Introduction to Toxic Exposure and Brain Health

What an incredible day today was. You heard from some of my teachers, some of the people I learned from. And I want to just put it all together a little bit more for you, and also share some examples of what we've seen in the clinic when it comes to toxic exposure and brain health.

So when we think about brain health, I love starting with toxins because it gives me the sense of relief and accomplishment where we can check the box and move on.

If we find that you have heavy metals or mycotoxins or chemical toxins. Well, we get the opportunity once we know, once we're aware that we can now find out what the exposure was, if it's still going on and if it's a lead pipes, or if it's mercury in your mouth, or if it's more than the house.

We can figure it out, do something about it, stop the exposure. And that's step one of environmental medicine, which is at the top of brain health foundations.

So then after we've figured it out, gotten rid of the exposure, we can help to bind these things, help support your liver. Help support every cell in your body to kick these toxins out so that it's not taking as much nutrients and as much energy from you to get rid of them.

And they're not making up the system. They're not. As Doctor Peterson says, if you think of your brain as my brain, Austin, as a country, you don't want to be defending yourself against toxins, taking out all that extra trash, creating more destruction.

What you want to do is be focused on building infrastructure on your roads and connections and new memories. And so what we want to do is check those boxes, get those toxins out, identify them, get them out, and then move on to healthier brain function.

So here we are when I talk about the foundations of health are the foundations of brain health, in particular toxicity and environmental medicine is at the top.

And I kind of joke all week like we could have started with this on day one because it's so foundational, but it also feels like diet is foundational and an exercise that's foundational.

Types of Toxins: Mycotoxins, Heavy Metals, and Chemicals

And hormones are foundational. They're just all part of this stack of things we want to do with the medicine protocol. So environmental medicine and how we treat toxicity, of course we want to stop the exposure.

If you think of yourself like a vessel, like a cup that's full of toxins, if we get to the top of the cup, then that you add just a little bit more, just a drop more and it's overflowing.

And the symptom my job is to reduce everything that toxic burden in the cup. And so how do we think about doing this when we want to. Certainly in terms of treatment we want to identify it and avoid it.

So that means that there won't be more coming into your cup and that will allow it to drain. So when we think about toxins, I think of them as three flavors micro that we can measure anyways.

There's mycotoxins which are usually from water damage, buildings, heavy metals. And this Doctor Schade talked about this a lot today on mycotoxins. Doctor Margaret Christiansen, doctor Neil Nathan, several other people, not Pat Hiatt the several other people talked about how important it is to identify and treat mycotoxins for cognitive function.

So you can go back to those talks if you if you want more information about mean, just kind of speaking at a big at a high level here. Mycotoxins come from water damage buildings or mold exposure.

They are not alive. They are what's made by the mold that is alive and potentially growing in the drywall. Heavy metals most commonly come from fish, from a fish like ahi tuna, swordfish, shark the big fish that eat other smaller fish.

It concentrates the mercury and toxins concentrated. They go up the food chain. But those small fish are okay, like anchovies, sardines, mackerel, herring.

And then of course, wild caught, salmon. And then heavy metals can also come from mercury amalgams in our mouth. Lead maybe from unleaded fuel. Early on in your life before the 70s when that was taken out of the paints.

And the fuels can come from old houses where, the just opening and closing doors that have paint on them can create a dust that has lead in it. And then also from old pipes, that leaded pipes, then chemical toxins are things like glyphosate, which is round up, a petrochemicals are, parabens, PCBs from personal care products, bleach, other other things that are found in cleaning products, those synthetic smells, those also can create toxins that irritate the brain.

And then, of course, we can eat and drink toxins right in our foods. And this is why we want to aim for mostly organic and also avoid alcohol. This is really hard on our on our organs and hard on our brain.

Anyone who's had a hangover knows how hard it is to think clearly when you're when your body is weighed down by that, by the sleep deprivation that sometimes comes with it because we don't get good sleep when we indulge in alcohol.

Also sugar. And then we also are toxic side. Right. So when it comes to supporting the liver, if we're putting more toxins in the liver is now having to take out yesterday's trash as well as today's because it's bogged down by these extra toxins that we're choosing to eat.

So of course we want to identify these toxins and then avoid them. Are among trees are the fancy word we use for organs of elimination. This includes our skin and lymph.

And you can see, a couple here that are enjoying the benefits of some detox. This is a sign of that. We use it more of it. That, helps it. I love it because you can keep your head out so you can tolerate higher temperatures, and you can sit in a comfy chair in there and get your sweat on, get that moving.

And then this here is a bio mat. It's covered by a sheet. But a lot of people will get sweating on that biomet because it gets nice and warm, but also so relaxing for the muscles.

That helps get the skin in, sweating so that you can get toxins out.

Detox Foundations: Liver, Binders, Lungs, and Elimination

Really important after you get sweating that you take a cool shower to get those toxins off of your body and also closes pores so that you're not re absorbing the toxins you just got out.

And how do we support the liver when we don't drink alcohol? We don't take extra medications that we don't need, especially Tylenol. So easy. If you don't need it.

Like don't be taking Tylenol PM to sleep at night because that's going to be hard on your liver. If you need a little bit of a pain reliever or an anti-inflammatory here and there, occasionally, you know it's something to consider.

But maybe talk to your doctor about weighing the pros and cons of taking a acetaminophen or, Tylenol with something like an Advil or ibuprofen. And then also to help support the liver, we can use some nutrients, which you

heard about today, nutrients that help support phase one, phase two detoxification, particularly phase two the liver detox requires a lot of nutrients.

We can also support the gallbladder through fast, slow choline through through our diet. There's lots of ways that we can do that. Tadka is another one.

And then we can support kidneys through great kidney herbs, drinking good clean spring water that has minerals in it, and then our bowels. We can support our bowels with the liver and bowels work together, the liver processes everything.

And then through the gallbladder it spits out that toxic sludge called bile into the bowels. And then we need a catcher's mitt to catch those toxins so that you can release them and get them, eliminate them with your stool and that catcher's mitt are binders, which again, we talked a lot about today.

So I hope you feel like an expert in binders. These are things like chlorella, charcoal, clay, even medications like cholesterol. I mean a well called can be helpful.

So we want to get that catcher's mitt on there. Just fiber. Psyllium. Chia seeds, that kind of thing. That, flax seeds, things that bulk up your stool so that you can be catching that bile and pooping it out, get rid of it forever so that it doesn't have the opportunity to be reabsorbed in your system.

And then the lungs. The lungs are often a ignored, type of, Sorry about that. There was a leaf blower right outside, so we want to think that is the lungs and how the lungs are often under utilized as a detox organ.

Every time we exhale, we're getting rid of toxins. This is why a breathalyzer works. When a police officer is trying to figure out if somebody's been drinking, driving.

Right. It's because we're getting rid of those toxins through our breath. The lungs are responsible for maintaining the pH balance of our body. Every time we exhale, we get rid of acidity and create more or the opposite, right?

We create more balance in the pH of our system. And so what we want to do is utilize that to our advantage. And there are lots and lots of online detox breathwork courses that can really help with this.

Just becoming more mindful of your breath. Or there's also a book by, James Nestor called breath, which is very enlightening about how important it is to breathe and to breathe in a really efficient, productive way.

Certainly helps with detox. So, we also want to consider a detox of the basics, things like our bowels. We want to have at least one bowel movement a day.

We want to use binders like clay, charcoal, Chlorella, clustering fibers, psyllium. I just talked about this a little bit, that you can find these easily online or definitely talk to a provider about getting the benefit of these liver.

Again our phase two support things like NSAIDs, cysteine, glutathione a B vitamins, all the B vitamins they love. They play well together. So if you're taking some extra B12 remember to take B one and two and nice and B3B5.

There's all folic acid is B9. All of those B vitamins. They really support each other in these biochemical processes that are happening not just in our liver but everywhere, everywhere else we need amino acids.

Those amino acids help like sustain that go to an iron and an AC. Choline that's in for fast or choline or the PC that's, abbreviated there. These amino acids are essential to good brain health because they're the backbones of our neurotransmitters.

They're also essential to good liver function. Kidneys. We need enough water. Usually, I recommend people, start with about half their body weight in ounces.

So if you weigh 150 pounds, you would aim for 75oz of water daily. This looks like about two to maybe 2.5l of water. And having a filter, having filtered spring or spring water, I prefer spring water, so you don't have to worry about what the filter isn't getting out, especially if you're in a place like we are in San Diego, where we're at the end of the river.

So all of the pesticides and herbicides and birth control pills and whatever people have flushed upstream into the groundwater now has to be filtered.

And what if that filter isn't good enough? Or what if somebody doesn't think that those toxins are a problem? Well, then you're drinking water with that in it.

So my preference, as long as it's available, is to go get that spring water that comes from the source before it's been contaminated, rather than trying to get the contaminants out.

And then we also don't want to contaminate our water with the bottle it's in. So we want to use stainless glass or ceramic vessels. To drink out of. So I like a stainless.

I love the Hydro Flask or a glass ceramic mug if you prefer that. Or just a glass, bottle. Maybe that's how you buy it. You want to eliminate and avoid plastic water bottles?

And then I love there's so many great kidney herbs could see them.

Supporting Detox with Water, Herbs, and Lymphatic Movement

And then the ones that are good for liver and kidneys, things like the thistles, milk thistle, are artichoke. They're dandelion. There's so many great herbs that help with detox.

Even licorice. So getting a detox tea or something like that to help to flush toxins out of your system can be very, very helpful. They also taste good.

In skin and lymph. There's so many things that you can do here. It can feel a little overwhelming, but even just choosing one to do regularly can really get your skin and lymph going.

This is where also, of course, exercise comes into play because exercise gets your lymphatics moving the lymphatics. It's a it's like your your blood vessels.

It's another system for getting a fluids around your body, but it doesn't have the heart to pump it. So we have to help the lymphatic pump by getting exercise.

So dry skin brushing is one thing that you can do other than exercise. Dry skin brushing. There's great videos online for how to do that. Or talk to a provider health coach about how to get the, instructions for doing that.

Look online. Sweating either through a sauna or through exercise gets that skin and lymph moving vibration plate is another way to do it. So when you're vibrating or on a rebounder when you're jumping, that can really help to get your lymphatics moving.

A machine is something where you lie on the ground and it shakes your ankles, and it shakes them in a way that again, gets your lymphatics moving. And it's very relaxing for the nervous system, a lymphatic massage, also relaxing for the nervous system.

Also fantastic for detox, contrast, hydrotherapy and then again, herbs. Things like fight Alaska. There's lots of great. We use the terrace as a homeopathic, lots of really great herbs to be moving skin and, moving, things to your lymphatics, particularly if you notice that your, your glands are kind of school in either under your armpits, under your neck, maybe in your groin.

If you notice, they have big lymph nodes, it's helpful to give them a little extra support. And then we talked about lungs and doing regular detox breathwork.

Lots of support online for that. Just kind of giving you the basics and the overview here. So I wanted to share with you a patient of mine who I supported, a while back, he had very, very high toxicity levels, and his Moca score was a 16 out of 30.

So you probably know by now that 30 is perfect on the guys and really normal was over 24 by the time you're at 16. This is so this is indicative of Alzheimer's dementia.

So we want to know why. And sure enough we saw this patient, start to improve in just three months as we were getting his toxins out. So you can see this was in September of 2020.

He had some of the highest levels of Okotoks and aflatoxin and glo toxin I had ever seen. This is kind of normal sometimes in there low. And this first follow up, we'll see it go up.

This was about four months in September, October, November. And this is about three months later. We checked again and, and we can see most of those ones that were really high.

Are coming down because we got him sweating and we got him on binders. We got him on liver support. We got him exercising more. He was doing lymphatic massage.

So we got these things moving. And sure enough they started coming down to where these the highest Okotoks and I think I had ever measured at this point was with this gentleman.

And then now we can see it's down into this equivocal or almost normal level. Same thing with the Glo toxin down to almost a normal level. And although the aflatoxin, I think he was still being exposed to in his house, although it had, it was still very high, it was coming down and his mocha was improving.

Now we did other things as well. And we were doing some hormonal support and some other pieces. Of course, we did a full Bredesen protocol, but this really stuck out to me as somebody who was struggling with some with dementia, probably because of toxicity.

This is another one of the same patients, his lab. So we see again, these are his his baseline mocha with 16 month. He was was 19. So just three months later when we repeated these this again was September.

And then this was January of 2021, September 2020, January 2021. Three months later, his glyphosate had gone from 5.7 again, one of the highest levels of life that I've seen.

Had come down. This is just from switching to or the organic diet. So he didn't use roundup in his yard or anything. He just wasn't paying attention to eating organic.

And when he did, it came out. And we see that improvement in his cognitive function. So when you think about creating a healing environment, right, because one of the easiest, hopefully easiest steps for you to avoid environmental toxins is to think about your environment.

Where do you spend your time and how can I make sure that I'm not being exposed to these things? So you want to think through and I teach this in the room at home.

Cause we think about this at Marama. When I talk to my patients, we want to talk through this. Our health coaches support people. And thinking through this, what we want to do is create a healing environment in the in the spaces where you spend time.

So think through your outdoor environment. Are you using things like roundup? Is there a nice space to be? Is there good water? Can you spend time outdoors?

Are you close to a freeway where all you're doing is is inhaling the petrochemicals, like the gasoline and the rubber that is coming from the tires? Or are you in a space where there's clean, fresh air and you can take advantage of that?

What is your living room like? Is it closed up and stuffy and are there there Glade plug ins? Get rid of that synthetic smell, those synthetic smells and make sure it's a comfy, cozy area with lots of natural light and fresh air.

What about your bedroom? Are there are you using toxic detergents and then sleeping in those sheets? Is there any mold in the bedroom, the bathroom, the laundry room?

Clinical Case: Cognitive Improvement as Toxic Burden Drops

And then sometimes it's like the, the closet and then the kitchen, of course, under the sinks. These can be rife with mold, so making sure you're not in a moldy environment, regardless of what room it is and just kind of taking stock, thinking through, okay, to what should I get some organic cotton sheets?

Is there natural lighting in my bedroom? Do I have am I allowing nature in to help calm my system? And am I making sure there aren't a lot of toxic toxins, especially in the kitchen and bathroom?

Kind of sick cleaning products? So are you using, you know, the typical cleaning products? Lots of bleaches, laundry room, of course, as well. Or are there good, detergents and soaps that you can use in personal care products that don't have all those toxins in there?

I really appreciate ewg.org, the environmental working Group, ewg.org, and they have an app that you can use on your phone that you can scan products, and they'll give you a rating so you can get the least toxic products.

I love bio clean. I love EO, the essential oil company for shampoos. That I love. Doctor Bronner's is another good one and we use a lot of those at Marana, so, you can hopefully that's helpful because I know it can be overwhelming when you go to make all of these decisions in the kitchen.

You also want to think about cookware. Is your cookware nontoxic or does it have you know, you don't want to be using the nonstick pans ever, ever, ever?

I know it makes it so much easier. I highly recommend using stainless or or just cast iron. That's what I use. And I just take steel wool and scrub out the cast iron that works really well.

Keep it seasoned. It's a little bit of a commitment, but I believe that it is the least toxic way to cook. And there are these debates around. Well, what about the ceramic? And what about this?

And I just don't know. And, you know, humans have been using cast iron for a long time. We know it's not harmful. As long as you don't have excess iron, you don't have like a hemochromatosis.

So talk to your provider for if you've ever heard that word, I think that might be an issue for you. Then that might be an exception. Stainless I know it takes a little bit more to to clean it, but I do think it's worth it because you don't want to be eating.

The lining of those pans are very, very especially that nonstick. It's like the stuff on those ones. Teflon. Those are really, really bad for you. And then in the bathroom, cleaning products, personal care products, linens like your towels.

Organic cotton is what we recommend, again, that, you know, the essential oils brand, Doctor Bronner's and then bio cleaners, another product I really like with cleaning products.

Also vinegar, lemon baking soda, alcohol for disinfecting those things. Don't hydrogen peroxide. Don't forget about those. Those are tried and true. Our grandmothers use them.

And those they work. They work well. And then in the laundry room, one thing I always point out is you don't want to use a front loading washing machine because they tend to harbor mold.

That gasket in the front can have mold in there, and then that can be getting into your clothing. And then now, you're exposed to the mold and with each, each shirt you put on.

And so you want to keep that, it really clean in the laundry room. And I just recommend the, the, the workhorses of laundry, of washing machines, that's, at the top loading with the agitator in it.

And just like, no fancy computers and dials the basics, just the basics. Get those clothes clean and then no dryer sheets. You do not need those. There are these wool balls that can be helpful.

There are other things that you can use, but try to stay away, especially from the smells.

Creating a Healing Environment at Home

I have so many patients who, as they live in, either a high density neighborhood or a condo complex or something like that, they have to leave the house on the weekends because they say they can smell everyone's dryer sheets, and it causes so much irritation.

It's so neurotoxic. It causes their brains. They become anxious, irritable, irritable, depressed. They can feel the effects of those synthetic smells.

And things like dryer sheets. So if they are the canaries in the coal mine, it's affecting all of us. We want to avoid that as much as possible, not because we have those symptoms, not because we're that sensitive, but because it's affecting us at some level.

And we want to reduce everything in that cup so that we're not on the edge of creating symptoms. So other environmental considerations, right. We talk through a little bit of this.

Most of this, we want it to be nontoxic. We want to incorporate nature. We want to incorporate natural light as much as possible uncluttered. So decluttering when we look at a countertop, when we see when there's cabinets open and things all over the place and stacks of books and piles of things that need to be returned, when we have all of that going on, our brain feels the overwhelm of it, even if you almost don't even see it anymore.

And when all that clutter is there, it just adds to the burden, of stress in our system. And so put it away. Throw it away, take it back, check those boxes, and get the clutter gone.

Because it's so it's really hard on our nervous system, our brains, like HiRISE and say like simple things to look at. So get rid of the excess sound.

When we think of all of our senses being exposed to potentially the toxins right through our nose, do we smell them? But we can have toxic sounds. I tell the story of walking into Marana when before it was ours, and when I walked in there, there was.

There's a community room that had three TVs on. One was a sports show with like, the whistle blaring. Another one was like an infomercial with somebody screaming that they wanted to sell us something.

And the other was the news talking about something depressing and like the urgency of of some situation somewhere. And it was a my brain didn't work, let alone someone with dementia.

And of course, because it was, senior living facility, the volume was way turned up because people are hard of hearing. So I had to ask the woman I was there to talk to you.

I was like, can we go outside or in a different room? Because I couldn't think straight with all of those different

sounds and noises. It was so distracting.

And as we age, that can become more and more so it can be harder and harder to hear and engage in meaningful conversation. So we want to make sure that they're only quiet, soothing sounds.

If you do want some white noise, if you're trying to drown out some noise from outside of sirens or freeway or whatever it is, you could consider soothing sounds from nature the wind through the trees, the sound of the waves.

Something like that, a trickling brook. Those sorts of sounds are very calming to the nervous system and will help your loved one. Or you, to keep that nervous system balanced.

And then is it comfortable? Right? If it's your ears sticking to the chairs or if it if it's very uncomfortable to sit down or hard to get in and out of the furniture if there's things to trip over, all over the place is is it conducive to healing?

So thinking through that natural environment, natural sense, again, if there's the lane plugins or dryer sheets, all those unnatural scents we want to get rid of those.

Detox your house of those. And if anything, you know I am aroma. We try to say like the only smell is coming from the kitchen. That's the only style we want to smell. Or.

And then sometimes, occasionally we'll use a diffuser with lavender, something calming, some citrus or bergamot. And we we want to be mindful though, and careful that those aren't triggering for whoever we're caring for whoever's around there because not everyone is to the baby.

So it's not like lavender. So make sure that even if you get benefit from that smell, that other people, sharing that space with you do as well. Again, reducing the distractions.

When someone we talk about having complex conversations with people who are suffering with dementia, if the dogs running in the house and there's a baby screaming down the hall, then, you know, many of us lose track of our our thoughts.

And we have to mention that happens more and it takes more effort to stay focused and concentrate. And if you're trying to do decision making and keep in mind this person wants and desires and have conversations with them about what?

About having somebody come in to help take care of you. Would you like to play this game? I want you to be engaged in this game. What about moving like there's this consideration that you might go to a care home.

And we think about having those types of conversations. Should we get a new doctor? These are big decisions. And you want that person weighing in. And if there's a bunch of distractions it's going to be so much harder, so much more frustrating for both of you.

So just keeping those distractions to a minimum, even the day to day, right? If it's not a great big conversation, if it's just like, hey, I want to play Bananagrams or Uno with you, or Scrabble or Bridge, whatever it is, I want to play this game with you, and it requires a little bit of mental focus and attention for that person who's struggling with dementia.

Well, you better be sure there isn't a dog running underfoot and barking and there aren't people coming to the door, and there's not this and that and all of these other things going on that are going to take them away.

Now. They're not getting the benefit of connecting with you or connecting with their dear, their loved ones. And enjoy the game. Right? Because they're so distracted.

So something to keep in mind. Air quality. Indoor air quality is usually less there and quality compared to outside, right? So indoor air quality is often quite poor.

And this is because things are off gassing. It's closed. But the solution to pollution is dilution. This I think, comes from Walter Kenyon, one of my teachers around environmental medicine.

The solution to pollution is dilution. So if possible, we want to open doors and windows. We want to drink that water, dilute the toxins in our body. We want to get as much fresh air in as possible.

And if that's not an option, for whatever reason, if you open the doors and windows and out's too loud, now you have noise pollution. Well then get an air filter and have those running 24 hours a day, seven days a week.

I am a fan of the DC multi by IQ air. I do not get paid to say that there's no affiliate program over there. GCC multi buy IQ, air, they're out of Southern California and they do a fantastic job making really great air filters that will get even mycotoxins out.

They last a long time. They work great. That's what we have over at aroma as well. So I hope that this has sparked some, you know, some interest in you and that you will make a couple of changes today, that there's some value here.

You've seen what was happen, what was possible for our patient less and just three months. His cognitive function was turning around. The big part of that was because of his environment and the toxins he was exposed to.

When we got rid of them, started him on detox support. He got better. And so I hope many of you can do the same. Thank you so much for joining me today.

It's been an absolute pleasure. I know it's a whirlwind day. You've gotten so much out of it, and we are looking forward to seeing you tomorrow.