Sponsor Messages and Introduction

Hey everyone, Dr. Rob here. I want to take a moment to spotlight my sponsors, Professional Co-op, empowering clinicians with premium access to top-tier lab services at a fraction of the cost.

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to condition specific protocols. I've seen firsthand the difference Neutrodyne makes in my patient's health and in practice. Hey everybody, Dr. Rob Sylvan here, Proven Health Alternatives.

Award-winning international speaker, two-time Amazon bestselling author, Doctor Titus Chiu. Doc, pleasure to have you. Yes, it is a pleasure be here Dr Rob.

Thanks for the invite. I'm excited for you to share some true knowledge bombs on the brain, most predominantly concussion. You know, we know each other.

We've met each at multiple symposiums. I've seen you lecture, you've see me lecture. So let's just get to it. Why do you do what you man? What's your why?

Yeah, man. Over 20 years ago, wow, actually now it's 22, I was in a terrible car accident that nearly took my life. I on my way to work and I hit by a car, flew off, broke three ribs, dislocated my shoulder, and although I didn't know it at the time, sustained a concussion.

Wow. So, yeah, it was brutal. Everything I did, Thankfully I survived, but I ended up with chronic body symptoms and brain symptoms. And so I went, I tried everything I could within conventional standard medicine, But it just didn't cut it.

So I decided to go outside the box. I want back to school, got a postdoc in clinical neurology. Got a master's in nutrition. Studied functional medicine.

Even things like chiropractic, acupuncture, energy medicine, anything I could get my hands on to finances. And I'm so glad that I did, because along the way, after many years of trial and error, I would experiment with all the things that i learned in seminars and at school and reading books, listening in a podcast, tried everything and some things worked.

But some things didn't but I didn' give up because it wasn't just a matter of knowledge and I mean don't get me wrong I actually enjoyed learning but it was a mater of survival and so after many years of tinkering with my own brain I was finally able to fully recover from my concussion and Thankfully, through that whole process, I began to share these breakthroughs with my patients and they started to get better too.

Dr. Titus Chiu's Recovery Story

So I knew I was onto something. That's why I do what I That's great. You know, so many people have come on the podcast and really spoken about their own personal plight, if you will, injuries, you know.

I went into chiropractic because of my congenital injury. Um, I wanted to help people the way I was helped. So it's truly compelling to hear unfortunate for you, unfortunately, fortunate, maybe that you had.

I don't wish that on anybody, but when I look back on it, it was actually one of the best things that happened to me because the trajectory of my life, I was kind of just floating through life not really passionate about anything, just kind-of figuring it out.

And after that car accident and my experiences with natural medicine and all these amazing things, and my ability to then be able to share this with millions of people throughout the world and working with thousands of patients over the years, yeah, I actually feel like it was a blessing in disguise.

You know, you made a really good point early on that you hit your head and you didn't realize that your had a concussion, no pun intended there. And I think that's so commonplace and we're definitely gonna cover that.

We're gonna get into the idea of myths and that one myth I know that want to cover. But what's interesting is, I, think you really spoke about the ideas.

What is post-concussion syndrome? What does this calamity of errors? what is this set of symptoms? Yeah, so post-concussion syndrome, it's the sequelae of untreated, improperly diagnosed concussions.

And so what a concussion is, is a blow to the nervous system, the brain. When you have an injury to your brain, you sustain a conjunction, and it is physical trauma.

But what ends up happening if that if the brain doesn't heal and usually there's like this three month mark. That's what we call post concussion syndrome.

And the thing is there can be so many different symptoms as a result of that because the. Brain and the injury are unique. I. I liken it to like a fingerprint.

It's like when you have a trauma, like physical trauma like your concussion, there's a specific fingerprint that happens not only to your brain and nervous system, but it can actually spill out and cause issues.

all throughout your body. And so there's physical symptoms like headaches, light and sound sensitivity, balance issues, dizziness. A very common one I see is actually what I call motion sensitivity.

a lot of my patients when they're out at the supermarket and they are walking down the aisle pushing their cart along, that visual motion sensations, the stimulus, it triggers them.

Or if they're out in a crowded area with a lot of movement, there's people everywhere, they start to feel nauseous or dizzy. So those are some examples of physical symptoms.

But in addition to that, actually there could be mental symptoms like brain fog or brain fatigue, and sometimes even mild cognitive decline. In some situations, I've seen that.

And finally, there are the emotional symptoms. There could be anxiety. That's a very common work with all the patients who prior to their concussion, they told me, you know, I've always been somewhat anxious my entire life.

But after that concussions, totally unmanageable. So there's anxiety, there could be depression, There can be anger issues, and there can irritability.

And the interesting thing is a lot of times those actually aren't psychological in nature. It's this neurobiological trauma. and the way to heal that you have to look at the underlying root causes, but in all three categories, both physically, as well as mentally and emotionally.

Wow. So to recap, post concussion syndrome is a set of symptoms that can persist for a duration of time. You said about 90 days. Some of the signs and symptoms are dizziness, fogginess feeling detached, really sensitive to light and noise, nausea, fatigue, blurry vision, headaches.

loss of memory. Yeah, you name it. It's across the board again because it's that unique fingerprint. But to be clear, the post-concussion syndrome, as opposed to just the concussion, once you cross that three-month mark, and you're continuing to have symptoms, that's what we call post-concussion syndrome.

Some people call it persistent concussion symptoms. It's the same thing though. At the end of the day, it's these underlying symptoms that persist. And the interesting thing is actually rather an alarming statistic is that 70% of people who have concussions They heal within a couple of days or even weeks, but there's this unlucky 30% that don't.

And after three months moving forward, I've worked with patients, you know, six months, a year, even years afterwards, they're still struggling. That's what we call post-concussion syndrome.

So real big takeaway, everybody, if we're always trying to land the plane on the podcast, that's a huge podcast. Seven out of 10 people have a concussion.

You actually heal on your own. God bless. Approximately one third don't. Let's hope to avoid the one-third. Maybe let's talk about some things that help people avoid that one 3rd.

But in addition to that, There's some myths that are discussed and associated with concussion. I'll throw you one. You have to be knocked out to have a concoction.

Why don't you take that one? Yeah, absolutely. So that's a very common thing I hear from not only my patients, but other doctors. They think that you have to have a concussion.

I can't tell you how many times I've been on a call with a patient and I asked them, like, have you ever, you know, had a conjunction? They told me no.

You know there's this one time where I got knocked over, I was playing football and i got hit really hard, but I didn't lose consciousness and no concussions.

So yeah, that's actually a common myth. Again, the definition of a concussion is physical trauma to the brain. So you don't have to lose consciousness to sustain a contusion.

Like that car accident that I was in, I didn't lose conscious. I got the wind knocked out of me, but I did lose conciousness. And sure enough, ended up with a conjunction.

What Post-Concussion Syndrome Is

myth. I think it's very dangerous because there's then so many people with these mystery brain symptoms that are because of undiagnosed concussions. They just think that, oh, I never had a concussion or their doctor never properly diagnosed them.

So let's address another one. All concussions are the same and everybody reacts the exact same way to a concussion. Yeah, that's a big one. Big, huge misunderstanding.

And I think I find actually many doctors, unfortunately, fall prey to that. They think there's just this one thing called a And so many times the treatments are this cookie cutter like wear some sunglasses or take some aspirin, you'll be

fine, whereas all the research I've done and what the latest research shows that there's multiple subtypes of concussions.

And again, that's why it explains all potential symptoms, the physical, mental, emotional symptoms a person can have. One person could have a concussion and their biggest thing is like in sound sensitivity.

Another person I've worked with, another patient who had a conclusion, their thing was anxiety, right? And it's because there's all these different subtypes.

There is the cervicogenic subtype that's related to the neck. And so sometimes that was actually part of my recovery. After my car accident, one of the things I did was I got chiropractic for the first time.

My brother is a chirapractor. And I was overseas and I flew back home to the States. He's like, hey, I've been studying this thing called chiropractic.

You want a treatment? I'm like sure. Nothing else has helped. So after three sessions, remember, that chronic neck pain I dealing with, boom, it was gone.

But little did I know at the time, He helped one of the major subtypes of concussion. He adjusted my neck and that helped a lot. But the thing was, again, I didn't know at the time, but I had a whole bunch of other sub types.

The second very common subtype is what's known as the vestibular sub type. You have injury to the inner ear. It's a part of nervous system that processes movement.

And so when it's working, you have a good sense of balance. You just feel grounded physically, but when its not, You can end up experiencing vertigo. you can have dizziness.

And a lot of patients I work with who they might have vestibular imbalance or injury. But it's so subtle and so what they tell me they're just like, yeah, something just doesn't feel right.

And they'll usually kind of like motion around their head. They're like I feel off, but I can't I really can describe it. and every time they describe that to me I'm like.

I know exactly what you're talking about because I've experienced that before. So that's a very common one, right? We have the cervicogenic, AKA the neck, or even the whole spine, I find.

Number two, we have vestibular. There's another common is the visual, where it's part of the nervous system called the oculomotor system that controls eye movements.

And it is not about visual clarity. It's about the stability of your eyes. That's actually a common area to be injured after a concussion. I mean, the list goes on and on.

That's the point. There's inflammatory, there's limbic. I find that there is even like full body where we bring in the digestive system, you know, from a concussion or head trauma, triggering something we call leaky gut that becomes this vicious cycle of inflammation in leading to inflammation in the body back to the inflammation and the brain.

And until we can break that vicious cycle, people will struggle. So yeah, that's a very common misconception is that there's just one type of concussion.

But the good news is when you can identify the specific subtype that you have and you get the right perfect matching treatment, healing is possible. I was able to do it.

Many other people struggling out there. Yeah. Just know that there's hope. And you know, I want to emphasize a couple of things that you said chiropractors are, maybe we're biased or excellent choices.

If they're trained appropriately for post-concussion syndrome, they were also excellent at helping to prevent concussion. We'll talk about that a little bit.

In addition, there is a myriad of different types of concussions. And maybe the biggest takeaway for me is that six out of 10 people who have a concussion do have gut problem, whether it be leaky gut, like you said, and our small intestinal bacterial overgrowth.

Now with the vestibule system, yeah, super common. Yeah, I see people so often after concussions. It's like one of, have whole protocols out there, but, they're all personalized.

But yeah. That's one that I pull up a lot when I'm working with patients with concusions. And that was actually part of my journey too. Right. So for me, if you have a concussion and you go to a practitioner and they don't address the gut, they may be missing that bidirectionality that we so need, so importantly need to address.

You mentioned the vestibular system. This myth will fit right into that. Rest is your option. And you should only rest post-concussion. I said rest, not sleep.

Yeah, that's probably one of the worst pieces of advice out there. Now, don't get me wrong, like after the initial injury, the brain will put you in the state of recovery mode, right?

It's where it starts to shut down to allow you to recuperate and heal. and so i think it's important to listen to that but yeah research shows that after the initial few days the sooner you can get back to your normal activities the better but the caveat is you want to make sure that you don't overdo it because when you have a concussion right what ends up happening like as you're going through your The majority of the energy that is being produced by the food you eat is been shunted to help you function.

But then when you have a concussion, it's a completely different animal. You're in this recovery mode. And then all of a sudden, a lot of energy needs to be shunted to recovery.

So I have lot a patients who they had a conjunction and they're maybe doing the same level of activity and eating the the amount of food. And they're struggling.

They're just like brain fog and brain fatigue. And sometimes something as simple as taking little mini breaks or eating more high density, nutrient quality foods, that'll help them get through their day so much better.

So yeah, it's really important that you don't want to overdo it with rest. Because again, research shows the sooner you can get back to your normal activities, but in a graded fashion, not like jumping right back in, the faster your recovery.

Common Concussion Myths

But then the flip side is, one of the biggest mistakes my patients make is they think they're able to do all the things they were able do before their concussion, right?

After the concoction. And eventually they can, But they jump in too quickly, end up overdoing it. And it's like they take one step forward and five steps back.

So yeah, it really important to walk that fine line and be aware. If you've had a concussion, you're having symptoms, You're in a recovery mode. You have to honor that.

But at the same time, yeah. It's not good to just stay home and not engage in life whatsoever. Right. The data does indicate in most instances, like you said, to get moving post-concussion.

Not all. Concussion to reiterate what you said is essentially a mismatch between demand and supply of energy to the cells bodies all interconnected cell struggle to operate at normal efficiency energy problems happen different

systems in the brain can be decompensated and that decompensation of certain systems are truly exemplary of concussion that being stated Do you have to have symptoms?

And I know we covered this, but we really want to make this a poignant point. Do have that symptoms to Have a concussion? Oh, no, absolutely not. Because there can be an inflammatory process.

But that's actually what happens when you Have You have a physical trauma to the brain, but that triggers a chemical insult. It's what we call neuroinflammation.

There's inflammation within the nervous system where your microglial cells, the immune cells that reside within your nervous systems, they go into high alert, triggering this massive alarm reaction.

But then from there that alarm reaction, that biochemical trigger, the inflammatory response doesn't just stay put in the brain, it could then spread out throughout the body causing problems in detoxification like you name it like things can go south.

I've even had patients who manifested autoimmunity like Hashimoto's after a concussion like their entire life they had the genes or whatever the genetic predisposition but it wasn't until after that physical trauma that triggered this chemical cascade that they then expressed the jeans for auto-immunity and started having symptoms.

But then from there not only is there's this Then within the nervous system, what we call the autonomic nervous, which consists of the sympathetic fight or flight response, and then the flip side, the parasympathetic rest, digest and heal.

When that chemical trigger, it spills out throughout the nerve system in the body, It triggers this autonomics stress response. And so many times I see my patients get stuck in this high alert state like even if nothing's wrong in their life they just feel physically stressed and that's such a common symptom so that is the thing there is a breakdown physically chemically as well as emotionally and what i've learned is people who are struggling to find answers after a concussion after that three-month mark it's usually because something's missing they might be focusing physically on getting treatments like an adjustment or chiropractic or Maybe they see a craniosacral therapist.

Or a lot of my patients before coming to see me, they didn't explore that. They focused mainly on diet and supplements or medications. That's that chemical approach to healing concussions.

And then some patients I've had, They focus mainly stress practices and breathing and all those things. All those are important and they help But again, unless you address it holistically, especially if you've been struggling for a while, you're going to end up in this roller coaster as I did.

That was the thing. I experimented with all these things over the years, countless things, and it wasn't until I looked back on it all, it was this one magic bullet that fixed me.

It was for me, it was like, like just kind of stumbling through trial and error, trying all these things and then realizing, wow, all of these treatments I did fall into these different categories, physical, chemical or emotional.

And that's actually what I call the three pillars of brain health. This is one of the biggest discoveries I made in my journey to heal my brain. In order for you to give your brain the best fighting chances at healing, you have to look at it holistically in what I call the three pillars.

Physical pillar, the chemical pillar and the emotional pillar. And what the physical pillar is, it refers to the actual physical connections that make up our brain.

It's the brain-body connections. So we have connections from our inner ear deep within our nervous system, this area we call the parietal insular vestibular cortex.

It's this connective neural pathway that, for example, in this case allows us to process movement. And so that's an

example of one of the physical connection, this brain-body connection.

But there's ton, right? As you know, there is also the brain gut connection and the gut brain connection is the Brain Oculomotor System that deals with the visual system and on and, on, and.

There's even parts of The nervous system that control our core stability in our muscles. That's part of this cervicogenic subtype we talked about. The point being, that that the Physical Pillar.

Whereas we also have the chemical pillar, and that refers to the neurochemical meal you that our physical brain exists in. I liken it to like garden soil, right?

You can have an award-winning apple tree, the best, you know, this little, apple that you grew from a wee baby sprout to now it's winning you contests at the local farmer's market, all right.

But let's say then you decide to move. But little did you know that the house that you moved to, the soil in the backyard was devoid of nutrients, full of pathogens and toxins.

What do you think is going to happen to that apple tree? Yep, it's going to wither and die. So that's the chemical pillar. And that is just as important as the physical.

Finally, we have the emotional pillar of brain health. That refers to our mindset as well as our stress resilience. All three don't have to be perfect in order for you to have good brain or recover from a concussion.

But if you have a trauma, again, like a concussion, that physical trauma it spills over into the chemical and then it then can impact the emotional, the autonomic stress response.

So in order to give your brain the best fighting chances at recovery, you need to identify the missing pieces in all three pillars. You have to address things holistically.

So now you're looking at concussion as a multitude of different types of concussions. There are three pillars that you found which were chemical, physical, and emotional, which really speak to the idea that concusion is so complex.

That's why it's a multimodal approach that's needed to positively make an impact on someone in a post-concussive state. Last myth. If you don't take an MRI or you take a CAT scan, you can't diagnose a concussion.

Yeah, I actually think standard testing like MRI and imaging, like the standard ones, they really don t cut it when it comes to concussions because MRIs look at the structure of the brain.

Right? Where with concussions, the majority of the situations and patients I've worked with, I would have to say 97% patients that I work with. It's a functional issue.

Meaning, remember we talked about that physical connection between the brain and the body? It is communication pathways. With concussion, so I find that it's not like this massive break of those connections.

it is more like the communication becomes muscle. Right. because of inflammation, and so the signals, then you have certain areas of the brain that become overactive and other areas that are underactive, leading to all these symptoms.

But again, the majority of MRIs will not catch those. It's kind of like if one day your computer stopped working, and you bring it into the Apple Store, the Genius Bar, whatever, if you have an Apple, and they look at it, then they open it up, they're like, oh, it looks totally fine, there's nothing wrong with the circuits, everything's fine.

We just need a software update. That's the majority of concussions. It's not like they opened it and it's like wow, look this massive crack in your circuit board, we gotta order new parts.

that's simply not the case with concussion. That's why I think so many of my patients I work with, when they go to their GP or their practitioner, maybe even go a neurologist and they get these tests done, all the tests come out quote unquote normal.

In situations, if there is something that shows up, it's kind of like, oh, you know, those are pretty common findings.

Three Pillars of Brain Health

There's nothing to be worried about. We'll just, we don't really know why it is there. These small microvascular changes, white matter changes. Oh, well, let's just wait and see.

That's one of the most dangerous things I find when it comes to concussion care, not even just concoction, but also brain health is the wait and see approach.

Because the dangers of untreated concussions, because of this thing we call leaky brain, it can more than double your risk for dementia. It could increase your risks for Alzheimer's, MS, stroke, And if you have a real serious case of untreated, unproperly diagnosed concussions, the end game is what we call chronic traumatic encephalopathy.

Haven't you heard of all those NFL players, hockey players who developed this strange neurological disease? Well, thing is, it's not strange. We know what causes it.

It's improperly treated, improper diagnosed, concussion. But the good news is, as you know, Dr. Rob, that there's so much that can be done about it. But, the longer you wait, what I've discovered, The longer it takes and the harder it is to turn it around.

That one of the biggest myths and sayings out there is time heals all wounds. Like, it's very romantic and poetic, but When it comes to your brain, it's simply not true, especially if you've been struggling for a while.

So I find that a better saying, more accurate, is not time heals all wounds when it come to concussions or brain health. Rather, time is of the essence.

And the sooner you can get the treatments that you need, the better your chances at a full recovery. Time is the of essence, I believe that in life in general, but really, again, exemplary of brain, great takeaway.

I can speak to treating a lot of concussion patients as well in that structural MRI. If they have a structural problem, they a much bigger problem than you and I, can help and they may need to speak somebody that's at floaty level, that's a problem, they should get a functional MRI.

So one thing about Alzheimer's, and I know we'll segue into that, is that post concussion can bring on Alzheimer is nine years earlier. There's the direct tie in between the damage and of course, we're going to get into the famous blood brain barrier.

But I'm going hit you with something that we call a rapid fire. You're from California, I am from New York, so now you've got to give me concise answers.

Chicago, but the California slower vibe, I'll do my best. All right. See what you can do. Chicago. Let's see if you could blow some wind then. Here we go.

Blood markers for concussions. Would you test for tau proteins? Yes, especially if there was a concern for a family history of Alzheimer's or dementia.

Absolutely. NFL, neurofilament light. Yes. UCH-L1. Yeah, the research is still out there, but that's a biomarker that shows some promise. GFAP for astrocyte injury.

Absolutely. Of all of them, of the ones at least you just mentioned, specific to concussion, yes. Interleukin 6. Yeah.

Looking at inflammation for sure.

Blood brain barrier test, if you have one that you like. Yeah, absolutely. And of course a gut barrier panel. Yep. Yeah. So those are all kind of like baseline tests.

Again, some of the things that you mentioned earlier are more for people, especially like the first one, the tau, tau proteins. If you have a family history of Alzheimer's or dementia, you've had a concussion, and you start to have symptoms of memory loss, that's concerning.

I would take that seriously. And yeah, the good news is there's these more advanced, newer biomarkers out there that can assess your risk for dementia.

But a lot of the other ones that you mentioned, yeah absolutely, like the GFAP that is really important and the blood brain barrier proteins are really, important like S100B is a really good one.

The problem with S 100B as you know, is that it has a very short half-life. So it's like, unless you're getting diagnosed, like if you, in the moment, you know, within a few hours, the levels of the S-100B will drop.

That's why the, S100-B test I do is an antibody test, because then you can measure it after the fact and give you a relative risk for, again, what we'll talk about in a little bit, a leaky brain.

So it's fair to say that blood tests are very diagnostic for concussion, and certainly a choice if you go to a qualified practitioner. Yeah, but as I said before, it is just one piece of the puzzle, because everything we just described in the three pillars, is that one pillar.

And that's where I find a lot of my patients go wrong. They'll go practitioners who are the best in world at the chemical pillar, And, you know, for example, like some examples of the functional medicine doctors or nutritionists or naturopaths, a lot of them, that's their bread and butter, right?

They focus on that biochemical piece and that is important. But the physical pillar, there is no way you can diagnose a vestibular disorder with any of those tests we just described.

We can assess for integrity of the blood brain barrier, we can access for damage to astrocytes and neuroinflammation, but how can you ascertain what's happening physically?

You need to do, get an advanced neurological exam. And so that's the physical pillar. So the framework that I laid out, it's not just theoretical, It's very pragmatic because there's different tests for each pillar and then there is different treatments.

For example, the emotional pillar, Yeah, I'll run like a cortisol test looking at that cortisol awakening response, stress hormones throughout the day.

I look at things like heart rate variability to see what's going on with the autonomic nervous system. We want to get a 360 degree look what is going down with a person's brain and body.

That's why we get the results we do. And that's what my patients are so successful because we take so much time upfront figuring out where we're going before we off, right?

Haven't you heard that saying like, there's like research. They actually did research on this. If a plane is five degrees off its coordinates when it takes off especially if it's an international flight it could end up in the wrong country.

So we like to do 360 analysis doing advanced blood testing, urine testing stool, saliva. And then in addition to that, we look at the autonomics through a heart rate variability.

Finally, if needed, advanced neurological evaluations, looking at eye movements, balance. looking at coordination, reaction time. And a lot of patients who fly in a CME for those physical exams, they've been to these concussion clinics, the Mayo Clinic and Cleveland Clinic.

They've had neurologists look at them and they're like, you're totally fine, right? It's because most medical neurologists, they're looking for somebody's eyeball not moving or falling out of its socket before they gonna say, hey, there's actually something wrong with you.

We gotta do something about it. Otherwise it's what? Nothing wrong, you totally find. Whereas the testing I put my patients through, we might do similar looking tests that look similar from the outside, but the way I analyze it is completely different.

Like for example, One test that I do for all my patients who fly in to see me, we look at the oculomotor system, the visual system. I actually look how their eyes track.

And for example, like tracking a moving target, let's say like my thumb. Like I'm moving my phone right now, I am tracking that. That versus moving eyes quickly to the side, Those are completely different areas of the nervous system.

And so I can get a very accurate window into the underlying root cause as to why a person's having brain fog and dizziness by doing these advanced physical tests.

But again, yeah, that's the thing biochemically, there's things we need to look at, like all those lab tests that you said, those are important piece of a puzzle.

Then we also need a look the autonomics and that stress response. And then finally, we need to look at what's happening physically. And that's why I feel so many patients fall into what I call the concussion maze.

They go, maybe they're primary care doctor, they get the MRI, are you totally fine? So then they start to go outside the box like I did. They got a chiropractor, They get an adjustment.

they might feel better, but then the end up, you know, crashing a few months later because that inflammatory piece was missed. Nobody diagnosed the leaky brain and the Leaky gut, right?

And so they got that piece of the puzzle fix and then there not crashing as often, But nobody ever taught them the importance of boosting their stress resilience, right?

For the long term, I had to learn that the hard way, all those things, the physical, chemical and emotional have to be tested for, and then you have get the right treatments in order to give your brain the best chances at recovery.

I'm with you on your three pillars of brain care. That's a kumbaya without question. Love the explanation of the visual. So let's tidy it up. Let's say the testing the Visual System is the window into the functional medicine world.

You can really ascertain your root causes resolution. The actual physical functional neurology world, yeah. So as Leonardo da Vinci says, the eyes are a window into the soul.

Dr. Chu says the eye is our window in to the physical nervous system. Outstanding. I'm going to set you up. We know that inflammation continues to damage the blood brain barrier and brain cells.

Brain injury, disruption of blood brain barrier, leading to chronic ongoing brain inflammation and ongoing damage from a leaky blood-brain barrier. If you take care of patients, this is for you now, with a head injury you must assess and treat the blood, brain, barrier Yeah, absolutely.

Especially, as I said, if my patients have been struggling for like months, If not years, and they're in this up and down roller coaster.

Blood-Brain Barrier and Leaky Brain

So I had found that the leaky brain and the blood brain barrier, it's one of the most important yet under recognized root causes when it comes to poor concussion recovery, you know, And just like you, like we are part of a small community.

you know, researchers and clinicians that are at the forefront. But I was shocked when I would, like, when i dove deep into the blood brain barrier, I Was shocked at how many other doctors, especially many medical neurologists, don't know about the Blood Brain Barrier.

Because not only as I went through this whole journey, my own personal journey of recovery, But also helping patients, like in the first book I wrote, it's like this kind of tome for people who have had concussions.

And it is all about helping people get back on their feet again. It's some initial steps. But what I found is a lot of the things that I talk about in that book, I had some patients that, just like I described before, maybe they went to a chiropractor.

Maybe they got vestibular rehab or craniosacral therapy, which is these physical treatments. but they were stuck on this roller coaster where one day they'd feel good, the next they feel horrible.

They feel brain foggy and sluggish and fatigued and they would have no idea why. And so I discovered that one of the most common causes for that is a breach of a blood brain barrier, AKA leaky brain.

So that's why I wrote my second book. It's just like, wow, nobody is talking about this. When I further went deeper into this blood-brain barrier I learned that not only is the blood brain barrier, aka the leaky brain, an obstacle to concussion recovery, it is a gateway for virtually all chronic neurological disease, all brain diseases.

It was like I opened Pandora's box. I'm like, oh my God, people need to know about this because it's that important. So yeah, so the blood-brain barrier, as you know, it's a single cell layer that surrounds our cerebrovascular system, our blood vessels to the brain, and its main function, two function.

It provides protection and selective passage, meaning it protects our nervous system from things that shouldn't get in. Things that already actually are in our bodies floating through our blood stream, right, our arteries and whatnot, like floating, through things like toxins, things, bacteria, viruses, even undigested food particles, from foods that are not fully digested.

Our own immune molecules, those things should not enter the nervous system because The nervous system for the most part is a very regulated and sterile environment.

There is some research showing that there is level of the microbiome, but that's a different conversation. But for most parts, yeah, the nervous is very sensitive.

It's our most precious and sacred organ. And so things that shouldn't get in are kept out. That's one of the functions of a blood brain barrier, the single cell barrier.

The other function, it allows for things should be in to get it. So things like nutrients and oxygen. It allows things for that should get out, so toxins that build up in the brain, they should then be detoxed by way of this blood-brain barrier specifically the aquaporin channels found on astrocytes.

If we're going to nerd out a little bit, that's all part of the blood brain barrier. Point being, this thing is so important because if you have a toxin or you had a bacteria or a virus that penetrates and gets entry into your nervous system, into All heck goes loose.

Those microglia we talked about a second ago and the astrocytes, these glial cells, kind of like these protective cells of our nervous system, they go on a high alert, triggering massive inflammation because the inflammation is

there to help neutralize the threat and also to helps with the healing response.

That's the thing, that's what inflammation's for. But if we have a breach of the blood brand barrier, what we call leaky brain. And by the way, that single cell layer.

Yeah, it is fragile. It's like thinner than a piece of toilet paper. You can break one of most common causes again, concussions. Right. So that breaks.

the levy breaks you got no place to stay as Led Zeppelin says and so like when that breaks then these molecules these inflammatory molecules, these viruses, and these toxins could gain entry triggering a massive alarm reaction within the nervous system but then if that alarm What was once a healing signal, aka the inflammation, becomes a danger signal.

And then again, it becomes this vicious cycle. Inflammation in the brain, breach of the blood-brain barrier, more inflammation in brain. Then it spills out into the body, triggering things like leaky gut or autoimmunity and on and so on.

one of the most important things I check for in when working with patients with concussion or even like mild cognitive decline is that leaky brain. Wow.

A lot to uncover here or unbox if you will. Really great stuff. So for the nerds, acuporians, awarder channel, Systems, astrocytes or astrocytic end footings, they provide structural support to the blood-brain barrier.

So I'm officially a geek with you. The two systems that are dysfunctional with the Blood-Brain Barrier are the fact that neurotoxins are allowed to pass the brain barrier, causing a cascade.

You know, when you look at leaky gut, It gets through the gut and gets into the bloodstream. You have an opportunity to attenuate or ameliorate it. Once it gets past the Blood Brain Barrier, which is the bouncer to the club, the brain, you're kind of screwed because the only thing that has there to attack is brain tissue.

And lastly, really good point, a dysfunctional blood brain barrier. does not enable nutrients, energy, food to allow the brain to function. Hence, how many people out there say, I suffer from brain fog?

Yeah, clues of leaky brain is brainfog. brain fatigue, memory issues, I see a lot of sleep issues. I find that people become very sensitive, whether sensitive like I said to lights or sounds, to motion, sensitive to chemicals, or sensitive mentally or emotionally, right?

They crash. And I usually find, especially with the leaky brain, it's kind of like, Again, what I described before, it's like this roller coaster. It's not necessarily they feel like terrible all the time.

If they do, then maybe they have a really big breach of the blood brain barrier. But it is like they are feeling good sometimes. They feel terrible others and they don't know why.

Like this up and down rollercoaster. That's what i experienced. You know, that's one of most common clues I see for a leaky brain. So there's something called diminished brain resilience syndrome, which is much more prominent in my generation, your generation.

Cause you're a few generations behind me. Lucky for you. But what's interesting is why are we getting so many more compromises in the blood brain barrier now than in.

You know, Gerald Ford, former president said that he lost his balance because he played football without a helmet. So totally different genre than now where they have all the padding, if we could use that as an example.

So just address the changes in the environment lifestyle that are adversely affecting the blood brain barrier. And then we're gonna have our Pierre resistance, If you will.

Yeah, so I mean, that's the thing, there is, it's so many environmental triggers these days, like toxins and poor quality nutrients, processed foods, stressful lifestyles, disconnect from community, you know, loneliness even, all these things have a huge impact on our brain health.

Did you, I actually did the, found this study, that they did a study on loneliness. They found that people who identify as lonely increased their risk for dementia by guess how much.

I think it was like 47%, something insane, yeah. So it's all these things, like being disconnected in society, we think we're connected virtually, having all of these technologies, that's great and convenient, but yeah, community is so important.

But yeah I just think there's so many different things. The good news is, what I've learned is we can still carve a path of health. for ourselves, for our family, our future, and for communities.

And it starts by identifying what are the things that block your health. When you can identify what those root causes are and address them. Even though in modern society the cards are stacked against us, my philosophy is focus on what we have the ability to influence, let go of the rest.

So interesting that longevity is the conversation piece. It always comes up on the podcast. Acquiring a concussion decreases your longevity. So I think you've made a great case on how important it is to address a.

The proper way to diagnose a, the different modalities, multimodality. Let's hone in on a couple. Basically, everybody know how to fix a concussion and give me your nutritional emphasis.

Yeah. And the thing is, I want to really bring this up because you brought up a very important point. It's like longevity, dementia, CTE, all these like scary things like dying prematurely, they are associated with concussions.

But I think, I believe they're associated, with undiagnosed improperly treated concussion.

Testing, Treatment, and Nutrition

That's the thing is healing is possible. When you can identify what these underlying blocks are to your healing, that path that you might be like heading towards of dementia, even if you have a family history of that, we can shift that trajectory.

I have family's history with that and I know through all the work I've done on myself for my own health, I move that ship out of harm's way, fingers crossed.

A lot of the things that I not only experimented with the recovery from my concussion, But many of those practices, not all of them, but like the the big leverage points, the practices that make the biggest, you know, needle movers for me, I continue with them every single day.

So, yeah, some things will go back to like what you brought up, though, and let it come out into Jack, because I think there's one big point before you gave him the answer in that I'm sure you're going to piggyback on this.

People come in and think, well, at a concussion 10 years ago, there is nothing I can do about it now. Yeah. So I'd love you to address that because that's one of the most common answers.

What can you do now? Yeah, there's so much you can do. I mean, many of my patients, they say the same exact thing. It's like, this happened years ago.

There's nothing I can. No, that not true at all. Sometimes it could be something as simple as a chiropractic adjustment. Maybe you have the cervicogenic type.

It could be that we need to do some specific eye exercises for your visual vestibular system. Maybe you have a

leaky gut that you haven't diagnosed yet and all we needed to is heal the gut.

So there's so much you can do. Never give up. That's the point is never give up the sooner you take action the better but there's always hope for healing and recovery.

So yeah, going back to what you brought up though there are things we can do like specific things I know we talked a lot about, you know, all the ins and outs of concussion, but there are things that you can do.

Some of the most powerful things I see as a foundational starting point are related to that chemical pillar, nutrition, as well as the smart use of supplementation.

So I find when it comes to concussive recovery, There are foods to eat and there are food to avoid. So foods that eat, you want to more high quality meats and proteins.

That's a thing. I find that vegan diets, kind of like one of the worst diets for concussion recovery. No offense to vegans out there. This is not a…

political statement. But I'm just saying when you look at the science of it, when the brain is injured, it needs high quality nutrient dense foods. And one of the best sources are animal proteins and fats, right?

That being said, so yeah, foods to eat, high-quality clean sources of proteins, High-Quality fats and things like avocado, coconut oil could be really good.

extra virgin organic cold press olive oils really nice just drizzle that on your salads even take a teaspoon of it a day in the morning and evening so those are some things to eat more of.

And in addition to that, eating from the rainbow. So different, what we call polyphenols. We've got these plant compounds that are protective not only for the plants, but for animals that consume them and their powerful natural anti-inflammatory.

Things like blueberries or arugula or things like drinking green tea. You have the Abigail catagen gallate, the EGCG from broccoli sprouts. Broccoli sprouts have massive amounts of what's known as sulforaphane that has been shown to help not only heal the blood brain barrier, but also to be protective of the Blood Brain Barrier.

Eating from the rainbow, those are the things you want to eat more of. Now the foods to avoid, you wanna avoid highly processed foods, obviously trans fats, cut down on your seed oils and you also want to avoid high levels of sugar.

In addition to that, most people have food sensitivities. As you know, Dr. Rob, what I find though very interesting, a lot of my patients who have had concussions They'll be like, Dr.

Chu, I've never had food reactions before. Why do you think I have food reaction now? I'm like well, because now after your concussion, you have a breach of your blood brain barrier.

Now those food, reactions are able to get into your nervous system, causing your brain fog, your anxiety, or headaches, and sound sensitivity. So that's the thing.

I find a lot of people prior to concussions, they might have like minor food sensitivities, but mainly causing like digestive symptoms or maybe a little aching joints.

But with the breach of the blood-brain barrier, those minor body symptoms can become major brain symptoms. So most common food triggers, gluten, dairy, And for some people, when we talk about the West is on fire right now, dude, I hear the cheese guy, the Cheese curds, a cheese heads in Wisconsin.

They want to eviscerate me when I say that. But again, you know, back in the day, but I know what it does to my

brain, But in addition that some people we talk about those aqua porns, those water channels as part of the blood brain barrier.

Some people have sensitivities to aquaporins found in quote unquote healthy foods. Things like spinach or tomato, soybeans, as well as corn. So those types of foods, it's not like a red flag.

But if you're curious or you think you might have an issue with it, you can either cut them out or get tested for it. These days, as you know, Dr. Rao, we can measure for reactions against these aquaporins found in these foods.

But yeah, the biggest ones, gluten, dairy, and sugar. So those are the big foods to avoid. Now, when it comes to filling in nutrient gaps, in your concussion recovery phase, there's five that I recommend.

Number one, specialized pro resolving meat data. Love it. Yeah. So SPMs are so important because they help clean up that inflammatory mess without, you know, at the expense of brain function.

So yeah, SPM is very powerful, natural anti-inflammatory number one. Creatine, monohydrates, really important too, to give your brain the extra boost of energy.

In fact, there's some research that shows that people who have headaches post-trauma, creatine could be a really good supplement in that recovery. Number three, I talked about it before in terms of the food, but polyphenols.

You can actually get high dose of these powerfully natural anti-inflammatory compounds. So things like curcumin, resveratrol, one of my favorites. I take that every single day.

Really good for, again, longevity as well and anti inflammation. Sulforaphane, as we mentioned, that's a really good one to take too. So yeah, there's bunch of these.

You can get them in specialized formulas that has a bunch different ones. And sometimes that is a good fit. Sometimes I find for my patients that doing like one pure form of curcumin, for example, at a high dose is better than a whole formulation.

Everyone's different. So that's the third one. The fourth one is to help protect the blood brain barrier through that further damage to break that vicious cycle.

I like to use either alpha lipoic acid for that and or glutathione. Maybe they have a toxic load or toxic burden, whether it's mycotoxins, heavy metals.

If we do glutathione too quickly, they can end up feeling sick if we're not doing a proper detox. So if you test out the glutothione, I recommend liposomal.

and you don't feel good doing this, then go for the alpha lipoic acid. But again, as me and Dr. Rob need to let you know, this is not medical diagnosis or treatment.

It's for educational information only. So check with your doctor first. That's number four. And then finally, number five is activated B vitamins. I find that to be very powerful, especially for people who have inflammation or issues with the blood-brain barrier or vascular issues.

Because when you don't have enough activated b vitamins, that could increase inflammation, specifically what we call homocysteine. It can also impact the size of your blood vessels, or rather your red blood cells.

impacting the level of oxygen to your brain and body, oxygen being one of the most critical nutrients when it comes to brain health. So yeah, activated B vitamins makes my top five list of supplements to test out when you are dealing with a concussion.

But again, this is more for people who are more in that post-concussion phase. When you have an initial acute

concussions, Go to your doctor, go to the ER if you think things are really serious.

Make sure you're medically stable before trying to figure things out on your own. I'm going to couple a couple of suggestions. You were reading my mind.

A couple things that I would add would be Omega-3 fatty acids. They've shown 30 days after a concussion to decrease damage by 75% and they're quite preventative.

The number one athlete that gets concussions is a high school female soccer player. So get them on Omega 3 fatty acid. Yeah. What I was doing in the top five, what I usually like to do is a combo of the SPMs of omega-3s.

Absolutely. I find a lot of docs out there, they just do the omega 3s, but then as you know, when the brain's in flame, it's the body and its wisdom is going to pull the Omega- 3's from the cell membranes and to help put out the fire of inflammation.

Because those SPM's, their derived from fatty acids, the OMEGA- threes. But then what ends up happening even though we're putting out the fire of inflammation with the omega-3s, it's at the expense of that communication we talked about earlier, remember?

So I like to do a combo punch of SPNs plus omega 3s. And then, yeah, just like you said, for wellness, continue on omega phase. I am a seafood monster, Dr.

Rob. We dined together once. I'm a seafood monster. I still take fish oils every single day. So yeah, totally. Same here. And I agree with you on the Omega-3 and the ProResolving mediators.

They are the new dynamic duo. There are Batman and Superman, they're not just Batman, and Robin. Magnesium L3n8, you could throw in there. Synaptic density improvement.

Absolutely. Nine to 14 years decrease aging of the brain, even post-concussion. Lastly, a hidden gem. choline which you can get in egg yolk. It allows you to go from an M1 and I know we're not going to nerd out to an m2 so it allows me to have to let you go with those microglial cells.

So and lastly I want to add I found very effective treatment is non-thermal low-level laser, not the red light therapy, but the photochemical response type of lasers, Meconia.

Got to do a seminar podcast on that. yeah that is just if i had like three tools well 10 because i count my fingers so if I had 13 right including my 10 fingers as because I'm trained as a chiropractor as you know yeah low level laser is like boom it's up there it''s super gentle super effective that's one of the biggest tools that I use for my patients that fly in to see me so yeah 100% we are on the same page.

Dr. Titus, if people are interested, where can I find you? Yeah, so my website is brainsave.com, B-R-A-I-N-S- A-V-E. COM. I'm also on Facebook and Instagram.

And for those of you out there who are concerned and wanna figure out if you're at risk for leaky brain, I put together a free quiz, leakeybrainquiz. com.

Go ahead, take that quiz and you'll get an assessment of your risk of leaky brain. I say this a lot, and I mean it when I said it, but honestly, we probably should have locked in another hour because we left a lots of things on the table.

So let's schedule for part two. I know we're gonna get a lotta great feedback. Any questions, put it in the comment sections. Dr. Titus Chu, Dr Rob Silverman, always yours in health.