let's just imagine for a second this is actually a picture of the gut barrier.

If you have a breakdown of the gut barrier right? Your immune system will launch a massive attack not only against these things that are getting in but many times you can actually launch an attack against the tight junction proteins meaning the immune system starts to not only attack the people you don't want in your home but your immune system. The alarm system calls in the swat team, the swat team comes in starts to break down your fence even further.

Right? Well guess what? Not only could that happen within your digestive system but because these tight junctions look so similar in your gut as well as what's happening in your in your nervous system and blood brain barrier, you cannot. The swat team will not only attack your gut barrier let's say it's like the first fence surrounding your home but will also attack that blood brain barrier protecting actually the internal structures of your home.

Right? So from there we have what's known as cross reactivity or so people who have leaky gut doesn't necessarily mean they have leaky brain but I usually find if a person does have leaky gut like symptoms of leaky gut like bloating, like constipation, maybe I. B. S. Or diarrhea or gas or pain if they have digestive symptoms and potential leaky gut.

Plus they also have like mood disorders like anxiety, depression or impulse control or neurological symptoms. Then chances are not only do they have a leaky gut, but most likely they also have a leaky brain. – Yeah, that's that's helpful.

That kind of leads me into my next question and I love all your bouncer analogies by the way. It's super useful. My question is like, so how does somebody know?

Right? So it's like they're they have these symptoms, we're talking about mental health, they have these symptoms. At what point are they going to say, wow, my brain must be leaking.

Like, do they all want to consider this? Do you recommend lab testing? How do you go about deciding whether or not somebody actually has this condition.

– Yeah. And you know, that's such a great question. Thanks for asking that doctor dying because for me, you know, and it could be just the type of patients clients and you know, members of my community that I work with.

That's the number one thing I checked for its leaky brain. It's the number one thing I look for because my specialty is the brain, right? And so most of not all, like 99% of the patients I work with have either some type of neurological symptoms like brain fog or brain fatigue or they have some type of, you know, mood, mental emotional struggles like anxiety or depression. So leaky brain for me, it's just like that's the number one thing to check for, because you know, I talk about this maybe a bit more later.

But the thing is with leaky brain with the blood brain barrier, like there's a lot of things that can cause it and trigger it. So the most common when I see is actually physical trauma and by the way, not even just physical trauma to your head, like I had like a concussion, but even people I've worked with patients who developed leaky brain after,

you know, falling off a bicycle and landing on their shoulder like that, it was strong enough of a jolt to their body that that force transducers into the brain and nervous system and bam again, created that little micro tear in their blood.

Brain barer causing inflammation in the nervous system. So one of the most common causes of leaky brain I see could be trauma, but it could be other things too, inflammation can cause leaky brain stress.

Mental emotional stress could cause leaky brain by way of what we call mass cells and histamine like. So there's all these different things that can cause leaky brain, but what I've discovered not only all those scary things like trauma and you know, stress and toxins and inflammation cause leaky brain, even the normal aging process can make a person's blood brain barer more and more porous and leaky. So that's why I think it's the number one thing that needs to be checked if you've been struggling like with some type of, you know, anxiety, depression, if you've been struggling with some type of neurological, you know, symptoms like brain fog, brain fatigue, light and sound sensitivity or if you're just feeling sensitive overall, a lot of the patients I work with, they're just sensitive. They're either sensitive to like lights and sounds or motion. Maybe they're sensitive more emotionally.

A lot of times. I find it's because of that leaky brain. So yeah, that's the number one thing I checked for. You know, there's a lot of different ways to check for it.

There's really low tech ways like quizzes, self assessment quizzes I have my patients take and there's super high tech ways of doing it. Like different types of brain scans and imaging that are not very accessible and pretty costly, right?

But I found one of the best ways to really test for it objectively is actually a simple blood test. And that's the great thing. There's technologies out there available today that you can test for the blood brain barrier, a breach of the blood brain barrier. Actually looking at levels of those tight junction proteins and other types of substances that should only be in your nervous system and shouldn't be in your blood, Right? Let me explain that really briefly, like so kind of going back to what you said Dr. Diane earlier, it's like we think that the brain is separate from the body and it kind of is in many ways that's the whole purpose of the blood brain barrier.

Certain things in our body should not be allowed into our central nervous system but it doesn't mean that things aren't connected right? Like that's why gut health could influence brain health and mental health. That's why microbes in the balance of the biodome, the microbiome could totally impact the nervous system.

But my point is there are certain things found that should only be found in the nervous system in high amounts and if you have damage to your blood brain barrier, those proteins could end up in your bloodstream and that's what we do and you get your blood drawn, we're actually measuring what's happening in your blood, not in your nervous system makes sense. And so if you have high amounts of these different types of either protein substances or even antibodies like these immune chemicals and you know mediators attacking these components, then you can be at either low medium or high risk for leaky brain. So yeah, there's a lot of different ways I go about doing it.

Um The best ways I found, you know if you have access to the technologies is a simple blood test, you can some of them you can even do in the comfort of your own home, it's like an at home blood test or self assessment quizzes is like a really great way of doing that as well because sometimes when you just you know, get a sense, that's what I do with my patients, I get a sense.

Do I really think they have leaky brain, right? And if they if my sense is that they don't then I'm not going to waste their time or their money or their precious fluids on the lab test.

But typically most of the patients I work with, there's a high probability that they do. And so that's the number one thing I check for is leaky brain. – Love it, love it. Well I'm sure everybody is dying to know, can this be fixable? Is it fixable?

– Yeah right there. That's the that's the big question now because it sounds terrifying. Like leaky brain. What I remember I was telling a friend of mine at a conference, I'm like yeah you know I was telling him about leaky brain, he's like leaky brain and he like put his finger in his ear to plug his brains like oh no I don't want that. You know he

thought it starts leaking out his ears like I'm gonna plug it. Yeah it could be it could sound kind of scary but the great news is Leaky brain can be healed the blood brain barrier, right? You can actually help heal those tears, those micro tears in your blood brain barrier and many times, like, there's a lot of hope sometimes the blood brain barrier heals on its own right.

And it really depends on the state of health of a person.

Healing Leaky Brain with Exercise, Diet, and Polyphenols

You know, going back to concussions, like 85% of people who have a concussion, they recover after a concussion, right? The 15% don't and develop what we call post concussion syndrome.

I was one of them. And again, I discovered one of the reasons why the number one reason why they're not recovering is because of leaky brain. And so that 85% and I know a lot of patients who they tell me like, yeah, that first concussion I had, I was knocked out for a few days, it was like a week or two, but then I recovered and I felt fine and I bet I can, I would wager money on this. You know, if we had measured for the leaky brain at the time, right after their concussion and then when they said they recovered, there would have been a leaky brain and then it recovered, Right?

So the great news is it can heal actually on its own. But obviously if people are struggling with symptoms like anxiety, depression or issues after a concussion, my concern is that it hasn't, right? So that's where we need to look at things and be a bit more intentional in how to heal leaky brain.

But the great news is you can actually fix a leaky brain and there's actually simple things you can do. So one of the first things I tell people to do after, so if they suspect a leaky brain is to exercise, research has shown that exercise can actually help heal and strengthen a leaky blood brain barrier, Right? And would you even tell somebody with a concussion to do that? I'm going to interrupt you because I feel like this is important thing to ask you. – Yeah, exactly.

No great question. And the key is the interesting thing about concussion. Obviously everyone is different, like depending on the severity of their concussion and whatnot.

But you know, contrary to popular belief and a lot of doctors tell people with the concussion just to rest and that's all they do. And the research shows that if all you do is just rest And it actually hinders the healing process.

That being said, there is actually a window of time and again, it depends on how serious your concussion is. But if let's say for example, you have a concussion research shows that after like about you know, the 1st 48-72 hours, maybe five days or so, like if all you do is just stay in bed that will hinder your recovery. So research shows that the faster you start to get moving and exercising that can help, he'll help you heal from a concussion.

But again, I think one of the reasons for that outside of increasing, you know, blood circulation and what we called BDNF, which is a very powerful healing compound for the brain outside of all those things, exercise has been shown to help heal the blood brain barrier. Now, caveat again, since we're on that topic, you know, for those of you who have experienced concussions on this call, right, you have, and actually even if you haven't experienced a concussion, the interesting thing is exercise can heal the blood brain barer, but it can also damage the blood brain barrier, meaning if you over exercise you can actually trigger inflammation in your body and that can actually weaken your blood brain barer.

So I always tell people regardless if they've had a concussion or not, just listen to your listen to your body if you're exercising and if you like you're reaching a certain point and you're not feeling too hot, listen to your body take a break rest, recuperate, right?

And then when you feel better again then you can get up and start exercising and that's the thing and I have work with patients who are super sensitive, even like going for a hike in a windy, you know forest or something, they feel super triggered. So for them stationary bike might be a great way to exercise or people who already super active

and you know, they're able to do a lot more. So it's more about maybe not changing the type of exercise, but how long you exercise for? So that's the key.

But point being the good news is that there are ways of healing the blood brain barrier and one of them is exercise. But the, you know, the pro tip is to make sure you exercise within your own capabilities. – I love it.

That's really helpful and definitely helps to dispel some myths out there about exercise and concussions. And I think gives people a better frame for when it's appropriate and when it's not. And I'm gonna ask you something now that I see come up sometimes in my clinical practice, which is where people get off of interviews like this and they go online and they research a product and they're like, oh, leaky brain, this is the supplement that I need for leaky brain.

So, I think it's an important conversation to help people understand like, some of these claims they see online around like, okay, this is the thing to improve the brain. So, can you talk a little bit to that?

– Yeah, absolutely. And it really goes back to, that's why I spent so much time talking about the three pillars of brain health, right? It really depends on what's going on with your brain. Your everyone's unique, right?

You have a unique brain. And so sometimes, and that's the thing when you look at the three pillars physical, chemical, emotional. So it's even within that's like, oh, the chemical and I didn't really talk about it before, but I'll talk about it now. Not only is this a theoretical framework to understand what's needed, but each of the different pillars responds to different types of therapies. So, for example, the physical pillar responds to different types of brain training exercises like I described earlier, like, I exercises balance, training, special movements, lights, sounds, colors, vibration, right? That's what the brain actually responds to the sensory based therapies. Whereas the chemical pillar responds to things like medications responds to diet changes as well as supplements.

And then the emotional pillar responds to things like lifestyle practices, stress management, meditation, talk therapy, so on and so forth. But yeah, going back to what you're saying. So even within that there are literally an infinite number of things you can try, right? So many of my patients there, you know, they read a blog or they watch like a class like this, they're like, oh, Dr. Chiu said exercise and that could be the game changer for you.

And I'm fingers crossed, I hope that is like by incorporating some level of exercise into your lifestyle, maybe that's the one thing that's missing. But what I found is usually right, it has to be personalized to what's going on with you.

So, if you've tried changing your diet, if you've tried, you know, lifestyle practices meditating, um maybe even the missing pieces what's happening here, but maybe you've tried things like the stimulator rehab or chiropractic, which falls into this category, or vision therapy and you're still struggling then a deeper approach needs to be, you know, looked at and that's usually again why I find that, You know, uh, working with a professional or looking at a step by step approach, right? A proven roadmap to actually heal in this conversation. Hell, Leaky brain is so important and actually develop the process over time by 21 years exploring this how to actually, you know, step by step in a very linear thought process, right?

Like step by step. Step number one, we have to look what's happening. Do you actually have a leaky brain? Step number two. Are there other influences like what's happening in your gut? Step number three, we have to look what's actually happening physically within your neural networks and nervous system and so on and so forth. But yeah, it's really important if, you know, not everyone can access, you know, practitioners.

So there are processes and protocols that work for a lot of people that I've found to be really successful again, but at the end of the day, obviously personalization is key and there's different ways of approaching that.

– Okay, so grand summary of this is, there's lots of houses, lots of reasons, lots of directions and things to fix in order to fix leaky brain that it is flexible and then exercise sounds like it's one thing that we can say, you know, just about for everybody, except if you got a concussion, you know, this morning, yesterday, something like that is gonna be a good foundation that everybody's gonna want to include. Am I understanding that correctly?

– Yeah, especially if we're talking specifically about concussion, then I find that stationary bike is one of the best ways because a lot of people after like head trauma, they get what we call the vestibular system where their inner gear gets thrown off and so any type of movements of their head can really be triggering.

So I find that stationary bike, but again, it's leaky brain isn't specific to just concussion. Right? So if you suspect you have a leaky brain, then one of the best things you can do is incorporate exercise within your capabilities, like not over doing it, but also not under doing it.

And that can be a powerful tool in your fight against leaky brain. – Is there anything else like exercise that you tend to recommend? Largely across the board? Obviously everything is subject to the person, it's not right for. But is there anything else that you can say, hey, for most people you're gonna want to do this if you have leaky brain.

– Oh yeah, absolutely. So you know, the first thing is exercise, The second thing is diet, because there's actually, and when I talk about diet, I mean avoiding foods that obviously have a lot of pesticides.

So eating clean organic foods, but also avoiding what I call the blood brain barrier baddies. There's different types of foods that can trigger inflammation not only in our body, but also in our nervous system and damage that blood brain barrier. And actually just really briefly, I can't tell you how many times I've worked with patients before, right? You know, they, and I tell them, hey, you know what, I think it'd be good for you to get rid of gluten.

That's one of the blood brain barer baddies. So gluten, I'm sure a lot of people know by now it's a protein found in different types of grains that can trigger inflammation, not only in the gut, but what ends up happening, you can have inflammation in your bloodstream right?

And going back to what I talked about earlier, let me share the screen. You can actually have inflammatory compounds against gluten floating around your bloodstream, right? But if you have a strong blood brain barrier, guess what? They don't get in.

So I can't tell you how many times I've talked to a patient, I'm like, you know what I've been feeling, getting rid of gluten would be a good idea for you and they're like, why I've always eaten gluten, right?

Like I know you've always eaten gluten. I tell them, I know you've always eaten gluten, but like after that trauma, after that concussion you had, I'm pretty sure you have a blood brain barrier breach.

Now you have leaky brain and that's what they tell me. They're like, I was never sensitive to gluten before, but now when I eat gluten it's just like, I literally feel like my brain doesn't work, I can't speak, like I lose my words, I can't function. I get really anxious and they're like, why is this happening? One of the number one reasons again is because they have leaky brain. So that's a clue for everyone on the call as well. If you found that you're more sensitive to different types of foods that you never were before and you went through either you had some type of concussion or you went through some really stressful event in your life and now you're feeling like, whoa, when I eat gluten, I literally, my brain doesn't work or I feel really anxious, chances are, you might have a leaky brain, right? And so that's one of the things that I look at.

So, but the good news is what I found is when you can begin to heal leaky brain, then you start to, like I found that for myself, I began to boost my resilience and I wasn't as sensitive to things and many of my patients as well.

But yeah, that's the second thing we really look at. Number one is exercise within a person's capabilities, not over doing it. Number two, avoiding the blood brain barrier baddies and gluten is one of the top number one blood brain barrier baddies that I found. And the third thing lastly there's actually a certain type of nutrients found in plants that we call polyphony.

Als there are these plant compounds found all throughout nature plants as well as certain fruits and vegetables that are very protective not only against the fight against brain inflammation but they can actually help contribute to the healing of the blood brain barrier. So things like um you know green tea, there's a plant compound called E G C G F galley.

Things like blueberries that we have Taro still bean which is a plant compound found in blueberries. And then my personal favorite is red wine because it's high amounts of resveratrol, caveat, right?

You're actually in the stages of concussion recovery. It's not best to use red wine as your source of resveratrol because I found a lot of patients again if they have a leaky brain, even small healthy amounts of alcohol can trigger a lot of symptoms. So but that being said, yeah the third thing is these plant compounds that can be found in foods but a lot of times with patients I actually give them a supplement, I recommend a formulation that has many of these compounds in one formulation.

So then it's like we can give them the high amounts that their brain needs to help heal and decrease any inflammation as well as strengthen and fortify the blood brain barrier.

– Yeah that's really interesting to me that resveratrol, leaky brain. I have some of my clients in the live and mold world they have I start with resveratrol adjust for overarching um lowering of inflammation and it's so cool to notice I don't realize what it's probably happening and why that is a useful starting treatment is that it's actually also not just systemic inflammation but calming that inflammation of the brain and helping with the blood brain barrier disease on that. Very very cool.

– No really I mean I can again I can we can talk for hours we always do. We really do you know And that's the thing what I've learned is you know and it's not even my opinion. It's what I know you've seen clinically that's what I see clinically my patients. But the research also shows for example in the case of like M. S. Like a lot of people write with M.

S. They have antibodies like different types of antibodies to nervous system tissue. So for those of you who called don't know what antibodies are there Like these they're like the bullets of your immune system that your immune system tags different types of tissue to then create an attack against it.

So the most common we have antibodies against different types of pathogens like bacterias and so on and so forth. Right. But in M. S. As an example and other types of neurological autoimmune like stiff person syndrome the immune system gets confused and attacks your own tissues.

So meaning in the case of M. S. Your nerves like these neurons become attacked right? My point is what we're talking about what we see clinically. It's like obviously what we see.

Um and what I'm sharing with you isn't just my opinion. It's what the research shows. Like. It's when the blood brain barrier starts to break down. That's when people start to get symptomatic neurologically right? That's when um for in the case of M.

S. The tremors start to begin or the fatigue or the visual issues or the balance problems is because those antibodies that are being produced by the immune system. Guess what antibodies those bullets I'm talking about. They're big they're large structures that normally can get through. They can't get into the party.

Your bouncers like uh you're too big you're gonna eat too much of our food. We only have enough food for the guests we invited. You're not allowed in. Right?

And so these antibodies that are like these big chubby substances that we don't want in the party. Right And one but that's what the research shows when the blood brain bear starts to break down.

That's when these antibodies could get into the nervous system. Like I said earlier all hell can break loose. But the great news is the research also shows and what you're describing clinically what I see all the time when you start healing the blood brain barrier people get better. Right is because those antibodies could no longer get into the nervous system. And so their tremors start to go away.

Their brain fog starts to clear, their anxiety starts to clear, right? They feel calmer again, right? All those things. That's why Dr diane man. The number one thing I found this discovery about this little known structure, it's literally

my mission to educate you know, as many people as possible because when I talk about concussion, when I talk about M. S. When I talk about anxiety, that's just a few things like not my opinion, what the scientific literature shows leaky brain, the blood brain barrier breach is literally the gateway into virtually all serious neurological disorders. Alzheimer's dementia stroke, Parkinson's chronic traumatic encephalopathy which is the end game of an untreated concussion. All those things can be linked.

Not the only thing again I'm gonna say it's the only thing but what I found is when you can fix that leaky brain, people get better. Obviously you also have to look at what's happening, you know, you know when we talk about exercise, we talk about supplements and diet. These are like the foundational things right?

That I've discovered but you also have to look at what we call the systems biological approach meaning it's all connected. We have to also look at what's happening, what's that? You know with stress we have to look at our their toxins impacting a person's immune system or their nervous system and the blood brain bear what's happening physically within the prefrontal cortex or the right hemisphere of the brain. So there's a lot of things we need to do.

But again, the number one thing I've seen in my 21 years healing my own brain and teaching other doctors and helping patients that leaky brain, it's the number one most hidden yet crucial structure of the nervous system when it comes.

You know, that we need to address and fortify when it comes to things like mood disorders, anxiety, depression when it comes to neurological so symptoms and disease Alzheimer's dimension. But even things like nagging symptoms like your inability, person's inability to stay focused in a conversation or their ability to remember where they put their car keys, these little early warning signs of potential things going south. So, but I've discovered if you can fortify and strengthen that blood brain barrier, even if it's not leaky right, then you're really setting yourself for, you know, a lifetime of great brain health.

– This is so amazing and I can talk to you all day, you know this. But I do have to wrap us up here. Unfortunately I want to make sure to let people know about the great quiz. You have online for them.

You guys can all find about Dr. Titus in his speaker bio, but just anything else you want to leave us with on, you know, contacting you in that sort of thing to wrap up.

– Yeah, absolutely. So that's the thing, you know, I shared with everybody here, you know share with you guys these three ways of fixing it through exercise through diet as well as these polyphenols.

But the key is what I've discovered as well, there's these things and we have to do what's precise to you and and what your brain needs. But also I've discovered depending on if you have a low medium or high risk for it, there's different types of strategies are most fitting.

So that's why I put together the leaky brain quiz and the leaky brain quiz. It's a free resource, you can take online. That will give you insight. Do you even have leaky brain? And if you do are you at a low moderate or high risk for it. So you can find that quiz.

It's leakybrainquiz.com leaky spelled E L E A K Y B R A I N Q U I Z dot com, leakybrainquiz.com. – And we'll make sure that's in in your speaker bio for everybody as well. And thank you again for being here so, so, so insightful. I know everybody has loved it so much and it's always a pleasure appreciate your time. – Absolutely.

It's always a pleasure to chat with you Dr. Diane. – Bye for now. Everybody