Introduction to Brain Detox

Welcome back everyone. We're joined by doctor Tom Moorcroft. First of all, thanks for joining us. Yeah. Thanks so much for having me. It's going to be awesome.

It is going to be awesome. And because we're diving into a topic that, first of all, some people don't even know that this topic exists, which is detox of the brain.

You say that to some people, like, what are you talking about? The brain doesn't detox for yes it does. And we're going to get into that. We're also going to dive a little bit into just because you've been doing so much work in this area around long haul Covid and energy and what's going on with people.

We'll touch on that a little bit. So everyone stay tuned right through the end, because there's going to be some interesting stuff there that I know you've all been wanting to know.

So first of all, like just to crack the nut on exactly what we just said. This is a topic that, again, a lot of people don't even know they need to know about, which is that your brain actually detoxifies, right? Yeah.

I mean, I think when I grew up in medical school, we kind of said, hey, you know, we all talk about the lymphatic system and that's a big detoxify or has a lot to do that our immune function, arms and legs, we have these lymphatic vessels that require muscle contraction, you know, and then in our chest and our belly and our pelvis, we really need to have pressure gradient changes to move this lymphatic fluid.

Because they're low pressure system. So they require a lot of, of us to either breathe properly or move our bodies to detoxify. And then they're like, well, and then we're all like, hey, raise their hand.

Like, what about the brain? You know, this huge organ? And so what we used to think is that the cerebrospinal fluid, which is kind of a fluid that the brain floats in and protects it, kind of like just almost there, like, you know, the, the proverbial osmosis just sort of like stuff got dumped into it eventually and then it got cleaned up.

But the system seemed very rudimentary compared to how amazing the brain is and how complex the rest of the body is. And it wasn't until about 2012 or so where researchers started to look at a thing.

They they end up coining, called the lymphatic system. And it basically is there. You know, some of the brain cells are glial cells, and it acts sort of like a lymphatic system.

How the Brain Cleans Itself During Sleep

So they just called it the lymphatics. And essentially what it is is a system where the cerebrospinal fluid and the, other fluids in the brain sort of mix.

And they there's a flow that goes from the arterial side through the entire brain to the venous side and drains out. So there's an actual they found that there's this sort of really active brain detoxification system.

And you know, it's really interesting and unique. And it kind of sort of closes a picture of like, hey, how's the brain detoxify? You know, kind of compared to the rest of the body.

Right? So then I mean, people would ask, well, why are there toxins to begin with? I understand you breathe things, you eat things and your blood gets full of toxins, and then you have to deal with all that.

But what's going on in the brain? Why are things reaching there to begin with? Yeah. You know, I mean, it's one of the things that this system cleans out the most is a thing called, amyloid beta.

And a lot of us know this as this builds up, we can have some pathology that typically gets known as Alzheimer's disease. Right. And actually, though the, you know, the amyloid helps with repair of nerve cells and growth or regeneration in the brain, but that's in kind of lower levels.

So what we see in the brain is that amyloid levels will go up during the day. And this is a time where that lymphatic system is kind of a little more sleepy.

It's kind of like chilling out, not doing much right. But at the end of the day, as that level of the amyloid goes up and then we, you know, it's kind of a sweat.

It triggers us to then clean out the brain and bring those levels down. So we need some, but we don't want it to build up. And so one of the cool parts about this system is it primarily functions when you're sleeping.

So a lot of people like, well we've always asked the question in medicine is why do we need to sleep? And one of the reasons is so we can actually clean out the brain.

And so like when we're awake and active, you know, we've got all this, this, these chemicals building up, doing their job of healing. And then when they get to the level where it would be pathologic, our body just goes to sleep.

And then we clean it out to bring those levels back down to, to be more manageable. So the body is, is really beautiful sort of toxin self-regulating system.

And when I think about it, it's like, the concept of where messes comes up a lot for me, which is kind of saying like stress, right? Stress. It's almost like when you hear you, if you don't use it, you lose it, right?

When you have a stressor, it and we call it a hermetic stressor, it's kind of a smaller dose for a shorter period of time to promote something positive.

But if we go further and we have too much of the toxin or that toxin or stresses for too great a time, then it becomes a negative. So it's kind of like the positive results of stress.

That's very much what we see with the amyloid positive rejuvenation of the nervous system at low levels for shorter periods of time during the day, but it needs to be cleaned out optimally.

And if it is, then we're in a good balance and our brains healthy. If we see it build up, it goes from that positive stressor to the negative stressor.

And that's where we see early cognitive decline and ultimately Alzheimer's, where that makes a lot of sense because a lot of things that that binary is as good for you or bad for you, it's not necessarily one or the other.

You know, things, everybody, everything has a purpose. It's, you know, when you're overweight something or you're underweight something that all of a sudden it's either not serving us purpose or causing you damage.

So when it comes to something like that, what are the factors that may get you to levels that you shouldn't be at? Well, the primary factor is not enough sleep.

And I mean the Glimt system depending there estimating between 70 and 90% of its overall function is while you're sleeping. Right. And it looks like it's deep sleep.

So we really need to be able to get into that full sleep cycle where we go from, like, you know, REM sleep, deep sleep, and we cycle in and out, you know?

And so when we look at, say, an average adult, we the research really shows that you need 7 to 9 hours of sleep at night and going any less than that's not really a good idea.

There's this really cool study where they do brain scans and they use this, for some reason, I memorize if it's Pittsburgh Compound B, right. And it's the stuff that makes amyloid light up orange.

And what you see is that if you if when you compare the exact same level, you know, areas of the brain in people who get less than six hours of sleep or more than seven hours of sleep, it's dramatically different.

So anybody under six hours, their whole brain is turning like orange, meaning that they've brought up all this amyloid and it's like, so there's 6 to 7 hours.

You start to see it be a problem. But below six is just like, you know, you just become a toxic waste dump in your brain. And we know that over seven dramatically less levels.

So really, I'm always recommending people get a seven hours a sleep or more, preferably 8 or 9 in adults. And that's actually your sleeping time. That's not your time in bed, you know, because it takes us depending upon whom you are, it takes 5 to 10, 15 minutes to go to bed, maybe longer.

And then you wake up and you lay around for a while. I want you asleep for eight hours. For real. It's not like one hour of Instagram is a contributed towards your sleep schedule, right?

Right. It's true. And you know, what's really interesting about that is one of the big things that really has screwed with this recently. You know, in the last ten, 15 years is all our screen time.

Yeah. Because you get that blue light late at night. And that messes with melatonin, which is our major sleep hormone.

Sleep Loss, Blue Light, and Brain Fog

And and then it just it just regulates the, the normal spike of of melatonin which helps you sleep well. And you know, so a lot of people like if they, they monitor sleep, they're saying, well yeah, I'm in bed for 8 or 9 hours, but most of it's light sleep.

You know, my deep sleep is like 32 minutes or something instead of an hour and a half to two hours. And so this is where we see that a lot of the things that disrupt your sleep, it's not just about getting a little less sleep, or too much social media, but it's actually, you know, diminishing your cognitive abilities.

And people talk about digital dementia just from staring at the thing too much. But we're compounding digital dementia just by literally like decrease.

We're really turning the volume down on our natural detoxification processes. Yeah. And so when people don't sleep properly, I know for myself, I wake up and the next day cognitive function certainly is not the same.

There's a bit of brain fog, there's a bit of a lag time. Like I got a slower processor all of a sudden. So is that is that attributed to the fact that I didn't give myself the time to detox, or is there something else going on there?

I think that's one of the primary thing that's going on, you know? And the other thing, you know, is lack of the detoxification. And we also, see that when we sleep, that allows us to really create longer term memories from short term memory.

But there's also a piece of sleep that we've been finding over the last couple of years that actually helps you be able to retrieve memories more quickly.

So this whole process of rejuvenation while sleeping is partly direct detoxification, but also some of it's just the way our memory system works. So it's like kind of like, you know, our computers, like, if they're not working right, you just half the time you just reboot them and turn off a couple of unnecessary programs, close a few windows and they start working better, you know, and that's kind of exactly what happens when we go to sleep.

But sometimes you need to, like, defrag the computer or clean out some old files or upgrade the memory. And that's kind of more like the detoxification process.

It's kind of twofold. And then part of it is it's sleep, right? You gotta I mean, like if you're tired and there's a thing like if you're tired, if you're running and you're running and you're running and you get tired, you can't run any faster.

And it's like, so there is a thing like if you get really tired and you're just not getting enough hours, you can't think fast enough just because you're fatigued.

So yeah, I mean, there is a part of that. Yeah. We all know what we need to plug in our phones and charge that. We're very aware of our battery percentage level.

Right. And you know what happens. What is that. Zero. It's dead. So right. You know that you don't want to do that to your body. So there's an interesting thing that you talk about which is that so the person that's not doing this properly, you know, they're not sleeping properly, they're not getting that lymphatic drainage or not getting healthy up, up top that there's a correlation to autoimmunity in autoimmune conditions.

So how does that all connect. Yeah there's a couple of ways that I think are really interesting. And you know when we look at, how the brain detoxifies its sleep.

Right. And then but one of the things that I love talking about is like, not only is like, how do you get the system work better, but what are the sort of the places it gets stuck meaning like where what are the drain, the the physical drainage pathways.

Right. And so there's a lot of drainage around cranial nerves. And one of the most important cranial nerves is the nerve, the nervous smell or the, the, you know, sort of the olfactory nerve.

And so this is one that kind of comes down just in, you know, above the eyes and drips into the nose and it kind of dangles in right all along. This is his nasal lymphatic.

And so 20 to 30% of the detoxification of the brain goes through the nasal lymphatic route. Now when you want to switch back and go, oh, how does that relate to autoimmunity?

Brain Detox, Autoimmunity, and Gut-Brain Connections

Well, when we look at and, infection induced or infection triggered autoimmune encephalitis or brain inflammation, often most commonly known as Pans or Pandas, these pediatric acute onset neuropsychiatric syndromes and the pandas one just means specifically caused by strep infections.

What we find is that one of the mechanisms that's proposed for how it happens is, recurrent colonization, infection of strep in the nose, in the throat, or potentially even, mold toxins that we know can live and be in our nose in biofilm form.

So we had this chronic exposure to it. We see that our immune cells that go after the mold, go after this jab, congregate in the nose, and then they actually go up the same pathway that the brain detoxification goes down.

These go back up. So it's your own cells from your immune system going back and causing all this brain inflammation. And then the problem is when we start to see brain inflammation, we kind of get like the leaky brains, you know, scenario going on.

And so then any kind of brain inflammation is going to lead to sort of the detoxification system not working as well. Or and having to work harder. So that's that's incredible.

So then all of a sudden the the detox system is working harder and it's your end up fighting yourself. And so we found that, by the way, that there's a gene called Gstr one, which looks at, what instructs sort of detox of the gut.

So the first line of defense that the gut and it helps you prevent toxins from all of what you're eating entering your bloodstream. Yeah. And people it's potentially it's potentially possible to have did not even have the gene.

Forgot about what version of what snip you can have is not at all. Yeah. You don't have it at all. Right. And then what we found is that there's people.

So there's how many copies you get. You get one copy from mom, one from dad. Right. Some people have zero. And this is like 50% of people, by the way, which is why our guts are so at risk of dysbiosis and poor health and the root cause of so much.

Another 40% of people have one copy and about ten have two. The funny thing is, we've learned that the 10% that have two are chock full of autoimmune type symptomology even though they have the good version, it's that there there's so much going on in our environment and our nutrition that their body that is able to fight at that level, that it causes an autoimmune response.

It's really interesting, right? I mean, when I think about it, the other part is one of the one of the ways that the, lymphatics actually drain from the brain is down the spinal column.

And there's actually, you know, because the spinal column has cerebral spinal fluid all the way down around it, and it actually drains in the server into the lumbar lymph nodes.

And so it there's a direct piece of what's coming out of the brain going into the gut. And then when we look at that connection between the, the, the gut microbiome and the, gut nervous system or the enteric nervous system and the vagus nerve going back to the brain, a lot of that memory retrieval happens with the with the, along the vagus.

And you can clip the vagus and people can't remember stuff, and they can even be just like a lot of people bump into things all the time. First when they're like, they don't, they're just like, you know, I'm like, how do you not like, know where you are in space?

And what I found is and this really came out in 2017, which just blows my mind. But it literally can be because you're diet's not good or potentially that you have those particular, genetic, you know, changes.

And so you can actually like what's really interesting where I talked about the stuff in the nose and how your immune system goes back to your brain. It creates inflammation.

It can break down the blood brain barrier. It can create cross-reactive antibodies, which is kind of like how we can find that you have autoimmunity, but it breaks down the blood brain barrier and causes that leaky brain.

Same thing. If I give you a standard American diet that breaks down your gut wall, leading the right inflammation, leaky gut ultimately, a standard American diet has been shown to break down the blood brain barrier, leading to hippocampal dysfunction.

And so the hippocampus is, you know, it's a part of the brain that has to do with memory and learning and a whole bunch of other stuff. But a lot of people talk about the limbic system, right.

Like, so our not only some of our memories, but our social interactions, our understanding of where we are in space. And a lot of it has to do with the emotional parts of our interactions.

And so many of the people I work with, with chronic illness get in this state where they're stuck. You know, we talk about fight or flight, but a lot of people get in a free state in their nervous system, and they just can't they it's almost like they're paralyzed.

They can't do anything. Your diet can do that. Right. And so everything you're saying here, I'm just like, it's so interrelated. And it's like the sleep is important because one of the other things that if you don't get enough sleep, you're going to increase your body wide inflammation.

If you eat the wrong foods, you're going to increase body weight, inflammation. And this doesn't mean your need is going to get this big, or you're going to get a, C-reactive protein or a sedimentation rate on your blood test that's going to be sky high.

It's going to be small stuff, that small stuff that adds up over time. So that's why all of us, you know, harp on like, get the sleep, get the dog, do the things at home that can allow you to optimize your brain function and your, you know, optimize your diet because that minimizes the inflammation.

And it's so interrelated. You know, we we can stay on top of all of it. But it's easy if you do a little bit of each a lot for a long period of time. So with with this being so new and that's what you said, you know, it's awesome that the people start to adopt these little habits and make changes that they're going to just get better.

So when it comes to things like lymphatics people, there's supplements you can go buy, there's massages you can get that will drain your lymph node. People talk about jumping on a trampoline.

You know, there's a lot of stuff you can do. What? I don't think most people have heard what they can do for that catalyst that call it the hack in supporting lymphatic drainage beyond the sleep we talked about.

So are there things you've documented in terms of supplements or activities or other stuff beyond just sleep? Yeah, I mean, I think one of the, the really kind of like low hanging fruit pieces of this is just like sleep, posture and breathing, right?

I mean, it's just like if we're all on the computer, a lot of the drainage happens around our neck, right around all our cranial nerves. So if we do one of those head forward posture things, as we're looking at the the computer and the iPhone, that can slow down the drainage, because what happens is all of it drains from our brain out into our deep cervical lymph nodes and then into the systemic circulation, the venous system, they get cleaned up right.

So if you have a tight part in the back of your neck or around in the front, you have that head forward posture. You're just it's going to it's going to it's not going to make it not work, but it's going to decrease the efficacy of the of the drainage from that area.

So, you know, people are in front of the computer lot. I always take posture breaks, roll the shoulders back at the head, tuck the chin. I try to do stuff throughout the day to kind of, you know, improve the posture and everything.

Breathing is really important. I do a lot of breathing exercises with my patients that open up the nasal passageway, in particular, because it's so many people have chronic sinusitis.

There's a technique called the taiko breathing technique. And that's something that can easily be, you know, looked at and you find videos online on how to do it to just quickly open up the nose.

And it's crazy. I mean, people with chronic sinusitis will do this for five minutes and stuff just starts draining, you know, and there's a whole program to help you over time.

But it's like these little things and with breathing, one of the things I love to do and I think because I keep harping on sleep so much, is like a lot of people are saying, well, doctor Tom, I can't get to sleep, right.

I'm scared. All right, well, first of all, you know, sleep for an adult, or I should say your bedroom is for two things, right? Your bed is for sleep and sex, and that's it.

There's no there's no iPhone, there's no tablet. There's. I don't even let people read in bed. I'm like. Like your bed is a sleep sanctuary. If you want to read, go sit somewhere else.

Come back in. If you've got a TV in your room, unplug the thing you know and you really want to make it so that it's cool and dark and that it's for sleep, right?

But one of the things is a lot of people get into these cycles where it's hard to go to sleep because the longer you're up, the more your circuit, your sleep cycle gets shifted.

Right? Right. So one of the best things to do is to get up in the morning a few minutes earlier than usual, get yourself outside, get some fresh air, but most importantly, get some natural blue light.

Get some real natural sunlight. And the thing that's going to happen is we talk about melatonin so much as being a key for sleeping well eight in the morning.

Getting exposed to natural light triggers your body to make the melatonin, but it's the darkness at night that triggers you to let it out. So we need we want both parts of that to be happening.

And then also, you know, getting light in the morning triggers a lot of serotonin, the B main, which makes people happier. You know, it's kind of like so instead of using Zoloft or Prozac or something, you just get up and go outside and get some sunlight.

Yeah. No kidding. Right. Get tired during the day, do some exercise, move around. Like whatever stage of health and healing you're at, make sure that you're doing an activity that can help kind of, you know, physically get you tired.

And then when you get towards like nighttime and stuff, I think one of the greatest things is to to calm down right? Give yourself a chance to relax. And so when I try to teach people about this, I talk about sleep, which we talked a lot about, you know, eating and which includes your pure water and your rainbow veggies and minimizing your processed foods.

Move around so you get tired.

Daily Habits for Better Lymphatic Drainage

But also, as we talked at the beginning, that movement is the thing that really optimizes detoxification, but the physical processes of it and it prepares you to go to sleep.

So that you're you're sleeping well. And then then it's really about your mood, your mindset and your heart set. So from a mood perspective, I want people to check in at where they're at and be aware of how different things in their day are affecting them and what's causing stress and what isn't.

And and definitely being aware and moving more in that direction of the things that you really want to see in your life. And, you know, because the things that we I find a lot of my patients focus on the negatives and the whatever we focus on, we create more of.

So the more you're focused on your illness, well, guess what? The more illness is created and the more you focus on the things that you can do and the progress you're making, the more progress you make, right?

And so with I really like to keep it simple, because everything we're talking about becomes so complex. So when I want to help people work on their mindset and their heart set, because their emotions are going to be the things that are the key trigger here I have one of the simplest exercises I've ever seen is at the end of your day, I would love for everybody to take right down three wins, no matter how big or small.

Even if it's just a lesson like you had the crappiest day ever and you're like, oh, I'm going to have to learn some lessons. And you spent three minutes to write down three things that were wins.

But then because that starts to bring you into a state of focusing on what you want to have more of in your life rather than what you don't want, and then the key part is write down three wins you're going to have for tomorrow, because there's three wins that you're programing into your brain for tomorrow.

They start to happen. And the reason is you start to focus more on that positive mindset. But also our conscious mind is usually the thing that gets in the way.

The beauty is when we go to sleep, we dissociate from the conscious mind. And then we can sort of, you know, whatever you call the universe or life or God can give you this.

It's unlimited potential. So you come up with all these really cool, unique ways to create wins in your life. So I just had people write down their three wins from the day, three wins for tomorrow.

And now when you starting to focus on that positive, you're nervous system starts to calm down because the parasympathetic, which you need to sleep and detoxify your brain, is the thing that when you focus on things that are really good in your life and gratitude, those are the more you focus on that and you make it a habit to focus on it, the calmer you become.

Because the parasympathetic state is open and community and heart centered. And then that way you sleep deeper, wake up the next day, read those six things over again so you prime your day and what you'll see is like by day three, you're like, how is all this happening?

Because it just starts happening because it's simple and easy to do. Yeah, they're really good places to go. And I guess the other part is if people are having a hard time getting some sleep, or calming down, at the end of the day, I love just breath awareness where you just feeling like into the center of your chest and you feel that you're and that you're really just filling your, your heart with your air.

Right? Just sit on your bed for 5 or 10 minutes or lie down and do it. And then once you really kind of get in the zone with that, just start thinking about someone or something you love a lot.

Something that just, like, makes your heart sing. And when you couple the breath with this gratitude, heart centered breathing, this really does two main things.

It calms down the nervous system and it improves your heart rate variability and heart rate variability. Being higher is a marker for stress, resilience, infection, resilience, and being just overall strong in a stronger state and also a more balanced nervous system state, which ultimately all of this just means you're going to bring down inflammation and you're going to let yourself sleep a lot more deeply.

So a lot of it's funny, it's like but then also I've just in my brain, I go, oh, well, breathing into your one of the things you tell people because you need those pressure gradients in your chest, in your belly breathe, you know, so your pelvic floor pushes on the chair.

Well, the reason we do that is also that second brain area. Your solar plexus gets a mechanical massage from your diaphragm. You're also calming that part of the nervous system.

And so it's all this beautiful web of self-regulation. I mean, your body's so freaking amazing and just something as simple as breathing can do all of those things for you.

And it's free. That last few minutes, we it was like the The Health Manifesto. Like I don't know how to explain the like if somebody could just take that wasn't all of what you just said and apply half of it, 10% of it, how much it can change you, you know, simple nuances, like you said, you know, we think of melatonin as a night time focus and activity, but you make it in the morning.

So the functional thinking is really what you're talking about, which is you can't just think of one piece. Take melatonin. Yeah. You, you you can release, but you need to make it first.

Right? Right. And if the pot isn't full, well that's that's the cards you've been dealt for yourself based on your habits and what you do. Which is yeah, it's a really interesting way to think you got to in all these by light biological processes, you can't really affect sort of a certain change unless you look at them from beginning to end, the full

pathway, right, to understand them in full detail.

And obviously people like yourself can help with that. And when it comes to the autoimmunity side, you know all of what you just described where we're talking about targeting lymphatic drainage, helping the brain, supporting the brain, getting to a better state.

So when you're dealing with somebody comes to you with an autoimmune condition and you're resolving that, that's the pain point. Whether that they're complaining about is there a parallel track to also deal with the condition itself, or you saying that I'm going to do all this work here, and it truly is the root cause for which I think that will go away.

Yeah. I mean, that's an amazing question. And I'm like, I'm, I'm, I'm excited because what we see with autoimmunity is a couple of things. And with all the genetic stuff in the background, it's kind of an interesting piece is I see that, let's take an example.

I see a lot of people with Lyme disease, right. And Lyme and some other infections have been known to trigger autoimmunity, be it a mouse or like rheumatoid arthritis or lupus.

There's there's research going on to saying being exposed to an infection or toxin can trigger sort of something that looks like autoimmunity, but it's not autoimmunity, right.

It could also trigger sort of like you have the the genetic potential in the family history of potentially having autoimmunity. But you're doing all right.

But then you get that hermetic stress goes beyond what you can handle. And it gets into, you know, like a negative stressor. And that actually triggers the autoimmunity.

And in some people I can treat the underlying infection or toxin, remove it, do some of the other functional medicine stuff. And that'll kind of go back to sleep.

And a lot of people are kind of like now it's like, well, in medicine we call it declares itself. I mean, like it came out and now it's there. Yeah. So I have some people where we treat them and their autoimmunity goes away.

We treat them, they're autoimmune, it gets partially better and we treat them and it doesn't do anything. And you know, and that's the problem because the like the genetics being the genetic code and potential and the environment and with in you know that it's acting upon or that that that the genes are being acted on makes such a difference.

And so there's so much possibility. So one of the reasons I talk about all the things that people can do at home is I want to optimize your chances of one not even having this happen in the first place by simple things that are free, you know?

And the other part of it is at any time I can put another 5 or 10% possibility in your in your positive column. I want to do that right. So I can tell you to take this medicine or that medicine, I can treat this infection or that we can give you this herb or this thing.

But if everything you're doing at home is counter to that, then, you know, we're kind of fighting an uphill battle. So I just want to stack the cards and everyone's favor.

And the more we're people are willing to do things like the dietary change, like putting their sleep in their melatonin first, the more we see that the autoimmunity is, you know, reversed, or at least the progress is halted, which is pretty darn good.

Mindset, Breathing, and Nervous System Regulation

Yeah, it makes a lot of sense because if you deal with it top down, here's the symptom. How do I get rid of the symptom? There's still something extremely wrong at the system level which got you there, which you're not resolving.

And it's just going to Pochettino's through some other way where are you going to have some other problem. So why not get to the root? And often if you ignore the symptom and just deal with all the root, the symptoms go away anyway because they're 4 or 5, six, ten years of your body dealing with something, would you now cross the threshold that it can cope anymore?

And it it's expresses as something right. It's interesting. I think you bring up a really cool point. It's like I mean, I come from the osteopathic tradition, which is maybe surprising the people back in the mid 1800s, like they weren't really talking about the body has the ability to actually heal itself, even though they would get cut and it would heal you.

No, it was like it was kind of like we're in this disease model and we still primarily focus in a disease model. So the, the as an osteopath, kind of like this guy Andrew Taylor still was a frontier MD. And he said, if we give people like strychnine and arsenic, it's not good.

They're not doing well. So just apply some common sense and let's stop it. We tried it. It's not working. Stop. And they said, oh, this manipulation thing helps the body function optimally.

So let's add that. And they all thought it. He's so he's like let's remove things based on common sense. Let to add things based on common sense. And they kind of laughed at him.

So he started this new profession. And basically one of the big tenants is the body has the ability to heal itself. Additionally, the body is a unity of of mind, body and spirit.

So or the human being as a as a triune nature. And the reason this is important is when we look at what we focus on, you know, our mindset and our hearts that we look at how we the the conversations we have in our own head.

These directly translate to physical changes in our immune system, in our in our body. And we also know that if we hurt ourselves or somebody kicked us in the shin, that's going to lead to emotional and mental changes, whether we like it or not.

And it may be very short lived, or if we focus on it, then it can become deeply ingrained. So we aren't on that continuum. But the other part is that we have this ability to heal our souls, our bodies trying to heal.

So as a physician, my job is to not is to look and see, where are you stuck and and be a catalyst. So that might mean I give you a little boost or I might remove a little something that's in your way, like say, an infection.

But my job isn't to heal the infection. My job is to heal the part of the infection that your body can't handle, like when I went to medical school and residency, we talked about like, hey, if you have a pneumonia, the antibiotics don't get rid of it 100%.

It kind of boils down to this. It's like I like to just kind of keep things really simple. Sometimes it's like there's an amount of crap that your body has to deal with, and there's an amount of crap that you can deal with.

And when your ability to deal with the amount of crap you have is less than the amount of crap there is, you feel like crap. Yeah. So our job is really simple.

We going to we're going to decrease the load of crap you have to deal with, and we're going to increase your ability to handle it. Yeah. And the thing is the, the the the if you're talking about needle movers bringing down the amount of crap you have to deal with is sometimes not that easy.

But in improving your ability to handle the the toxin burden on your life is way easier because you can do small

things that in your day that add up. And to your point earlier, like where if you only did 10% of what we're talking about, I would challenge everyone to not try to do everything we're talking about.

I would choose one thing that resonates with you and do that. Challenge yourself to do it for a week and want you to do it for one week. Then do it for two weeks.

Get up to about 66 or 75 days, depending upon what research you read. And now you have a new habit. Now do that for a year and you have a lifestyle. So pick one thing that you can that resonates with you and you can succeed on and do that.

Because if you do one, it's like compound interest. You don't have to do everything. Choose the thing that you will do and you can do and work on that, and then you can add more stuff in once you're successful and you have that momentum.

But man, tell me if you get up ten minutes earlier and go out right outside and you go to bed ten minutes earlier, you will start to see your whole life change.

Yeah, I 100% agree that if you take one little step, right? First of all, every week as you add or every two weeks or whatever it takes, you're going to cross the threshold or all of a sudden health sort of becomes a source of pleasure and reward, right?

Yeah. Because you're starting to feel the change and you realize how sensitive this thing that we walk around in is. Like this one little tweak I made made me feel so different.

Now you start to understand the abuse you are putting yourself through, right? If you can feel so much better by one little tweak, and then a second week and a third week, just imagine why there's so much chronic disease and illness.

Yeah, because of all of what you've been doing for yourself. Right. So, so now, you know, we promised everybody we would also cover just because of the phenomenal work that you've been doing in long haul Covid and the ability to pick your brain on it a little bit.

And not everybody gets this exposure. So we're going to shift gears a little bit. So first of all, what the hell is going on. What have you seen. Yeah.

You know, it's interesting having, sort of had mostly my career be focused around on infection triggered autoimmunity and, like, like kind of chronic Lyme in this chronic fatigue, fibromyalgia world.

It's really once you get out of the acute phases, you can have ongoing infection. But one of the other things is a lot of that low level, probably shouldn't even be bothering you.

Chronic infection is leading to constant triggering of the immune system. And so we see a hyper reactive, dysregulated immune system. So people's immune systems are going haywire some days.

In some ways they're hyper reactive.

Autoimmunity, Root Causes, and Healing Strategy

They're they're they're acting like you have like a, you know, in a, you know, immune hyper reactivity, like an autoimmune condition where like rheumatoid arthritis or lupus, it's going out of control.

And then other days your immune system is acting like it's immunosuppressed and you have like a primary immunodeficiency. It just and it's almost no rhyme or reason.

And so what we see with Covid is people are behaving very similarly. And it seems like to me like we're having all

these reactions that make no sense.

Right. And you're just like, why are you still sick like 6 or 8 months later? And you know, why does somebody have like a chronic runny nose and somebody else's brain fog and something else is the pain syndrome or numb symptom.

And it's really like it starts to look a lot like chronic Lyme, a lot like chronic fatigue and even like mast cell activation, where it's a dysregulated immune system that's leading to ongoing inflammation of a variety of ways.

And then it's triggering different pathways, likely, I'm assuming. And, you know, a couple of months or maybe 5 or 10 years, we're going to say, hey, that immune dysregulation is acting on your genetics.

You know, in a way that makes a lot of people present, you know, in a really unique way. So we're seeing a lot of just dysregulation of the immune system and the ways we're we're working to reverse a lot of this long haul Covid are the same things we've been doing for a long time.

And a lot of these other chronic things that lead to immune dysregulation. So it's really about re regulating the immune system and letting it know that it's safe to calm down.

Like, right. One of the ways our immune systems work and and also both physically and then the way our limbic system works and our emotional system works is it has to feel safe. Right?

So a lot of these chronic conditions are things are turned on, inflammation is turned on, the safety mechanism is turned off or the protection mechanism is turned on.

And we don't we're not in a place where we can turn it off because our body doesn't realize that it's actually still safe. And so that's really a lot of what we work to do.

So in what you describe this sort of chronic whatever or some for some people it's energy fatigue, runny nose like you said, it could be expressing in different ways.

It. Oh yeah. Or like yeah. Is it, it is. It just is staying at this sort of line of chronic or is it, is there a gradual, escalation where it may turn into something more acute?

Yeah. What I've seen is a lot of my folks in particular have been and the clinicians that I train in our mentorship program, you know, it's great to have a group of people that you work with all the time, right?

Because you get you get like hundreds and thousands of people rather than just your small patient population. But it's kind of like that, their acute thing and they heal.

But then there is that thing. It's the chronic fatigue, the fibromyalgia, the new pain syndrome. And it kind of is more like a dragging on and then at different stress points in your life where you get it's almost like this thing again, right?

It's just like you're kind of just so you're you have too much to deal with. So you're in a lot of pain and it comes down and it's not so bad. So every time a new stressor comes in your life, you get a little more symptomatic.

I haven't really seen people go like this and then escalate like like almost like, you know, an acute chronic Covid, or long haul Covid exacerbation, but but like I said, like in a situation where it's all to me, it boils down to just like how much inflammation is being triggered in your body, because once you get the autoimmunity triggered, almost anything can re trigger it.

Right. So let's go back and we look at the kids with pandas where they the strep thing. Because we have a lot of research on that. We know that one strep has triggered the autoimmune reaction.

And you're in that cycle or that where you're having this autoimmune encephalitis brain inflammation, other

infections and also stressors changes in your life that lead to additional inflammation that can flare you up and make you look like there's an actual flare of your strep thing.

You're pandas, but it's actually another thing. So once the autoimmunity is triggered, the immune dysregulation happens. Any additional stressor can flare up the original thing, right?

It's a little complicated. It's like, hey, I just I changed from fifth grade to sixth grade and I went to a new school. Oh, but it looks like the symptoms of my long haul Covid are worse, but it's actually just because you tossed on extra inflammation on top of it.

So you do see that happening. Makes a lot of sense. So how are you. So you mentioned, you know, regulating the immune system. How are you intervening. What are you doing to help people.

Yeah I mean there's a bunch of things. I mean, and obviously all the stuff we already talked about is the groundwork. But, you know, we I do peptides.

You know, there's many different ones. There's one called thymus and alpha one, which is a good immune modulator. And it kicks up a lot of the cell lines, like B cells and T cells, natural killer cells that maybe COVID's knocked down or Lyme is knocked down.

So that helps really improve one immune suppression but also that hyper reactive. It's kind of one of these drugs that brings the floor up and the top that and the lid back down.

So it brings you back down into that happy, safe neutral zone. So you get really good, efficacy there. And, you know, I use a fair amount of low dose naltrexone.

And a lot of people know naltrexone is an opiate receptor blocker. Very much like Narcan. But in really low doses it's a great anti-inflammatory.

Long Haul COVID and Immune Dysregulation

And again, that word immune modulator. So we we bring the floor up a little bit. We bring the lid down so that you can be in that sweet spot of good immune function where we're not overreacting and we're not under reacting.

So things like thymus and alpha one and low dose now checks and work. I do use pro resolving mediators a lot. And when we look at fish oils our fish oils will break down into these different pro resolving mediators.

And some of them have very potent anti-viral properties. Some are very anti-inflammatory. And across the board there and, immune modulatory. So you can increase your fish oil intake.

But also several companies out there have taken what your fish oils become and done the work for your body, to create a therapeutic, you know, supplement where we're getting concentrated, things and they call them specialized pro resolving mediators or PMS, and those tend to work really well.

And, you know, detox, liposomal glutathione orally works really well. It's a great anti-inflammatory. It's the master antioxidant. We've used a lot of that not only to bring down the inflammation, and remove toxins, but also just to help, you know, being the master antioxidants, very therapeutic for sort of the nervous system and all the different cells that we need to sort of protect and regenerate.

And then there's so many different mitochondrial supports out there. I really like giving people some baseline mitochondrial support, if it's appropriate for them to just help their the energy factories of their cells flush out some of the toxins.

Intermittent fasting is actually if you can hand if you're you know, I don't usually do this with teens and below, but if you're in your 20s and older, you know, you can certainly do that because that stimulates, the mitochondria,

mitochondrial biogenesis.

So you can clean up your mitochondria, you can create new ones. And it also stimulates a process called autophagy, which helps get the cellular toxins out. Right.

So little you know, you can do little hacks that way. You know, and then there's all kinds of different things that can directly go for if you still have sort of an ongoing viral component there.

You know, everybody's talked about ivermectin and all these other things. That's kind of really specific depending upon your clinical case. But people can have viruses that just stay active longer than they should.

And sometimes you actually need to treat the virus or bacteria on top of doing all these other things that kind of modulate the immune system. So do you see that it's more of like, long haul Covid or something that you managed to the right protocol and cocktail like tweaking all these that you're talking about?

Or is it something that you heal and get rid of? Mostly it's the second one. Okay. And get rid of now. But but it's it's it's sort of like depending upon you and what's going on three to 6 or 8, nine months of the first part, which is we're tweaking the protocol, we're modulating the immune system.

You start to feel better. And usually what I tell people is once you're feeling really good, double down on doing all the stuff you can do at home and stay on the protocol for another couple of months, because once we get that immune system re regulated, we want to give it a break.

We want to give it a little bit of a vacation. And then we after the vacation, we want to give it a little bit of extra time to kind of get rewired, to remember that it's safe to function in an optimal way rather than a dysfunctional way, and then slowly come off of the different treatments that have gotten you there.

And then ultimately, we see that as long as there's not an ongoing underlying trigger, like sometimes you see people with chronic Lyme, they'll get way better and then they flare up and they get better and flare up.

And we have to do that a few times before we get the job done with Covid. I'm saying it's like as long as we do it long enough, people tend to be doing well.

And, you know, the truth be told, it's like it's so new. We don't really know what's going to happen in the long run. But I haven't seen people where I'm like, I think your long haul COVID's better.

And I stop them and they like flare up like mad. I mean, we've been doing pretty well with that. That's awesome. So how do people work with you? Where do they find you?

Yeah. Well. And can I mention one other thing too, because you, you had mentioned we talked so much about sleep and you talked about melatonin. One of the things that's so powerful is there's this nail rdrp three inflammasome pathway, which is one of the primary ways that Covid really creates a lot of inflammation in our body.

And there's three main things we know that can impact that. One is vitamin C. So you can get that from eating, you know, a diverse diet or even supplementing a nitric oxide, which you can get from eating beets, which is not everybody's favorite from supplements, but also that breathing techniques where you slow down and even maybe a little Wim Hof style.

But the beauty of breathing increases nitric oxide. That's how it opens your nose. But this is a way to bring down inflammation at home. If you have Covid or you had Covid or anything else for that matter.

And then the third one is melatonin. So anything you can do to maximize your natural melatonin put makes you more resilient. So maximizing melatonin, which work on your sleep cycle, you know.

And the other part is blue blockers.

Treatments, Recovery, and Where to Find the Clinic

At night, if you must look at the screen within an hour to two hours at bedtime, let's really work on creating a high level melatonin because it tones down this long that both the acute and the chronic inflammation from Covid nitric oxide through your slowing down your breathing.

And then, you know, the vitamin C diverse diet, you know. And then if you need a supplement, I just think there's like three really easy things that people can do.

Oh it is. And that's the thing is when it's we over complicate things. But the pathways speaks for itself. And those three things do them. There's nothing preventing anybody from doing those things.

Right. Yeah. Exactly. So so you do do you work with patients or what is your clinic. Yeah. So, I have a medical practice in, Berlin, Connecticut called Origins of Health, and it's conveniently, origins of health.com.

Okay. You know, and pretty much most of our social media is exactly the same thing. You know, so happy to have people reach out to us and, and check out some of the stuff that we put out on, you know, YouTube and the other channels and certainly visit our website.

And, you know, hopefully some of the information we put out is really helpful and useful to people. Yeah, this has been awesome. I mean, this is just a flavor of what you're able to help people with.

It's amazing. And they should reach out. Certainly if anything your resonated. And in terms of even learning more, and it's amazing that you've put out all this content on YouTube and everywhere else for people to learn and taking the time to do that.

And I have one unrelated question I have to ask you before we go, what is the explanation of that piece of furniture behind you? That furniture. Yeah, right.

I'll tell you, my my daughter is looking for something cool to put some over all of her stuff in. Yeah, and organize it, because I was. I didn't want it all over the floor in her, in her room.

And she bought one. And when it got shipped to us, it had the one of the legs was bent and we called the company and we're like, hey, what's up with this?

Then we just spent X number of dollars and they're like, oh, we'll they send you another one. Yeah. So we had two of them. So I decided to put it up there.

But it kind of, you know, and I started using it for all my little trinkets and stuff. And yeah, it's just one of these things that kind of reminded me of like the almost like the old school apothecary look.

That's exactly what it looked like to me. To me, that looks like a 200 year old piece of furniture that came from some clinic from. Who knows? Well, there it is. Yeah.

I think it was like Wayfair online. Yeah, I but it's cool. All right. The designer did a good job. Thank you. Well this was awesome. Thank you for joining us. Eye opening.

Amazing information. Again origins of health. Anybody that wants to find you, they can thank you again. This is amazing. Thank you so much. For.