Optimizing Glymphatic Flow for Brain Health

Heather Sandison, N.D. interviewing Thomas Moorcroft, DO

Heather Sandison, N.D.
Welcome to this episode of "The Reverse Alzheimer's Summit". I'm your host, Dr. Heather Sandison. And I'm so excited to introduce you to my friend, Dr. Tom Morcrooft. He has been treating some of the sickest, most sensitive patients suffering from Chronic Lyme Disease and Tick-borne Co-infections also Mold Illness children. He's really taken on the most challenging patients. And I got to meet Dr. Tom at a conference recently. And in talking to him, we realized together that kinda what he does with his patients is very similar to what I do with my patients, taking on these chronic complex conditions. And we also realize that there's a lot of overlap in the conditions that we're treating. Of course, we know that Tick-borne Infections can contribute to cognitive decline, brain fog and even dementia. And so, Dr. Tom has given incredible lectures at very high level conferences speaking to the medical community about the Lymphatic System and how we detoxify your brain. So that is what I have invited him to talk about here today. Welcome, Tom.

Thomas Moorcroft, DO
Hi, Heather, thank you so much for having me. It's an honor and looking forward to our conversation.

Heather Sandison, N.D.
Same. So let's just like get into the weeds. What is the Lymphatic System?

Thomas Moorcroft, DO
Yeah, in short, it's the way our brain detoxifies, right? And I remember going to medical school and they were like, oh there's cerebral spinal fluid around and through this like magical diffusion or something. They didn't really even clarify what it was. The brain would get clean. And it was really around 2012 or so where people started to with advances in imaging, start to be able to figure out that there's actually a very systematic way that the brain detoxifies itself. And it has a lot to do with flow of the Cerebrospinal fluid from the arterial side through the brain over to the venous side as well as sleep. So there's a lot of places where as practitioners and patients, we can intervene and work on our own.

Heather Sandison, N.D.
And you have a really personal story about how you came to support people with this. Do you mind sharing with our audience what you went through?

Thomas Moorcroft, DO
Sure, yeah. I mean, it's weird. It's funny when you look back. I was 23 years old. I was working at this place called The Institute of Ecosystem Studies. It's now been renamed The Carry Institute, and it's a place that does a lot of actual Lime Research and Landscape Ecology Research now. I was attracted to it. I got an AmeriCorps Scholarship to go, 'cause I was like, how do we save the planet? And how do we get people? Like, I love playing outside and all this. And I was like, I talked to adults and they were so set in their ways, and I was like, I wanna teach kids, right? So I started teaching, I get this AmeriCorps Scholarship to teach kids and the guy who started the place had discovered acid rain. So it was like right up my alley. I'm like just old school, like tree hugger type of thing. And so, I'm out there working with the kids. And one day my boss comes up to me and has to shake me. She's like, "What's going on?" I'm like, I don't know what you're talking about, right? And she said, "You've been, literally, I left you an hour ago and the cursor is in the same place in the computer screen and look down at your shirt." And I actually had this puddle of drool on myself. And as I started to look back it was, I've been in, over the couple weeks before that I had some joint pain and fatigue I had never had before and cognitively I was just like not all there. And so, I ended up getting a rash. Literally the next day got diagnosed with Lyme, got treated for 10 days and I felt better for a little bit. And then over like the next six to eight years, I was like the brain fog was just getting worse and worse and worse and I really couldn't think. At one point, literally, if you asked me to do three times two I couldn't do it, which is a little scary 'cause I was in medical school at the time .

Heather Sandison, N.D.
Yeah, I don't know how you get through medical school with those symptoms.

Thomas Moorcroft, DO
It was hard. The first two years were really hard. When I got in with people and I got to do things with my physical body and I was moving a lot and I was doing more procedure things and talking definitely a lot easier. And so, what was interesting about the whole thing is I've got this joint pain and this chronic fatigue, I've got this terrible brain fog. And so, I go to all these doctors and they're like, "Oh, you're depressed, like your dad was." I'm like, no, I'm angry because you're telling me I'm depressed. But really depression doesn't cause me to have all these symptom, right? I got irritable afterwards because I kept going to people who told me it was all in my head. And so, then they diagnosed me a bunch of things. And then they told me I had ADHD. And I was like, well, big surprise with that one. If you know me, it's like my superpower. And then ultimately, they just said chronic fatigue and fibromyalgia which is kinda like the straw that broke the camel's back. I mean, like literally I went in I said, I had brain fog, fatigue and joint pain. And they were like, "You have brain fog, joint pain and fatigue." So I'm like, thanks for nothing.

Heather Sandison, N.D.
We'll all just add something different?

Thomas Moorcroft, DO
Yeah, so anyway, at this point I was just like, all I know is that I had this... I remember exactly the room I was in in South Portland, Maine. And I looked at the wall and I just had a vision of my future. And I was like, I have shit to do. I'm gonna have a family, a kid, I had a dog, I'm gonna continue to have dogs. I love playing outside, skiing, mountain biking, riding the road, like ultimate Frisbee. And I just saw like I had a life to live. And at that moment, I was just like, whatever is happening I'm gonna get to that point. And then a friend of mine a couple days later hands me a yoga DVD. And I started doing yoga like on a regular basis. And then all of a sudden soda and all kinds of the sweets and stuff that we grew up on, my body didn't want. And so, I started to heal and what was really interesting is I didn't sleep much because I was in so much pain. And then I started to sleep. Took me about 10 months from the time I decided to sleep eight hours a night and I could physically to when I had some energy. But ultimately through this entire journey, I was like 70% better before I actually started working with a physician who knew what was wrong with me. And I ran into these people, this amazing couple, a Naturopath

and an Osteopath who diagnosed me with Lyman BIA, and they helped me get that other 30% of the way cured. And it's been over 11 years, symptom free, feeling amazing.

Heather Sandison, N.D.
That's incredible. And then now you guide not only your patients but also their providers so that they can help diagnose and treat these Tick-borne Illnesses.

Thomas Moorcroft, DO
Yeah, exactly.

Heather Sandison, N.D.
And so, then going back to the Lymphatics, this is so critical, right? To getting there. And I think both having patients and providers understand how important this is. You already mentioned sleep, and sleep is a big time. This is the most important time when we kinda do that brainwashing, that cleansing. So tell me a little bit more about like what sleep would look like to get the most out of that Glymphatic detoxification.

Thomas Moorcroft, DO
Yeah, and in my personal story, that's like the number. Looking back, that and a little bit of yoga, probably the most important things I did, right? And so, sleep. When we look at sleep, the Lymphatic System seems to mostly be functional while we're sleeping. And it's probably more like deep sleep. And it's been estimated that 70 to 90% of all brain detoxification through the Lymphatic System happens when we're sleeping. So, I basically when I started to learn all this, I decided to become a competitive sleeper. And it's friendly competition with myself. But my goal is to monitor my sleep and make sure I can really sleep.

And so, for most adults, it's recommended that they get seven to nine hours of sleep a night. I really say it's gotta be over eight. I mean, if you look at the research, it's interesting. Less than six hours of sleep compared to greater than seven hours of sleep, massive difference in the clearance of amyloid beta which is one of our primary drivers of developing Alzheimer's. So, what's really cool about it is, seven's not that hard, right? And we know that above eight, way better. But all these folks, I know a lot of people who are like, "Oh, I can get by with four or six." I'm like, well you might feel you can get away with it. But when we actually study the development of, or the deposition of amyloid in your brain, that's not true. And you just can't shortcut it about

a 30 year life you should sleep. And people have always asked me, why do I sleep? Well, now we have a couple reasons we think you need to sleep. And one is, so we can consolidate memories and be able to retrieve them. The other one is so that we can actually clean out the brain so that it actually can function. It's not filled with tout protein and amyloid. So I always recommend people make sleep a priority. And a couple things they can do would be, one is, cool dark room. When you're an adult, your bed's for sleep and sex and nothing else. There's no TVs in your room. Sorry to break the news to everybody. And electronics need to be like 12 feet away from you. If you happen to keep your phone in your room, just because you feel like you have to use that as your alarm clock, which I do when I travel, turn off the Wi-Fi and the Bluetooth on the phone, as well as turn off all Bluetooth devices in the room. And whenever possible, turn off your Wi-Fi, because all of these things are gonna be trying to connect to each other at night and they're basically pinging your brain.

So you don't wanna be doing that 'cause that'll arouse your nervous system. And then also when you're exposed to Wi-Fi, there's this really cool thing called rouleaux bodies where your red blood cells stack. So it's very similar, Wi-Fi can trigger like a hyper coagubility and an inflammation picture. Very similar like if you have rheumatoid arthritis or an acute infection. And I know people who live in apartments and they're like, "Oh, well, I can't turn off my neighbors." I'm like, Wi-Fi is about distance. So or proximity. So turn yours off, put it on a timer, 10 o'clock it's off 6 o'clock, at whatever the time is for you. So you don't even have to think about it. But there's some ways to really help. And one of the ones I found out or I've incorporated more recently is, within an hour of bedtime, there's no intense conversations. So all the negative stuff, all the talk about work, all the watching like action movies and stuff, turn all that stuff off so your brain can actually calm down, and you can actually get really good sleep. Because as we're finding, the more deep sleep you get, the better your brain clears out.

Heather Sandison, N.D.
Well, you were sharing with me that you have this very simple kind of gratitude process. And I love that 'cause I think people ask them "Well, then, what do I do for that hour before bed?" And I like, I love to read And so, I read to my daughter, we do her whole bedtime routine and teeth brushing in the bathroom and that takes an hour, the pajamas and the books. It's great.

Thomas Moorcroft, DO
Oh, wow!

Heather Sandison, N.D.
But for people who don't have little ones and there's this bedtime routine and being disciplined about that and what that looks like. Yeah, give us a little more insights there.

Thomas Moorcroft, DO
Yeah, and I think it's so key, because for me, I was just like, get up and go until you drop, right? And clearly that didn't help me be resilient to infection or have a functioning brain. But, yeah, now it is about that routine. And, the other things so I remember to share too is, if you have to be on the screen in the last like two or three hours of your day, definitely use some blue blockers or have your screen turned down. So if we backtrack for just a moment before we go to bed, I prep going to bed in the morning, and I'm gonna prep my morning at night. And so, we'll get to the night in a second. So in the morning, I wanna get up and whenever possible, get outside, get some fresh air and get some sunshine. It's gonna do a couple things. One is it's gonna get you moving. And typically the temperature in your bed is a lot more comfortable than outside. It's either gonna be cold or hotter and it'll get you moving, right? But part of it is, the sunshine triggers release of serotonin but it also triggers our Pineal gland to start creating melatonin, which is our hormone of sleep.

And so, the cool part about melatonin is it's anti-inflammatory, it's anti-cancer, it's a great antioxidant, but most importantly helps us sleep. So we wanna start it in the morning and getting it going. And then at night when we get darkness, that's when the melatonin starts to come out and actually gets utilized, so that'll help us sleep. So I start my night in the morning by getting up and doing stuff that actually does it. And then I exercise and move a lot throughout the day so that I can clear out. And I think of the Gymphatics as being tied to the brain or tied to the whole body detoxification system. So in our arms and our legs, we need to move and have muscle contractions to clean out the toxins in our abdomen and our pelvis and our chest. It's all about pressure gradient changes. So that's where we need to be doing, like that nice deep breathing, calming the nervous system. But it's also detoxifying. And what's really important about that is the Glymphatic System is gonna drain through a few pathways which we're gonna talk about. Well, one of them is actually, it'll drain through the spinal column in or the spinal cord into the gut as well as a lot through the nose and the cranial nerves coming out through the bases of skulls. So we wanna have like good muscle movements. We wanna have good posture and that all allows that. So that's kind of during the day. I'm gonna kind of be a chronic mover and also get my exercise. And then the last part, you asked about this, is nighttime. And so, I try

to start doing all those things we talked about and then that practice, which is so critical as I was telling you before, I over complicate things chronically, right? So I decided to simplify. I heard a great practice, and at the end of your day, and this is what gets you very much into the gratitude and the parasympathetic, calming the brain down, getting ready for sleep just right down three wins that you've had. And so, if you've had a great day, it's probably gonna be really easy. But even on outwardly appearing, like the worst day you've had, you can find three little lessons. So it doesn't matter how big or small. It's the practice of just writing down three wins. And then what we do is we write down three wins that you're planning to have for tomorrow. Because when you do that, you start to immediately, like when I started this, my brain would go, oh, well, that's not how this is gonna happen, you know? And it starts to get critical.

What's beautiful is, when you say the win you want, and then you sort of get ready and go to sleep, you dissociate from your conscious mind, that's telling you how it can't happen. And it allows your super conscious to really start to tap into all the unlimited possibilities in the universe and come up with answers you may never have thought about. And what I found was, within the literally the first time, and it just gets compounding every day. My wins get bigger and bigger and easier and easier because I just said what they're gonna be. And then I don't limit them because I go to sleep and I get outta my own head, literally. So it's a really great practice to prepare for tomorrow this evening. And then in the morning prepare for the evening. So your whole life is this one cohesive thing where you're just planning and getting that gratitude because that calms your brain down and it uplifts your heart, which ultimately allows your nervous system to chill, AKA, your brain's gonna detoxified better when you're sleeping.

Heather Sandison, N.D.
I think we all can get so caught up in just the day to day and like focused on the things that we're not happy with or like just being critical and over complicating things. And when we create that discipline to really focus on what we're grateful for and what we want rather than what we don't want, it can be completely transformational, not only for our physical, our mental health, but also for our physical health, right? You also talk about other things that we can do to up level this Lymphatic Detoxification.

Thomas Moorcroft, DO
Right.

Heather Sandison, N.D.
Let's just keep going down the list. So hydration?

Thomas Moorcroft, DO
Yeah, right. Well, so the system is, what we see is that, along the art, the arteries along the brain, this is where this organized system travels. And then, it goes across the surface and then dives deep. And then, like I said, we have cerebrospinal fluid coming in and it kind of like intermingles with interstitial fluid. And then we push it out along the veins and they go from deep in the brain to the surface and then out. You don't have to know what any of that means other than cerebrospinal fluid and interstitial fluid. Both of these are more than 99% water. So if we're chronically dehydrated, you're just starting behind the eight ball. So I wanna optimize hydration, which for most of us is about a half an ounce of water per bottle of pure drinking water per pound of body weight. So most people, 60 to 80 ounces a day and maybe a little bit of electrolyte to help you absorb it, but that's a really great place to start. And then it's so interesting. Everybody asked me about alcohol. Everyone wants to know. And it's like, you can actually, in mice, if you were a mouse, if you have like a half a milligram per kilogram of body weight or half a gram of alcohol per kilogram of body weight, it actually will improve Glymphatic flow. But if you go a little bit more than that, it won't. So if the research pops over in the humans, that's like one to two alcoholic beverages per adult.

Heather Sandison, N.D.
Per day?

Thomas Moorcroft, DO
Yeah, total. Yeah, it's crazy. But the thing is most people I... It's not like you can like not drink all week and have 10 on Friday and it work. It's literally like a glass of wine or a beer a day. Now, granted we haven't looked at this in people to see that it actually works, but at least in mice. But it tells us to like, if there's really no like ultra benefit to drinking but if you do it just, it really suggests that we have to follow that one to two drink rule and not making one drink like this.

Heather Sandison, N.D.
Yeah.

Thomas Moorcroft, DO
A little self control, yeah.

Heather Sandison, N.D.
Yeah, and if there's trouble with dementia and cognitive decline, I'm just always so hesitant to add any alcohol because it is poison, right? And it's going to our liver. So maybe if it makes blood flow a little better, it still is gonna create some more liver stagnation or more burden there.

Thomas Moorcroft, DO
And it's interesting too because I know that this is, I just figured I'd throw this one out early in the discussion of the different things because it's one that everybody else thought. The problem is when I do my slides shows, I'm like, okay, I tell 'em that. And then I go, oh but chronic alcohol use leads to gut dysbiosis. So inbound of the gut bacteria leads to leaky gut inflammation and directly through the vagus nerve leads to the inability to recall memory. So it's like, once the Vegas communicates with part of our limbic system called the hippocampus, right? And then that has to talk with our prefrontal cortex. And that gets all blown out if you're drinking alcohol all the time. So the problem with medical research is we improved Glymphatic flow, but we also did not at the same time study, whether that actually led to better cognition. So it's like, 'cause you could have memory loss from other reasons. So your one treatment might not work. So I definitely don't recommend it if you already have cognitive dysfunction. But if you are someone who does consume alcohol, most of us probably need to ratchet it back a little bit, at least, within the recommendations.

Heather Sandison, N.D.
Yeah, good point. And what I love about this science, right, is like pretty much anybody can find a scientific paper that will support whatever bad decision they're making.

Thomas Moorcroft, DO
Oh, for sure right? You know it's interest-

Heather Sandison, N.D.
Find even more papers to support these good decisions.

Thomas Moorcroft, DO
I know and it's so reductionist, right? And I think that like the conversation you and I had that I loved so much about your work is that you're not looking at it as an isolated thing. Like you're like immediately called me on the one study that everybody wants to hear, which is drink alcohol. It's like let's put it in the big context picture context of who you are, so that we can help you heal and not just treat you as like a widget, which is what we're doing in these studies, right? We're doing it to get a piece of information. It's really hard to study 17 variables at once. So whenever anyone's reading a medical paper, one is, I can interpret the data to say what almost whatever I want. And also, we have to reduce it to be able to make a conclusion. But that doesn't mean it's the right conclusion for you. Like, when we look at intermittent fasting. So, if I step back for a second there, what happens is there's astrocytes or type of cells in our brain and they have feet on the end.

So it's like this little round thing and it's got all these feet almost like tentacles sticking out. And on the end feet, they have these, what's called aquaporin. And those aquaporin line up both on the arterial side and the Venus side, which allows the flow to happen. So if you have buildup of amyloid, if you have a traumatic brain injury, mild or worse, or other sort of even post-stroke and stuff, those can change position. And then that's it. And it basically, they just get all convoluted all over the place and then we don't have proper glymphatic flow. They found with intermittent fasting that you can actually get them to repolarize. And the polarization is just meaning lining back up on the end feet. And but then they define it and they define intermittent fast. Well, they said, you do intermittent fasting every other day. So alternate day fasting and the fast is 12 hours.

Heather Sandison, N.D.
That's doable

Thomas Moorcroft, DO
I didn't even... Right that's so doable, right? For me, like all the biohackers, all 16 hours not eating, eight hours eating, or if you wanna go crazy, make it even a bigger fasting window. But what we're finding is, that's what everybody's putting out there, is what's necessary. Well, we're seeing in the Lymphatic System, at least, you don't have to do an extreme fast to get really good results. They've also shown that regular exercise will repolarize. And so, if we get a blend of resistance exercise in cardio, we do a couple things or endurance exercise. One is, we're moving and we're detoxifying the body. The other one is we can repolarize the end feed of the astrocytes, meaning Glymphatic System works better. And then also for those of us who wanna clean out our cells on

an even deeper level, exercise and fasting both will help increase a thing called AMPK, fancy way of saying, it's like a reverse gas gauge. So like in the car, it goes down, in the body, AMPK goes up and it says, your fuel source is low. And that turns on like our mitochondria, our energy factories. It helps us make new ones. It helps us detoxify intracellularly. So a lot of times, we're getting all the stuff. Like the Lymphatic System is moving through and pushing stuff. That's sort of in between cells out. If we wanna get the stuff from within the cells out, whether it be infections or other toxins, we wanna use a process called autophagy. And basically, we can turn that on by exercising, by fast, by being hungry basically. So, I tell people, it's like you don't even necessarily have to fast, but just get used to actually being hungry before you eat.

Heather Sandison, N.D.
Right. And then there's another piece around when you're eating, right? So a lot of people wanna skip breakfast, but then they might be eating right before they go to bed. So that's in that evening routine. You really wanna give yourself three hours between your last bite of food and then lying down to go to bed so that you get that improved sleep. And that's not true for everyone. There are some people with adrenal things or blood sugar dysregulation where maybe having a little bit of food right before bed is helpful. But for the vast majority of us, skipping the food in those in that three four, hour window before bed, it will lead to improved sleep.

Thomas Moorcroft, DO
Yeah, and I think that the most important part is, there's a lot of different information out there, right? Work with your practitioner because it's like if you have preexisting cognitive dysfunction versus your brain is great and you wanna maintain it, you may have a different path that you need to take to do that, right? And it's very individual and I've changed my diet and my feeding windows so many different times based upon new research about what I've learned about my physiology. And then it's like, there's these crazy things called seasons, right? And it's like, winter, spring, summer and fall. And it's like, I think a lot of my patients think that you're supposed to just like, health is like this, and you should always just feel great and better and better. And if you're not, it's bad. It's like my energy levels still fluctuate throughout different times. And if you're under certain stressors or you're exercising a certain way or something happens. Like several years ago, my father passed away and it was like a good... I mean, it was, you know... But again, this is great. Actually, I hadn't even thought about this. We were talking it's like severe, severe dementia. And what it really started out was drinking and smoking. And it was like back in the day where everybody said smoking was good. So he got addicted eventually stopped that.

Had sleep apnoea. So if any of y'all have sleep apnoea, you work with your clinician and get this fixed, right? Work on it. It is so critical. And it was like, you could just see the path. That it was like, then the smoking had led to all this vascular disease. And then the vascular disease led to repeat catheterizations and stent placements. Ultimately, we had contrast induced kidney disease. And after that, the Alzheimer's just was like, boom. It just like out of control. And you know, it could have simply if... And I don't... I love to celebrate what happened and what life was and what we can learn. And big things are, you know, the alcohol and the smoking, you gotta cut back on or none. I mean, smoking should just be thrown away. Like, don't do that, right? But it's like, they never really fully focused on the sleep until a lot longer down the road. And what I know now that I didn't know when I was younger was like the snoring and the apnoea and the needing the nap all day long. These are clues that you, I mean, it's not just your breathing.

Heather Sandison, N.D.
I think that means yellow lights. Like, there is something wrong. And you've described the importance, like this critical nature of getting enough sleep and enough quality sleep to take the trash out of our brains, that trash is accumulating. It's gonna trigger inflammation and beta amyloid, plaques, towel proteins. All of these signs that our brain is basically fighting off whatever's getting in the way of it functioning optimally.

Thomas Moorcroft, DO
And, you know, what's really also interesting about this. And now that I'm recalling about my whole, my father's story is total mouth breather, right? And so, a lot of people are like, oh, well, I breathe through my mouth because I can't breathe through my nose. And I would step back and say the reason you can't breathe through your nose is because you don't breathe through your nose, right? And so, a lot of times, if we have like young children, we can have them tape their lips closed with paper tape not because we want them to not open their mouth, but because we wanna remind them to breathe through their nose. And it's like, the more you breathe through your nose, the more open it will become. And mouth breathing is definitely not helpful for glymphatic detoxification, primarily because the more you do that, the less your nose is patent and open. About 20 to 30% of all the dirty water or the trash, as you say, coming out of the brain is actually through the nasal lymphatics. So in my world, I see a lot of people with chronic sinusitis. I see a lot of people with mold illness. And I see a lot of kids with recurrent strep infections. We also know that chlamydia pneumonia, which is just a community acquired pneumonia pathogen can move into your nose and literally just... There's studies showing that it

can it'll like self proliferate. It'll just keep going, just doesn't go away. Some studies, 90 days, even a year of antibiotics in a Petri dish don't knock it out. Which is a little freaky, but it loves to get in the nose. And they found with the chlamydia pneumonia studies, that the longer it goes, the more and more you have amyloid buildup in the brain. So the research subject, like the little mice didn't have it. They got this chronic infection with this chlamydia pneumonia in their nose. And then they have rapid buildup of amyloid. And treatment failures are suggested to be 20 to 30% in the conventional medical literature. So even if it's only, we're curing 80%, that means about 20% of people need to go see someone like you or I to make sure that's not still going on.

Heather Sandison, N.D.
Actually get rid of it and probably bring a dentist on board as well, right? There's a lot of structural pieces. If you're breathing through your mouth at night, it might be because your airway is closing because of your jaw and falling back into the airway. And so, discussing with a dentist how to approach that, also breathing through your mouth at night is going to lead to more dental decay. And then those infections like planopilaris can also start to trigger inflammation in the bloodstream and then in the brain and also put you a cardiovascular risk. So this is complex, but it's some of these foundations of health of like seeing the dentist, making sure you're treating sleep apnoea.

Thomas Moorcroft, DO
Right.

Heather Sandison, N.D.
These are really important things.

Thomas Moorcroft, DO
And if you look at sleep position, there's actually a fair amount of study on this in Lymphatic drainage in particular, and then also in people. 'Cause a lot of the research is in mice or rat. So anyway, if you take a rodent, sideline is by far the best. Lying on your stomach is horrible. It basically turns it off. And think about what's crazy about that is the mouse or the rat kind of being on their stomach with their head up is their normal posture as if we were standing straight up. So for us, if we lay on our back and kink our head back, it's gonna be way worse. And so, actually in both rodents, as well as in humans, if you sleep on your back for more than two hours, that's associated with cognitive decline.

Heather Sandison, N.D.
Oh, wow!

Thomas Moorcroft, DO
So sideline is at least from a glymphatic and a brain cognitive perspective appears to be a better way to do it, left or right.

Heather Sandison, N.D.
Oh, okay. That was my next question. 'Cause the lymphatics are not symmetrical. But it doesn't matter if we lie on our left side or right.

Thomas Moorcroft, DO
What we know so far, right. Yeah, what we know so far. But, yeah, I mean if I were to guess for my brain, I would probably lie more on my left side and have my right up and open. But, yeah.

Heather Sandison, N.D.
So we enjoyed an amazing meal last weekend at a conference together. It was such a pleasure to get to know you there. And we talked a little bit about food and good foods, but I wanna get your professional opinion about the best diet for glymphatic drainage of course, but also for brain health and healing from chronic complex disease.

Thomas Moorcroft, DO
Yeah, I mean. I think, again, that's one of our favorite loaded topics, which is food. I wanna share one other thing. So I make sure that I added in, for anybody who does have some issues maybe breathing through their nose, there is a Buteyko Breathing Technique that actually will help you create more nitric oxide and the sinuses around your face.

Heather Sandison, N.D.
Would you spell that?

Thomas Moorcroft, DO
Sure, It's a B-U-T-E-Y-K-O. And if you look it up on like YouTube and you just go Beteyko unblock your nose, they show you the basic way. It's a little head nod approach. And then the same thing they show with the head nodding for if you need to be. If you're somebody who needs more

sedentary, you can do the same thing by walking, very, very effective. And it allows you to not only open up your nose, that nitric oxide will go throughout your body and open up other blood vessels and detoxification pathways. So I just wanted to make sure we added that. And with that, like the food that we're gonna talk about in a second, when you do it once or twice, it helps for a little bit like five or 10 15 minutes. When you do it kind of regularly, it just really makes a massive difference. And so, check out Buteyko. And then when you look at food, there's so many different diets out there. And for me, there's a couple things, is, I generally start off in saying like, cut out the process crap and all the simple sugars. I mean, this is like so much a no brainer, I thought, but it needs to be said. And then I'm just like, I like to look at my diet as a whole food plant based diet and then adding my favorite protein.

So I'm gonna start with my rainbow of veg and I'm gonna certainly get my healthy fats in. I want it to be less processed. I make as much food at home as I can, except when we're dining at a sweet restaurant. I used to be a vegetarian and I was a quite good vegetarian. Like I followed all the rules and it was not healthy. And for my body, red meat works really well, but I know other people where it doesn't. So this is where I think a couple things. One is you have to listen to your body, which is what I learned through my healing journey. The other one is to understand that like there's different foods available because there's different types of people. And depending upon your medical condition, work with your provider to know what you should do. I do keto several times a year just for like four or six weeks because I like the way it feels, it optimizes detoxification and it's like rocket fuel for my brain.

So I have a very fat forward diet and my carbs, I'm probably in ketosis most of the time when we had paella and stuff like that. But it's more like, the term metabolic flexibility, I think is like really important, is, find out where you need to be for you and get to a place where your body's used to it. And then, the healthier you are, the more leeway you probably have, but don't go crazy because then you end up right back in the same place. And the sicker you are, maybe you have to try a little harder in certain areas. So I don't have a lot of rules and I know I'm supposed to say like gluten and dairy free and stuff like that. But I find that a lot of my patients, they're so sick, they've read everything they can't do, and they focus on what they can't do and what's wrong. And I'm like, let's take some of the stress off and if you need no dairy and no gluten, let's find that out. And let's really focus on that. But obviously, Dairy Festivals, Gluten Festivals and Sugar Festivals probably aren't good for anybody just like Booze Festivals aren't good.

Heather Sandison, N.D.
Right? That binging, it's really, it's about the habits, right? Like you can go enjoy a meal with your family or your friends or celebrate a birthday. You probably wanna skip the cake and ice cream and have like berries or sorbet or something that's not so over the top. And what I certainly have found over and over again is-

Thomas Moorcroft, DO
Am I salivating, just so you know when you describe that you're dead on right?

Heather Sandison, N.D.
Over the years, as my diet has improved and changed And as I've experimented, when I do go to some sort of birthday party and I'm like, oh, I'll try the cake, it tastes disgusting. It's like so overly sweet. So it just tastes like poison. And I think we sensitize ourselves again to the salt and the sugar and the fats when we not restrict them, but when we moderate our intake of them and create this metabolic flexibility by restricting some things for a little while and then adding them back slowly. I actually was thinking this morning, I have another continuous glucose monitor that I'm gonna put on because I'm ready to get back into ketosis for the next six or eight weeks for this. Basically I'll probably go through the summer and just getting that feedback. I know you said you measure your sleep. Do you wear an aura ring or like do you do any of these and of one kind of tracking fun things?

Thomas Moorcroft, DO
Yeah. No, I definitely. I mean, I have an Oura Ring that I wear. I have these like really bony knuckles. So it's kind of like doesn't always pick up great. I'm actually talking with like Garmin too. 'Cause I have some friends who use that to track more metrics. I'm not a big watch person. I don't really like wearing stuff at night, but I'm gonna grab my EMF testers and make sure that it's all good because I, you know... But, yeah, I mean, I think the Oura Ring is really interesting or any kind of wearable where you're getting data that's objective, right? Even like, if it's not perfectly like accurate, it's at least, you get a consistent measure from that device. And after you have a couple weeks or a couple months, very helpful. I keep thinking-

Heather Sandison, N.D.
In our clinical trial, we use the Garmin. The vivosmart 4 is what we use in it. It gets O2 levels, which the ring-

Thomas Moorcroft, DO
Ring does not.

Heather Sandison, N.D.
And so, it gets your sleep cycle and your REM and your DEP. And it measures that. And then it'll give you a score based on the night before, and then you can see what changes you might be implementing like a new mattress or getting on a sleep PAP or using an oral device. How does that change the quality of sleep you're getting? And then of course, the time. Like are you getting, are you-

Thomas Moorcroft, DO
Oh my gosh. And, Heather, the coolest thing I found out like was I used to go, I'm sleeping for eight hours. But I started to go to bed at say 10 and with a plan to get up at six. And I'm like, well, I really didn't get to bed until like 11:15. And then I'm getting up at like six, and you're like, oh, so I thought I was getting more sleep, right? And so, what I find is for me with the aura ring it's like, it'll be the middle of the night and it'll just stop registering and it'll tell me I didn't sleep for an hour, but I know I was asleep. But when I'm light and stuff, or I'm a little restless, it shows, right? And I can start to go back and go oh, what did I do the night before? Oh, right. We went out to somebody's party and I did have pizza, right? And it's like, oh, maybe my body doesn't like that, right? Or maybe had an extra glass of wine or whatever. And you can really see the effect of what you're doing and how it affects your sleep. But learning that, I need to actually, if I want to go to bed for eight hours, I actually have to start going to bed a bit earlier. So there's a lot to learn. And again, if you look at the data, it's so much more objective than we can be looking at ourselves, right?

Heather Sandison, N.D.
Yeah. Totally, absolutely, our experience of it. And also, sleep. There's a lot of amnesia associated with sleep. So we don't always remember what happened and then connecting those dots about like, what was my routine the night before? So you can adjust and get that most optimal sleep for you.

Thomas Moorcroft, DO
And that little quick wins at night thing, my deep sleep has gone up since I started that practice. It literally within a week, week and a half, increased by like 30 minutes, which I didn't think you

could do because I was already over 20% deep sleep. So it's really interesting when you make it more simple and you don't stress out about it. That's how you can really optimize your brain detoxification.

Heather Sandison, N.D.
Well, yeah, let's talk a little bit more about just like getting into parasympathetic states every day. You've discussed this a bit, but I'm curious, you have like a structure or some organized way of being like, all right, this is how you relax?

Thomas Moorcroft, DO
So follow this protocol and you'll be chill. No, part of it is, you have to just be aware of your mood. So when I think about how do I promote longevity, how do I really optimize brain detoxification? I think of sleep, I think of food, I think of movement, and then I go in, and that's my top three or my first three. But then I think about mood, mindset and heartset. And the mood is really this part where it's just part of it is becoming aware, becoming aware of two things. One is, the state you're in and maybe even, and then equally important is the state you wanna be in. So I find that a lot of my patients are like, what do I have? How do I treat it? And I'm like, what do you actually want? Be really clear on it, because most people are doing this negative meditation all day like you were saying, focusing on what they don't want. So find out what you want and then why do you want it? Like, 'cause like, working out and being healthy is like the lamest thing. I mean, it's cool, but not really. It's like, what do you like? I have a lot of people who have joint pain, right? And they have severely impaired mobility and I'm like, well what do you wanna be able to do? He's like, "Well I wanna have better mobility.

And I don't want my joints to hurt." I'm like, why do you want that? "Well, I wanna be able to get up and down off the floor." And I'm like, okay, that's really so boring to me too. It's not really long term motivational. I'm like, why do you wanna be able to get up and down off the floor? Oh, 'cause I have two new grandkids that I love playing with. And it's like their heart lights up, their eyes light up and I'm like, all right, cool. That's what you want. So you wanna focus on what you want, which is that mobility, but why? Get emotionally behind it so that it gets into your heart rather than just your brain. So being aware of the state you're in and the state you wanna be in starts it and then making yourself a priority, like determining that you're worthy of healing. So many of us are we're like, "I grew up in the Martyrdom System where you help everyone else and it's not okay to receive." So I spent a lot of time in helping people learn how to receive and know

that you're worthy of it because then, like 'cause if you're trying to accept relaxation and love and gratitude, but you're not worthy of, it's really hard to fight that battle. And so, just the awareness of it allows a crack and an opening for the light to come in. And then the simplest thing I find is just sitting down and becoming aware of your breathing. Whatever the hell that means to you. There's all these like in the body, not in the body, all these things. And it's just like what you're breathing. Become aware of something, whether it's in your nose, in and out of your mouth, your chest rise, and then just allow yourself to be aware. And then once you're kind of comfortable with that, breathing into your chest and specifically thinking as if you're breathing into your heart, right? It's just such an easy way to do this. And then it's like, I would guess for you, maybe the next step might be thinking of your daughter and holding her in your heart as you're breathing. Think of someone or something that you're so emotionally attached to.

It's so amazing, right? And just do that. And what's really cool is if you're measuring with like a heart math or any of these other devices, like even a garment, your heart rate variability will increase, which means that you have better control over your autonomic nervous system and a better balance between those sympathetics and the parasympathetic. In English, we're bringing down the stress response and we're improving the relaxation response, which then allows us to get into that state if you do this. So what I love to do is do my three wins for today, three wins for tomorrow. And then you can sit on the end of your bed. You can like lie down in bed and just do this breathing and be open to this gratitude. And it's one of the simplest ways.

And we know that by improving heart rate variability, we're gonna see improvements in brain detoxification in general. So that's a simple way to do it. And there's so many practices. A partner and I have created like a meditation community for patients with chronic illness so that it speaks to them in their language. And I think it's really important for everyone listening is, I have some ideas that work for me, and I know that, Heather, you have yours. Find something that resonates with you so you're gonna do it. Just like I was saying, find out what you wanna do and the real why behind it so that you're actually gonna do it, right? And then simplify, pick one, 'cause I can give you 100 relaxation techniques. The best technique is the one you're gonna do.

Heather Sandison, N.D.
Yeah, that you can actually execute. Tom, this is incredible. So informative. So, helpful for our listeners. I wanna make sure everybody knows how they can find out more about you and your practice.

Thomas Moorcroft, DO
Yeah, so my practice is called Origins of Health and it's just simply origins of health.com. You can reach out to us there and certainly look that up on YouTube, Facebook. we've got information there or just tommoorcroft.com for all the other non-medical stuff.

Heather Sandison, N.D.
Thank you so much for joining us, sharing your wisdom, your expertise and you used your heart and enthusiasm for this. It's really a pleasure to be getting to know you and to be able to share this great information with our attendees.

Thomas Moorcroft, DO
Yeah. Thank you so much. It's an honor. And I mean, just what you're doing in the world and what you're sharing with people through the summer is just amazing. So I just wanna say thank you so much for what you're doing and honor to be here.

Heather Sandison, N.D.
Thank you.