



# MYCOTOXINS AND CHRONIC ILLNESS SUMMIT

## Mycotoxins and Cognitive Decline

Dr. Nafysa Parpia, N.D. interviewing  
Heather Sandison, M.D.



### **Dr. Nafysa Parpia:**

Welcome to this episode of the Mycotoxin and Chronic Illness Summit. I'm so excited today to have Dr. Heather Sandison with me. She's the founder and medical director of North County Natural Medicine and founder of Marama. Dr. Sandison specializes in neurocognitive medicine and neurohacking. She's been trained to specifically address imbalances that affect the brain, including autism, ADD, ADHD, depression, anxiety, and Alzheimer's. She's trained with Dr. Dale Bredesen, Dr. Neil Nathan, Dr. Bill Walsh, and Dr. Ritchie Shoemaker, in addition to regularly attending and speaking at integrative medicine conferences throughout the year.

Her healing philosophy centers around treating the cause of imbalances in the body, including toxins, nutrients, stress, structure, and infections. She believes in the power of the body to heal itself. Dr. Sandison's passion is to guide and support patients as they co-create strong foundations for optimal health through sustainable lifestyle changes and the best medical interventions to support balance in the body.

She's dedicated to learning all there is to know about brain health and considers her amazing patients at NCNM and residents at Marama some of her very best teachers. Dr. Sandison has been awarded a research grant to study the effects of individualized interventions on patients struggling with cognitive decline at NCNM. She earned her Naturopathic Doctorate at Bastyr University in Seattle. She currently serves on the medical advisory board of Neurohacker Collective, and is a regular host of the Collective Insight podcasts. Welcome, Heather.



**Dr. Heather Sandison:**

Thank you so much, it's a pleasure to be here.

**Dr. Nafysa Parpia:**

So great to have you here. So today we're gonna talk about cognitive function and mycotoxins, so Heather, tell us about how mycotoxins get into the brain.

**Dr. Heather Sandison:**

Yeah, so there's a couple of different ways that microtoxins affect the brain, and one is that they can actually get into the physical brain, and one of the things that people don't realize about cognitive decline, and Alzheimer's in particular, is that the beta-amyloid plaques and the tau proteins that we think of as being the pathophysiology, the reason that cognitive decline or dementia happens, they're actually a mechanism that your body and your brain uses to protect you from things like mycotoxins, and also these can form to protect us from viruses, from bacteria, and so really, these tangles and these changes to the brain, they happen in response to something like a toxin that invades the brain. So how do they get there?

One of the common pathways is through the nose, and a lot of these mycotoxins are very, very, very small and they can be aerosolized, they can be in the air that we're breathing in our homes or work environments that may have mold growing, and so as those are breathed in through the nose, they can go through the cribriform plate, the anatomy in the brain, excuse me, in the head allows for these very small toxins to travel up into the brain directly. Mycotoxins also affect the brain and our cognitive function because of what they do systemically, so they can affect gut health, they can affect hormonal health, and all of these things have an impact on how well we think, how clearly we think and how our cognitive function, what our cognitive capacity is day-to-day.

**Dr. Nafysa Parpia:**

Thank you, Dr. Heather, I love that. One of the biggest treatment protocols I have for my patients is to treat the sinuses, they turn a huge corner when we do that, and the



mycotoxins also can translocate via, and I know you already know this, but for people watching, they can also translocate via the olfactory nerve and also via the vagus nerve, from the gut all the way up to the brain, so I actually treat the sinuses as though I'm treating the gut, so I'm going to use different methods by which to kill off the infections, repopulate the sinuses with beneficial bacteria, and bring anti-inflammatory properties in there as well. I'd love to hear about the way that you treat the sinuses and sharing that with our audience today.

**Dr. Heather Sandison:**

Yeah, absolutely, I definitely echo that. What we don't always realize, right, if we're thinking about mold coming from outside the body, for some of our patients, the mold can get inside, fungus, candida, other types of molds can be growing in the nasal passages, and as you mentioned, just like in the gut, there are good and bad microbes that can exist or colonize in the sinuses. So this might not be the sinus infection that you would go see a provider for, you know, urgent care visit to get antibiotics, to treat your sinus infection, not quite that, but one of these more chronic things, like maybe there's trouble, if you snore at night, or maybe there's an early snuffle, an early morning snuffle or something that goes away throughout the day, but there's some chronic imbalance, there's some symptom that suggests that there might be something a little off in the sinuses, they tend to get inflamed quickly, this manifests differently for different people. I do tend to use the MARCoNS testing and so--

**Dr. Nafysa Parpia:**

Nasally?

**Dr. Heather Sandison:**

Yeah, the nasal swab, and I like to see it all, so I do check the box for MARCoNS, for the fungus and for the biofilm so that we can see what all is going on up there. And often if there is fungus growing, whether it's candida or something else, if we're treating it or if it feels threatened, then it's even more likely that it's going to produce toxicity, and



that toxicity, like you mentioned, right, just through the olfactory nerve, through the cribriform plate, they are so small, they can attach to those nerves physically and travel up into the brain, so really, really important to treat.

**Dr. Nafysa Parpia:**

Yeah, thank you, I do the same tests as you. A lot of times people think it's just MARCoNS and it's not, it's amazing, the fungus, bacteria, and the amount of biofilm I find in there. And, people's cognition improves so greatly once we treat the sinuses, it's really quite amazing.

**Dr. Heather Sandison:**

It certainly has a ton of potential to affect cognitive function, and then also, of course, the sinus symptoms, those annoying sinus symptoms, that test does take a while to come back, it can take four to six weeks, particularly the fungus because they grow it out on plates, on Petri dishes, so it can take a while to come back, so if I'm waiting on that, I will get patients started on a neti pot, and sometimes in the neti pot we'll add a little bit of colloidal silver or some Biocidin, I like to use Biocidin, and just a drop or two, making sure it's not too caustic or irritating to the sinuses, and doing that once a day, I usually suggest doing it in the shower, you're already wet, then it can just be like brushing your teeth, something that you start doing regularly that can really move the needle on symptoms.

It also, as you mentioned, we need to replace the good microbiome, and so I will just recommend, go to the grocery store and get a thing of kimchi, not too spicy 'cause you're gonna put it up your nose, but take a Q-tip, just dab a little bit of that into the juice and apply that, no double dipping, into the nasal passages, on both sides, and typically people, within a couple of weeks, if that's gonna work, they'll see a big difference. And I've had patients, I'm in San Diego, so I've had patients who are surfers, you know, getting chronic sinus infections when they surf and this has really changed their winters, essentially, how often they can get in the water and how long they can go without getting an infection.



**Dr. Nafysa Parpia:**

Right, very nice. I've had patients use a nasal probiotic by Nasobiotex, it's actually from kimchi, that helps a lot of people, it just comes in a tiny little scoop, you just need a little bit, and I have them put it in a NeilMed sinus spray bottle. I also have them put coconut oil, just a little bit, on the inside of their nostrils, because it's hard to kill the infections when it's dry in there, so just a little bit of coconut oil for its anti-inflammatory properties and also for the property of keeping it nice and moist. And then, actually, while I'm waiting for the MARCoNS test to come back, I'm often giving people nebulized glutathione to bring the inflammation down. I love how we're thinking along the same lines, and then we add a little bit of our own differences, so that's really cool .

**Dr. Heather Sandison:**

There's so many good tips, I hope these are actionable and our listeners are gonna go out and get started right away because they're very safe, very safe and also very effective.

**Dr. Nafysa Parpia:**

Yes, exactly, excuse me. So tell me what you expect to see clinically when we reduce the mycotoxin load?

**Dr. Heather Sandison:**

Yeah, so this is a process, and I always want patients to know that if they are diagnosed with mycotoxins, if we see this on their labs, then I prepare them for a two-year minimum journey with me. This is not going to happen overnight, however, usually by about three months they can look back and say that they feel better, maybe not compared to yesterday, but compared to the day we met, compared to three months ago, they are turning a corner, things are getting better. Some patients, this is really clear, they get out of a moldy environment and within a few days they're better, for other patients, especially if it's been going on for a long time, this is a long process, they didn't get sick overnight and they're, unfortunately, I wish there was a magic pill



that made it all go away overnight, but when we go down this path, I have a lot of confidence in it but it does require some work. So on the lab testing, what I typically expect is a little bit, it looks like a stock market graph, right, like overall we are going, well, actually your symptoms look like the stock market graph, overall, we're going up, there's some dips but overall the good days are better and the bad days are less bad. Now the mycotoxin testing is kind of the inverse of that, typically we'll start with a test and I don't put too much emphasis on that initial test. The second test is often higher because as we start the process of uncovering the toxic burden, getting things moving by opening the emunctories, the liver, the lungs, the bowels, the skin and lymph, and then the kidneys as we support those organs that help us eliminate, we start to eliminate better and eliminate more.

And so those mycotoxin tests, we test the urine, and that urine is part of how we're getting rid of it, so when I see an increase, I don't always think that's a bad thing, it doesn't always reflect that there's a new exposure, but more that we're doing a better job getting rid of them. After those first couple of tests, now we start to see what we're hoping for, typically, which is a reduction over time, and I'm repeating these urinary mycotoxin tests ideally every 12 weeks, sometimes a little more, sometimes if there's a change in symptoms or a change in where they're living, then we'll do it a little bit more frequently, but for the most part, an average of every 12 weeks, and then watching, after usually the third one, it's starting to calm down, but we have a true reflection of the actual body burden then.

**Dr. Nafysa Parpia:**

Thank you for saying that, I fully agree with you for that, not only with mycotoxin, I'm gonna take a little right turn here, but when I'm measuring metals as well, somebody has high mercury, high lead, arsenic, I'm seeing a lot of arsenic these days in California after the-

**Dr. Heather Sandison:**

Yeah.



**Dr. Nafysa Parpia:**

Are you too, after the fires? Unprovoked, in a way that I never did before, I'm really associating that with the fires around here, but anyhow, so as we're detoxifying those metals and we're retesting people, we'll see those metals rise, and then they freak out a little bit sometimes, "What's happening, why are these so high, do I have a new exposure to the metals or the mycotoxins?" and the truth is, most probably not, maybe if you've been around the fires or you've had something acute, usually not, it's a factor as actually pulling the toxins out, and then people can have some peace, understanding that.

**Dr. Heather Sandison:**

Yeah, yeah, it's not always linear and I think that that, I try to set patients up with that understanding from the beginning, because it's an art, right, it's an art and a science, we want to follow your symptoms but not be too attached to the day-to-day because that can lead us astray as well, and we want to follow the labs but not be too attached to the exact numbers every time, we want to look at trends over time, over three, six, 12 months, and I know that this can require some patience, however, I think you and I both, we see very complex, very challenging patients to treat, and by and large, we get positive results if we commit to the process.

**Dr. Nafysa Parpia:**

Exactly, and you're so right, Heather, about the length of time it takes, it's true, it's usually at least two years, and a lot of the times these patients have tick-borne illness as well or they have parasites as well or they have other environmental toxicants so we're doing so much at the same time in rotating between protocols, and this is why it's so lengthy, so our patients are such an inspiration to us, they're just-

**Dr. Heather Sandison:**

And well worth it, and when I say two years, you know, we want you to be, I typically want my patient to be engaged in treatment for two years but they can start going back to work, they can get back to life, they can function more normally in those two years, of course, there's reward in there.



**Dr. Nafysa Parpia:**

There sure is, yes. How do you measure mycotox, sorry, how do you measure mycotoxins and cognitive function clinically?

**Dr. Heather Sandison:**

You know, I'm pretty attached at this point to the RealTime mycotoxins, they do a really good job. I am in the camp that provokes, so I like to, if possible, do an IV of glutathione, we'll do a push of glutathione and then have patients collect their urine for six hours after, and you know what, that's just the way I've been doing it for the past five, six years, and so that's the way I continue to do it because so many of my patients have done it that way and I want to compare apples to apples. I do have, I'm sure you do as well, I have a lot of very, very sensitive patients and I'm sure a lot of your listeners on this summit are extremely sensitive, that comes hand in hand with mycotoxin illness, and so not everyone can do a glutathione push by IV, that would just wreck their world, so we have alternatives to that and if someone has done an either oral glutathione or they've done a hot bath or rebounding or some kind of exercise to generate sweating.

if they've done that instead of an IV push, then we tend to do the same thing again so we can compare apples to apples on the repeat testing. So I do use the RealTime labs and that is my favorite one, I think they've been the most consistent, they've been around the longest and their results match my patients' experience most often. And then when it comes to measuring cognitive function, we have kind of a, I look at a few things. We certainly look at a MoCA score, we also will do brain imaging, so NeuroQuant, that doesn't directly measure cognitive function but can give us a sense of what's going on and if our treatments are effective. And then we also do a WAVi, we do a wet EEG, that gives us a sense of, certainly P300, which is a reaction time, and then also to the different brainwaves and their ratios to each other, and then we can see those change over time.



**Dr. Nafysa Parpia:**

That's very exciting, I love that you're including that new technology in. Is your treatment for cognitive decline, is it also using technology as well, like biofeedback or-

**Dr. Heather Sandison:**

Yeah, good question. So I personally, you know, in my office we do a approach that is very similar to Dr. Bredesen's, so in my clinic we use Dr. Bredesen's medical approach, so this is a lot of the testing, looking very comprehensively about all of the factors that can influence our ability to think, our ability to remember. And then at Marama, Marama is a residential care facility for the elderly, and the reason I founded Marama, created Marama, is because I saw such great benefits in the clinic when it came to dementia. And like you, we both went to Bastyr, we had very well-meaning professors who were telling us, "Don't give patients or their families false hope, don't tell them you can reverse dementia, you just can't", and neurology still says that, you know, "Here's some Namenda, good luck, it doesn't work very well, get your affairs in order, make sure your trust is up to date, and I'm sorry, there's not really much we can do for you".

And I went to Dr. Bredesen's training kind of with that in the back of my mind, a little bit of skepticism, and then when I returned to the clinic and saw incredible results, absolutely incredible, I mean, I couldn't, I was in disbelief that we had patients, my first patient, her name was Linda, she had a MoCA of 2, and she came back three weeks later after getting out of a moldy environment, she started ballroom dancing, she changed her diet to ketogenic, she got on hormones, she had her amalgams removed from her mouth, she did a lot, her and her husband were very dedicated, her husband in particular, and she came back, it was only three weeks, and she had a MoCA of 7. She was bickering with her husband about something that had happened the night before, the first day I saw her, she could not remember the question I had asked long enough to answer it, I mean, her transformation and her engagement with her husband, her relationships, her engagement with the world had transformed so completely that, I mean, I was in tears.



I was in disbelief, and from that moment on as a provider, I was like, everyone told me this wasn't possible and here I am watching it, how can I not dedicate my life to sharing this with as many people as possible so that they can avoid being in Linda's position, unable to remember questions long enough to answer? I mean, it's just a heartbreaking way to say goodbye to your loved ones, very slowly and losing your mind, and it's optional, it doesn't have to happen. So what I saw clinically was possible, was possible only for the people who were able to implement, so Linda had the support of her husband and that's why it happened. Other people came in and they were supported by, you know, a child who was in

their 40s or 50s, who was juggling raising their own kids and a full-time career, who had a parent who was struggling with cognitive decline and they didn't have the capacity to fully implement for them. So I started getting questions from patients and friends of patients and people who knew I was treating dementia, and they said, "Hey, where can I send my loved one? I'm really excited about the Bredesen protocol, we're really excited about what you're doing, but I just can't do it all, so where can we send them?", and I looked around and there was nowhere, there was nothing, I couldn't believe it, and so there's lots and lots of great minds that have gone into this but my job was just putting the best protocol into the place where people who suffer with dementia live, and putting those two things together. So at Marama, in answer to your question around the technology, we use a lot more of the tech there, because the tech is, it's pretty expensive and so if you're using like the Vielight, the red light therapies.

**Dr. Nafysa Parpia:**

Right.

**Dr. Heather Sandison:**

Or Live O2, a contrast oxygen therapy, if you're using these kinds of things regularly, then just having it for one person is a big investment, but when we can kind of share it and six or eight people can use it a day, 12 people can use it a day, then it makes a little



bit more sense and it's also really exciting for us because we get to see the benefits and the change. So certainly for dementia, we are using some of the tech, both in measurement, so looking at the MRIs, I'm really excited about retinal imaging coming online, that's not available clinically yet, only for research, but there's a lot more that we're learning through the science about diagnosis, diagnosing early, because it's much, much easier to prevent than to reverse, and then also in terms of using technology to help to reverse and to gain cognition.

**Dr. Nafysa Parpia:**

This is so exciting. Tell me more about Marama, tell us where is it, how do patients go there?

**Dr. Heather Sandison:**

Yeah, so Marama's in San Diego, it's eight minutes from my house because I spent a lot of time there, and about 20 minutes from the clinic, so it is in San Diego right now, I'm hopeful we'll be expanding because we have residents coming from all over the country. We've had a resident come from Hawaii, from South Carolina recently, from New York, from Ohio, so we have, you know, we're the only place in the world right now doing this and my goal is that we will influence the entire senior care industry because really, we can do better.

I don't know if you've seen some of the just absolutely horrifying headlines around how our seniors have been treated, certainly during COVID, but I know before and I know after COVID, that will likely continue, and I believe that the world needs solutions right now and if we are not engaged, if we don't have our seniors engaging in helping us find those solutions, create those solutions, we're squandering a resource, a very, very valuable resource. Our seniors are at the height of their wisdom and experience and they have so much to give, and them losing cognitive capacity is completely optional. We have the tools, we know what to do to prevent and reverse that, and so we need them, we can't afford to put them in homes, park them in front of TVs and feed them cake and ice cream, and-

**Dr. Nafysa Parpia:**

Absolutely not.



**Dr. Heather Sandison:**

Watch them decline.

**Dr. Nafysa Parpia:**

No.

**Dr. Heather Sandison:**

We need them on our team!

**Dr. Nafysa Parpia:**

I love that you have taken the protocols, you've put them in a clinic, so is Marama a part of a private clinic, is it part of a university, are the residents doctors?

**Dr. Heather Sandison:**

Yeah, great question, so Marama is, by definition and through California state licensure, we are a residential care facility for the elderly. So the way that we work is when a doctor like you or myself, doctors that are trained by Dr. Bredesen, other doctors who are excited about functional medicine and integrative medicine, when they create a protocol for a patient who's struggling to implement it, they come to Marama and we implement for you, so we take kind of the hard work out of it. We serve a 100% organic, a diet, and our base diet is a ketogenic diet, a KetoFLEX diet, so it's not 100% keto but it's keto four to five days a week, and then with a fast before bed, at least three to four hours before bed.

We also have a completely non-toxic environment, so we aggressively look for mold. We've had a couple of leaks, you know, there was one under the dishwasher, one out of a shower at one point, and within 24 hours we had somebody out there testing, we cut out the drywall, aggressively making sure that there is absolutely no mold in that building, because we know it is so toxic for the brain. So it's a non-toxic environment, we use fragrance-free cleaning products, excuse me, non-toxic cleaning products, mold-free environment, we have an IQAir going because, as you mentioned, sometimes we can't avoid, there's a fire miles away and we don't want anyone being exposed to that air.



We have organic mattresses, organic linens, so I really tried to think through all of the things that we can be exposed to day-to-day that we don't really think about all the time, personal care products, water, all of that is non-toxic. And then, so there's kind of three pillars of the Marama experience in my mind, or four, rather. One is the non-toxic environment, this is very passive, you just move into Marama and you don't have to think about it again. As you well know, treating patients who are exposed to mycotoxins, sometimes this is the biggest challenge, telling someone they have to move, they have to get out of that environment.

**Dr. Nafysa Parpia:**

Right.

**Dr. Heather Sandison:**

When their cognitive function is poor, when they're fatigued, they're very emotional, I mean, it's such a challenging position to be in that sometimes it just causes paralysis, they can't leave that toxic environment. So coming to Marama, you don't have to think about it anymore, you can rest assured, your family members can rest assured it is a non-toxic environment. And then there's the diet, organic KetoFLEX, we also have a big garden on the property that we use and eat lots of that food. And then the next piece is the activities, so some of these technologies that we were discussing, so we use red light therapies, we use the Joow light and the Vielight, there's a lot of great literature. There's a doctor, Michael Hamblin from Harvard, who's published a ton on the effects of red light therapy.

**Dr. Nafysa Parpia:**

Yeah.

**Dr. Heather Sandison:**

The way this is working, there's several proposed mechanisms, but the most common mechanism that gets cited is that the red lights at the, red light is at 680 nanometers, and then at 850 is this near infrared light, and that penetrates the brain a little bit more. So what happens when this light hits your mitochondria is that it actually, it affects the cyclooxygenase enzyme, and that helps us to produce more ATP per glucose molecule.



**Dr. Nafysa Parpia:**

Great.

**Dr. Heather Sandison:**

You and I often think about adding mitochondrial support in terms of nutrients, supplements, things like ribose and carnitine and CoQ10 and, you know, there's a laundry list of things that go into a lot of these mitochondrial support supplements, well, light is great because I'm sure you have a lot of patients too where the gut is sensitive, well, we don't have to use the gut as much, we can actually use light to structurally change how these enzymes are behaving, and that gets us more ATP, more efficiency, and so then we have more energy and our brains work better.

So really a fun intervention because it's low risk, almost zero risk, you know, sunlight, like UV light, of course, has risk, if you get too much of that you end up with skin cancer, blue lights can, you know, anyone who's listening who's spent too much time in front of a phone or computer before going to bed, blue light can interrupt the circadian rhythm, well, red light in the spectrum is really beneficial with no downside.

Now we tend to use it just about 20 minutes a day, sometimes we'll do two doses of the Vielight or the Vielight and the Joovv light, so 20 to 40 minutes a day, you probably can't get too much of a good thing but we limit it to that, and see really remarkable benefits. You can see it particularly in people with the most severe disease process, that even just in 20 minutes of exposure to the red light, things will shift. We had a resident who came to us and she would wake up some mornings and be speaking like a four-year-old, you know, saying mommy, daddy, and she's in her 60s, and you could tell her state of consciousness was completely altered. And we would use the Vielight, put the Vielight on and within 20 minutes she was, you know, not 100% cognitively cured, but certainly back to a baseline that was a bit more normal where she could engage with caregivers, where she could engage, kind of basically explain if she was happy or sad or hungry and communicate effectively, so it definitely changed her day-to-day experience when we were able to use that light. So really exciting and fun stuff going on at Marama, so basically the, excuse me, I started talking about the activities and got carried away by how excited I get about red light.



**Dr. Nafysa Parpia:**

It's so important, I'm happy you're here telling us all about this, people need to know about Marama, I mean-

**Dr. Heather Sandison:**

Thanks.

**Dr. Nafysa Parpia:**

So basically, how many people, how many residents do you let in at a time?

**Dr. Heather Sandison:**

Yeah, we're licensed for 12, and typically, because we only have 12 spots, we expect that someone will come for six to 12 months, and in an ideal world, right, our goal is that basically it's a brain rehab and they return to independent living.

**Dr. Nafysa Parpia:**

I love it.

**Dr. Heather Sandison:**

Now-

**Dr. Nafysa Parpia:**

Yeah.

**Dr. Heather Sandison:**

I'm so excited about it. That's not gonna happen every single time, kind of depending on severity of the disease, how early we catch it, how early we intervene, however, I know that it's possible, I've watched it, so it's exciting and my goal is that we have more and more capacity, more beds available, and then we'll have people who, if they choose to stay long-term, they absolutely are welcome, and if they can come in and get out quicker because their cognitive capacity is better, that would hopefully encourage people to come sooner rather than waiting for pretty severe disease.



**Dr. Nafysa Parpia:**

That's wonderful. And so now, what happens if someone isn't reversing their dementia?

**Dr. Heather Sandison:**

Great question. So I believe it's possible in every scenario, now I know there's lots of people that will push back and say that I'm overly optimistic, but based on what I've seen clinically, I think it's possible almost every single time and that if someone is not reversing their dementia, we're missing something. And the most common things are a toxic exposure, like mold, another common thing is they're not actually getting into ketosis, so measuring blood ketones, urine is helpful at the beginning but it's not always a great indicator, so going ahead and looking at blood ketones consistently can be a much better indicator.

There are breath meters but I haven't found one that I'm really excited about or I think is consistent with the blood levels, so checking for ketosis is really important. Checking mycotoxins and checking the environment for mold, really important. Exercise, I cannot overemphasize how important exercise is, and if you're someone who's been walking for an hour a day for the last 15 years, and that is your exercise and you haven't changed it up, then add strength training, add ballroom dancing or yoga or pilates, something that engages your brain as you do it, add different types of exercise. There's a woman who developed Genius Gyms, and that basically is combining the best exercise for people who are looking to improve cognitive capacity, so you input a little bit of information and then the app will help you design the best exercise program for your brain, and it's super interesting and really fascinating.

A lot of the literature is pointing to, basically you get the best cognitive benefit from exercise if you are also challenging your brain when you're getting the exercise. So if you're on a treadmill, you need to be able to talk, you know, it can't be mile 26 of a marathon, but if you are walking on a treadmill and doing arithmetic in your brain, or walking on the treadmill and thinking about complex, like complex ideas and trying to solve problems and stuff, that will be helpful, you will actually improve your cognition more than if you're sitting on a couch or just if you're being more sedentary while you engage your brain.



**Dr. Nafysa Parpia:**

Very nice. Do people who show up to Marama also have other infections or is it typically mold and mycotoxins that they're dealing with?

**Dr. Heather Sandison:**

Yeah, great question. So a comprehensive approach to dementia, what I find is based on Dr. Bredesen's work, so we are absolutely looking for infections and treating them, looking for toxins and treating them and I think of toxins in three flavors. We have mycotoxins, heavy metals, like you mentioned, and then chemical toxins, things like glyphosate, parabens, PCBs.

**Dr. Nafysa Parpia:**

Right.

**Dr. Heather Sandison:**

All of the petrochemicals and certainly the things that you'd be exposed to if you're around the fires. So we want to address, of course, the infections, the toxicity, hormone levels are really important, those need to be balanced, those send youthful signals to the brain. And then structure, so understanding if someone has had a traumatic brain injury, also knowing, you know, a lot of us are hunched forward, or kyphosis is the medical terminology for that rounded back that many elderly folks will get after sitting or not getting good postural therapy, and so really bringing the head back over the shoulders so that we're getting blood flow and nervous system conduction from the brain to the rest of the body is so important.

It also is how we're gonna get toxins out of the brain. And this is happening a lot at night, so assessment around sleep, sleep apnea, are people able to get that detoxification happening at night, are they able to get good restful sleep, and then are they getting enough oxygen at night, so, so, so important. Infections, you mentioned, so infections like Lyme, of course, the spirochetes themselves, *Borrelia burgdorferi*, the spirochetes end up in those beta-amyloid plaques and tau proteins in the brain, so really directly connected to the development of Alzheimer's dementia.



Also *P. gingivalis*, so the microbes that are found in our mouths, there's also data out of Taiwan that shows that aggressively treating herpetic outbreaks, herpes simplex 1 and 2, both genital and oral herpes, is protective against developing Alzheimer's later in life. So, really, having gone to naturopathic school, you know, I was focused on lemon balm and glycine and, or, excuse me, lysine, more lysine than arginine, are kind of natural approaches to treating herpes, and now I've kind of changed my tune and I'm like, no, no, you don't want dementia, treat that aggressively.

**Dr. Nafysa Parpia:**

Absolutely. It's so interesting when I'm listening to you talk about the way you're treating dementia, it's actually literally the same approach I take when I'm treating people with tick-borne illness, that's my specialization, and these people, the reason I asked the question about other infections is because when we're treating patients for tick-borne illness, of course, they've got cognitive decline, so as I'm treating their infections, their environmental toxicants, all the ones you mentioned, the glyphosate, the mycotoxins, the other chemicals, and I'm working with structural integrity, a lot of these people have craniocervical instability or EDS, Ehlers-Danlos syndrome, or lax ligaments, and that's a major issue.

And so I'm working with the exact same pieces you are, except the focus is on the tick-borne illness, but noticing that so much changes for these people, with their brain, with their cognition. So, as we're speaking, in fact, I've been using Vielight as well and different light therapies, we have a practitioner on board, his name's Dr. Sanjay Manchanda, actually, and so we're sending patients to him for this kind of light therapy, so it's really quite amazing that you and I are doing such similar work, except it's just got a different label on it, you know, it's not-

**Dr. Heather Sandison:**

Yeah, so-

**Dr. Nafysa Parpia:**

You love it.



**Dr. Heather Sandison:**

I think that what we're doing is applying complex system science to a complex system, the human body, and it's really, unfortunately, it's common sense but uncommon practice because we're socialized in this idea of conventional medicine that if I have a symptom, I need to treat that symptom, not treat the whole body and not treat the entire complex system. And when we go back to, that's what attracted me to Dr. Bredesen's work was, well, when there was a challenge in it, right, like they told me I couldn't treat Alzheimer's and now there's a way-

**Dr. Nafysa Parpia:**

No, I can .

**Dr. Heather Sandison:**

- But yes I can! If you can treat the hardest thing, then you can, it's easy to treat the rest of it, right?

**Dr. Nafysa Parpia:**

Right.

**Dr. Heather Sandison:**

- The other thing that attracted me to Dr. Bredesen was how comprehensive he was and how he was looking at a complex system science model, that it wasn't about reducing the body to just the brain or just neurotransmitters or just vascular dementia or whatever it was, it was about putting all those pieces back together and looking at the human, and that is where we get, I think, really great benefit. And it doesn't matter what complex chronic illness you're treating.

**Dr. Nafysa Parpia:**

No.



**Dr. Heather Sandison:**

You can take this approach to all of them and be pretty confident you're gonna get good results.

**Dr. Nafysa Parpia:**

Yeah, exactly, so I really love that. I'm thinking through this conversation, it's probably pretty clear to a lot of the listeners that this approach we're taking does help the entire system, and then you've got methods that you're doing, that you're using to focus particularly on the brain and then once you've got the whole system flowing and out of a loop that they're stuck in, then you can focus on the different particular areas that you want to and see amazing results.

**Dr. Heather Sandison:**

Yeah, one of the best technologies is an ancient technology, meditation-

**Dr. Nafysa Parpia:**

Right.

**Dr. Heather Sandison:**

Is something that we get, I get good benefits with whether we're talking about Marama residents or clinical patients that are children, meditation and mindfulness have a huge impact on the nervous system and on regulating that autonomic balance, that fight-flight-freeze balance with the rest, digest and heal, and as we can balance that and reduce hypervigilance, anxiety, we get better sleep, we get better outcomes with everything, so it's another piece of a comprehensive approach. Anxiety and depression, especially depression, come hand-in-hand with dementia, and so treating them simultaneously is really important, and certainly diet helps, exercise helps, and meditation is the best medicine.

**Dr. Nafysa Parpia:**

Absolutely. Thank you so much.



**Dr. Heather Sandison:**

You are so welcome, I'm so happy-

**Dr. Nafysa Parpia:**

I really enjoyed this interview.

**Dr. Heather Sandison:**

Thank you for having me.

**Dr. Nafysa Parpia:**

You know, before you go, is there anything else about Marama that you want to tell our listeners? If anybody wants to get in, how do they get in, where do they apply?

**Dr. Heather Sandison:**

Yeah, yeah, so Marama, it's maramaexperience.com and there is an application on the website, so we, of course, want to make sure it's a good fit. And we only have those 12 spots and we have, I think, three of them left right now, but people are coming and going and we do hope to be expanding in the near future, so I would love to hear from anyone who wants more information. We can also sometimes help guide them to places that are a little bit more similar, and please remember that any time, if you are in need of that kind of facility, a residential care facility for a senior, please ask, ask the questions.

Do you offer an organic diet? Do you offer a ketogenic diet? Do you have a non-toxic environment? What are the activities that you're doing to stimulate the brain and how often are you doing them? Those kinds of questions are going to be what really does shift the industry so that we can get really, really quality care to our seniors. We know this information, we don't need more research to tell us these things are good for our loved ones, we just need the facilities showing up and doing the right thing and creating environments that are healthy and good for our loved ones.



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**Dr. Nafysa Parpia:**

Well, thank you, Heather, so much.

**Dr. Heather Sandison:**

Thank you, Nafysa, for having me, it's always a pleasure to connect with you.

**Dr. Nafysa Parpia:**

That's a pleasure, take care.