Introduction to Detox and Cellular Health

A lot of times the issue is not what's coming in. It's, you know, is your body able to properly utilize, absorb, transport, etc., these nutrients? There's a lot of factors that determine that.

Sometimes you've got bugs and things that are, you know, stealing the nutrients. Sometimes you've got, you know, cellular inflammation preventing the uptake.

I think, you know, cell membrane integrity is huge. So when you have low cellular voltage or low cell membrane health, then your cells are basically on lockdown.

They're not letting toxicity out and they're not letting nutrients in because they're in this lockdown state. So by raising cellular voltage, you're allowing the nutrients in, you're allowing the toxicity out.

Then, of course, the question is, how do you raise cellular voltage? You want to, you know, that could be anything. You know, there's specific devices and technologies, but then, you know, really it's removing the things that are draining you on a daily basis so your cells will naturally start raising their voltage and opening up.

Welcome back to the Think Well, Age Well podcast. I am your host, Dr. Heather Sandison, and I'm delighted today to be diving into a topic that comes up so frequently in conversations around brain health, chronic illness, and aging well, but not in the conventional world.

This really is pretty specific to our naturopathic integrative functional medicine world that we're talking a lot about detox and toxins, especially in the environment.

Modern life is exposing us to a staggering number of chemicals, heavy metals, and other environmental pollutants. From the air we breathe to, of course, the food that we eat.

And a lot of people are now discussing and wondering how are these exposures affecting long-term health, particularly brain health, And what can we realistically do about it without feeling overwhelmed in the process?

My guest today, Jeff Hoyt, has spent years exploring and understanding the detoxification strategies and tools we can use that are aimed at helping the body remove toxic elements more effectively.

Jeff is the founder of Zeolite Labs where his work focuses on the use of zeolite. This is a naturally occurring mineral known for its unique binding properties and I use zeolite in my clinical practice all the time.

This is a tool for supporting detoxification and Jeff's work really centers on questions around why do toxins accumulate in the body? And how do we enhance the natural detoxification processes?

And how might certain compounds especially help support that process? So we're going to dive into the science, the controversies, and the practical considerations around using zeolite as a detox tool.

Jeff, thanks so much for joining us. Welcome to the show. Absolutely, Dr. Heather. I'm really looking forward to it. Thanks for having me on. So I think I want to start this conversation just pointing to the elephant in the room around the feeling of overwhelm by this idea that we're surrounded by toxins.

From your perspective, I want to understand how did we reach this point, but how do we navigate this feeling of either throwing our hands up and being like, well, we can't do anything about it, and being proactive, kind of understanding that it's there without the overwhelm piece.

How do you navigate that with people? Yeah, no, great question, because it can definitely be overwhelming because just all the information, we're in the information age as well with all this stuff, you know, that mercury does this to you and aluminum does this to you and, you know, glyphosate does this and it's like, it's kind of scary.

But the thing to consider is, you know, we do have an element of control, some things we cannot control, like some of the external sources of toxicity, but we should be focusing, or in my opinion, you know, it's best to focus on what we can control.

And so the two things with toxicity, one, it's yes, we have this external source, right? What's coming in at us. But when it becomes problematic is when the external source is greater than what our body is able to handle and process and excrete.

Common Sources of Toxic Exposure

So we can work on getting healthier in a number of different ways so our body is in a better position to handle the external source of toxicity. And then we can also take different, we can utilize strategies to remove some of the things that have potentially stored in our bodies So there's basically more room to receive some of the other stuff coming in.

But yes, I mean, of course, avoidance is going to be important, but it's not something we should be obsessing over because then we get the emotional mental stressors.

And, you know, we, sometimes the stress of the tox, you know, being exposed to a toxin could be even greater than the actual toxin itself, right? The toxic effect of the toxin.

So we want to, you know, just understand that, yes, there's external sources of toxicity, but there are things that we can do about it. And we do have some level of control over our health.

Yeah, when it comes to reducing exposure, because I do think that's important, right? An awareness around exposure, we can stop those exposures, not all of them.

But working in this space, what are some of the most common sources of toxic exposure that most people don't think about? Yeah, so I think what people do think about, or at least what I think about, is food, water, air.

So just everywhere, right? What's coming in. I think one of the big ones is actually, you can count this in the air, is the electromagnetic toxicity. So like EMFs, right?

So I personally don't use Wi-Fi, so everything's hardwired. And then you have these signals coming from cell phone towers, from all these different sources.

I think that's an underlooked aspect, which is kind of becoming a little bit more considered at this point. But it's not necessarily that those fields accumulate in the body, but they're kind of stressing out the body and preventing the body from effectively detoxing some of the other sources of, you know, the environmental toxicants and manmade things and heavy metals, etc.

In terms of physical elements, I think the most overlooked aspect is actually the internally produced toxins and the recycled toxins from within the body.

Because we're so focused on what is coming in from outside that we don't recognize that most of the toxicity that we're exposed to on a daily basis is actually coming from our own bodies, right?

Because our bodies are, I mean, just by design, we're naturally producing waste products that are very toxic. And if our bodies are not in the health, as healthy of a state as they're going to be at some point, then we're not able to clear these things as a healthier person would be able to.

So, for example, you have like ammonia, which is just a metabolic waste product. It can build up. It can go to the bloodstream. It can go to the brain.

It can be very toxic. So there's metabolic waste products. There's microbial waste products. So these are kind of regenerative toxins that are new every day.

So if we have microbial imbalance, which could be caused from heavy metals or other issues as well. But if we have these microbial imbalances, then they produce waste products, which include ammonia and other things.

And now you're just adding to this, you know, regenerative daily dose toxic burden. And then on top of that, we have recycled toxicity. So let's say, cause a lot of people say, well, I'm eating all organic.

I'm in this very clean lifestyle. I'm doing everything right. But I'm still, I still have these signs of toxicity and it might not be about what you're doing right now.

It might be about what happened, you know, 10 years ago or 15 years ago. And this is just a process and it takes time to get stuff out of your body. So for example, let's say you have, you know, accumulated mercury that is in your liver.

And maybe this was from an exposure from, you know, amalgam fillings in your mouth from 10 years ago. Even if they've been removed, you still have a residual mercury and some of the other compounds in your liver.

Now, as your liver produces bile for, you know, fat absorption and whatever else it does, the, the liver carries toxicity. The bile carries toxicity from the liver into the small intestine.

And the body is designed to recycle bile, right? So up to 95%. So let's say you have mercury in your liver. Now you release bile for fat absorption after a meal.

That bile contains some mercury that comes into your small intestine. It basically poisons you in the small intestine. That recirculates, right? Enterohepatic, so gut, liver recirculation.

And now you've recycled that mercury. So sometimes, you know, some people will go on a sauna or they'll do something to stimulate bioflow. Maybe it's eating a fatty meal and then they feel absolutely awful.

And one of the potential reasons is because the liver is toxic from previously stored toxic elements and that toxicity is being released in the bile. And then it's like, you had this toxicity that was kind of inactive and then you've activated it.

Right. So now it's in the body's processing center. It's being attacked potentially by the immune system. That's causing an inflammatory response, except now you feel terrible.

And then the problem is if you don't get most of that out, it just goes back to the liver and the process repeats, repeats and repeats. So we've got recycled toxicity.

We've got metabolic waste product toxicity. We've got microbial waste. These are all sources of toxicity that are coming from within our own bodies. And then we look at the external sources.

So that all makes up our daily dose of toxins. What kind of what we're exposed to on a daily basis. Yeah, I'm so glad you bring up this metabolic waste.

It's like, it's normal to have toxins in the body. In fact, that's why we have five organs that deal with getting them out, right? That there's this very natural, normal process for creating.

Every cell metabolizes, so has that waste product that you're describing, and our body naturally gets rid of it, unless it doesn't, right? And that's the problem, and that's when we start to recycle.

So I want to switch gears. I mean, we could talk. This is one of my favorite topics of conversation, right? We have our among juries is what we call them in naturopathic medicine or five organs of elimination.

You know, what you described that enterohepatic recirculation. This is the reason it's so important to have a bowel movement every day. This is the reason.

It's so important to sweat every day, to move these toxins out of our body, not just to mobilize them, but to actually eliminate them.

What Zeolite Is and How It Works

So we could talk about that, I'm sure, for days. And I want our listeners, who are not familiar, to understand what exactly zeolite is. And where in this process, you know, we've talked about like the cellular process, the bowels, the bile, the bile is that toxic sledge that the liver makes that goes into the gallbladder and then gets spit into the bowels to be eliminated.

So there's a process. process, detoxification, you know, it starts in the cells, there's toxic buildup, or maybe it starts in the gut when we consume it or on the skin when it comes in or when we inhale it into the lungs.

But where on this, where in the body does zeolite act? What is it? Yeah, absolutely. And I think the first thing too, that I always like to clarify, which you basically just mentioned is it's, you know, the body is a detox machine, right?

That's, I think a lot of people, or maybe some people are pushing. It's not about the supplement. You can't rely fully on any supplement to do all the work for you.

It's about getting healthy enough so your body can naturally function. at a higher level, right? The healthier you are, the less detox support you need because your body's working better.

Maybe the more, you know, the sicker you are, the more support you need at this time in your life because you need additional support to excrete these things from your body.

But like you mentioned, there's the foundational. So there's a bunch of approaches to detox. And it's not that one is better than the other. It's about finding one that works for you at this time in your life.

And zeolite is a little bit of a different approach because it's a binder. So zeolite is a negatively charged natural mineral. and it binds to the positively charged toxic elements in your gut.

So it's a GI binder. So essentially, that's beneficial because a lot of the other methods of detox are designed to stimulate the release of heavy metals or toxicants from organs or from the liver or wherever they're stored, taking them from kind of storage where they're not active.

And when they're not active, they're not causing as many short term problems because they're hidden from kind of the cleanup crew of the body. They're causing less inflammation, less short term issues, but more long term issues.

I put the body's really more focused on short term survival over long term. So that's why the body may prefer to actually keep mercury, which is highly neurotoxic in the brain.

opposed to having it trying to detox it, where then the immune system's tacking it, it's causing inflammatory reactions and all sorts of issues. So that's where some people, you know, get these metals accumulated in organs and they just stay there because their body is not willing to let go because it would be too stressful on the way out, essentially.

There's approaches that kind of mobilize these things from tissue. And then there's things that are like bind. So zeolite is in the classification of a binder.

We've got charcoal, we've got clays, we've got pectins. There's a lot of great binders out there. Zeolite is in that classification. It stays in the GI tract.

It binds to heavy metals and binds to environmental toxins like glyphosate. BPA, it binds to mycotoxins, it's even been shown to bind to radioactive materials, it was used in Chernobyl and nuclear events actually to clean the water supply of nuclear waste.

So it's been shown to bind to those, it binds to the metabolic waste products, ammonia, it binds to urea, it binds to a lot of different things. So it's kind of a broad spectrum binder and it's working in the GI tract and what sets it apart from a lot of other binders is kind of its selectability, if that's even a word.

Like, we call it the binding affinity. Is that what you mean? Like, I know for different mycotoxins, we use different binders, and zeolite is one that we use for, I use it for, so for okotoxin, we use colesteramine, works really well, a resin, but like for gliotoxin, we use…

saccharomyces boulardii, which is a yeast. And for the others, zeolite works really well. So like for trichotocines, xerulonones, aflatoxins, we notice that zeolite works particularly well.

So is that what you mean is like that binding affinity that there's specificity to what it attaches to in the bowel? It's it's what I was trying to say is it's more about what it doesn't attach to.

Oh, interesting. Okay, so say more about that. I hadn't On the specificity aspect, I think the advantage of zeolite is that it's so broad spectrum. It's not that it's really focused specifically on one thing.

It binds to a lot of things. So it can be used in combination with these other more specific binders. But then one of the benefits is that it's not going to be binding to the essential nutrients and causing the depletion like a lot of the other things may, especially if used long-term.

So it's kind of considered a smart binder or a selective binder, opposed to the more traditional binders. Because like when you have things like charcoal and a lot of these clays, they're indiscriminate and they're kind of binding.

They just kind of go and they mop up the mess, which the net effect is generally positive because when there's toxicity, you want to grab it. But taking those things for an extended period of time, especially at higher doses, could potentially start stripping some essential nutrients.

There's some other issues associated with it, maybe constipation, et cetera. where the zeolite generally doesn't have those issues. And one is because it works by the swap mechanism.

So it's a cage. So like most of these things just adsorb toxic elements to the surface, where zeolite can do that as well. But it has this cage structure, kind of like a honeycomb, and it traps things inside, which makes it a more secure detox.

But how it traps them is by a swap mechanism. So the zeolite cage has potassium and that sodium, calcium, magnesium, these electrolytes, And when it comes across a heavier element, like a heavy metal, then it trades the electrolyte that it has in its cage for this heavier element.

So it's more of a swap. So if it comes across an amino acid or a vitamin or something essential, it leaves it alone because it already has the thing it has a stronger affinity towards.

So that's what makes it a selective binder. So it's a broad spectrum, but yeah, it's smart in that sense. So would people expect to like, is this also an electrolyte if you have some heavy metals or is that pretty negligible in terms of the amount of potassium and sodium that you might be getting?

If you've ever felt like your body is carrying a little too much of today's toxic load, this sponsor is worth knowing about. ZeoCharge is a supercharged zeolite powder that acts as a smart binder, meaning it helps bind and remove

unwanted toxins like heavy metals, mycotoxins, and metabolic waste without stripping away essential nutrients that your body actually needs.

Zeolite is a naturally occurring mineral with a unique page-like structure and negative charge that attracts positively charged toxins from food, water, air, and even internally produced waste.

The goal is simple, help to calm the storm in an overworked system by reducing the toxic burden. Yeah, it's going to be a lower dose. I mean, if you're taking a lot.

I mean I personally take like 60 grams a day of a powder, my powder, so I mean that's and I'm not recommending anyone do that but I've been doing that for 15 months and before that I was doing 30 grams a day but not necessary it's kind of overkill but that's just what I do but it's you know at that point it probably is a little bit of an electrolyte supplement but still I mean it's kind of a trace trace amounts it's and you never know how much of the actual electrolytes are going to be swapped out because it depends on how much toxicity is encountered.

A lot of it will just pass through the system still intact if it doesn't. So it's not like you can't calculate the amount of potassium or anything you're getting from it.

So it is trace amounts, but it is nice because when you do bind to a toxic element, you're basically trading an essential nutrient and it's going to the binding site of the toxic element.

And you're certainly not being exposed to something negative, right? Like what you're getting through that process is a little potassium or a little sodium or a little mineral.

So you described this honeycomb structure, like a cage-like structure. And you also often emphasize the particle size. Can you speak to that, like the size of these and how important that is and how that matters biologically?

Yes, so and so one of the main advantages of zeolites over some of the other binders is just the ability to micronize it. And that's the micronizing is reducing particle size, the ability to micronize it to the levels where the surface area is greatly enhanced.

So basically, think of surface area as binding capacity. And when you have a lower surface area, or you have higher surface area, you have more binding capacity.

So there's way more binding capacity with properly micronized zeolites, generally then there are going to be with the clays and the charcoals. So there's just going to be a lot, there's just more binding capacity.

So you need less of it to get the same effect, essentially. Plus there's different properties. So zeolite is this big mineral, like it looks like a big rock when it's mined from the earth.

And that's the other thing. We're talking about naturally occurring zeolite here. There are synthetic forms of zeolite. Zeolite is a class of mineral.

So it's not just zeolite. What we're talking about, what I'm talking about is clinoptilolite zeolite. So the clinoptilolite is the form of zeolite. Where does it come from?

Where is it mined? It's mine. There's, there's mines all over the world. And there's different sources of zeolite. They have different percentage of cleanup to let some are mixed with other forms that are not good.

There's toxic forms of zeolite. So there's zeolite is just a mineral. There's a bunch of naturally occurring types. And because it has such unique properties, they've synthesized it as well and used it for all sorts of purposes.

But those I do not recommend because they. It's basically, those are synthetic chelators and they act differently. They don't have the same properties, but clenoptilolite is the form of zeolite that's been studied for human consumption.

That's the one that's been shown to be safe. So that's what we use. And we've got, you know, that's the one that's in most of the supplements. So you have this, you know, big mineral you start with, and then it goes through a bunch of different manufacturing processes.

Hopefully depending on the depending on the company but starts as this big rock and then you have to reduce the particle size. So that's the micronization and a lot of the the finer the powder generally the more surface area and the more binding capacity there is but you don't want to reduce the particle size too much because then potentially you start destroying the cage.

So we want to keep these cages intact. So that's where it can be a little bit tricky. So the way I look at it is if you have a powder and it's really gritty and it's grainy, it's probably too large of a particle size.

All right. You heard it from Jeff here first. Size does matter. Yes. So detox strategies. I think understanding zeolite, like where does this fit into like an overarching detox strategy?

Zeolite Particle Size and Binding Capacity

Yeah, so it can be used in a number of ways. So it's just, you know, it's a tool and the tool toolkit of a functional practitioner or, you know, well informed individual dedicated to, you know, improving their health.

So it can be used in combination with whatever they're doing. I like to consider it kind of a foundation. In general, I think binders are just very important.

And it's really about finding binders that are working best for you and your specific needs. And, you know, if you're, if you're on a binder and you're just getting incredible results, probably continue on that binder type of thing.

Especially if you're doing testing and you're seeing improvement in biomarkers. The thing is a lot of people are not able to tolerate binders, are not able to take them long-term because of some of the negative issues associated, such as nutrient depletion, constipation, and just not being able to tolerate them for one reason or the other.

So that's where a lot of times zeolite stands out because people can take it longer term and a lot of people need to take it longer term as they're on these detox protocols and healing protocols.

And also it can be taken at higher doses. And we can talk about that in a bit, the dosing paradox, but I think a lot of people need much higher doses of binders than they're able to tolerate.

And they're not able to tolerate the therapeutic dose of a lot of binders, but they can with this. I do want to come back to people who are like too sick to detox, which would mean starting, you know, starting low and going slow.

But let's first go to say like a typical kind of toxic person. They know they've had some mold exposure, some mycotoxin exposure. Maybe they have a little bit of heavy metal exposure.

They've been eating tuna or something, and maybe they've got some chemical toxicity, some glyphosate, some BPA, some triclosan, something. You know, they've got a shmattering of the very typical, pretty common toxins out there.

What do you think about dosing binders? Yeah, so I think the binding is a different approach to detox than the other methods because the point of a binder is to reduce the stress load on the body, right?

Most detoxes like the homeopathic remedies, chelation, even bitter herbs, all these things which I'm not saying are bad, they automatically add stress to the system short term because they're taking deactive toxins or inactive toxins and they're putting them into the body's processing center.

Now they're kind of active and they're being processed and that, you know, if it overflows your cup, your stress threshold, you could get symptoms where binders are designed to remove toxicity from the cup, opposed to, you

know, going in and ripping something out of a tissue or stimulating the release.

So different approaches. So I think they can be, you know, it works really well in combination sometimes, but For someone that, if you just ate tuna or something, it might be a good idea to take a binder with the meal to try to bind to some of that mercury and some of the toxicity in the fish and in the food, right?

So you can be used like that. It's going to bind to whatever toxicity is currently in your GI tract. So if you are just exposed to something, so like I tell people, they say, when do you take it?

We'll take it when you're most symptomatic or when you think there's the most toxicity. So if you're symptomatic after a meal, and maybe that's a sign of, you know, toxic bile, then take it 30 to 60 minutes after a meal to try to bind some of that toxicity in the bile so it doesn't recirculate.

If you're most symptomatic first thing in the morning, maybe take it first thing in the morning, right? So I think it just depends, but it can be, yeah, it can be used in combination with other things kind of as a push-catch method.

or can be used as a standalone, which I kind of call catch and release. So you can, if you're doing another detox protocol, let's say you're taking bitter herbs, and you're maybe doing that three times a day, take the zeolite after, you know, 30 minutes after because you're pushing stuff out.

That's kind of like Chris Shade, right? Chris Shade's approach, like push-catch, you push toxicity out of the liver, then you catch it with the binder to mitigate the stress.

I think for sensitive individuals what might be better is to reverse that and do catch push. So you catch toxicity with the binder first and then you take the push agent because sometimes when you do the push agent first it kind of tips you over on the stress threshold and then you start getting the immune reaction and you know more histamine response and etc and if you're a sensitive individual you might not be able to tolerate that approach so you can reverse it and if you're really sensitive I think just starting with the catch might be even more effective where you're just binding you're reducing the toxic stress load and then your body will start naturally releasing toxic elements As it wants to, so it's really encouraging the body to detox.

It's not forcing detox. It's working with the body's natural processes and the healthier you become, the faster your natural detox process. So when you become sick, your body slows down bioproduction.

It slows down lymph flow. You stop sweating. Sometimes you get constipated, right? Your body actually stops detox. It doesn't stop. It slows down detox to protect you because it doesn't want as much circulating toxicity because it's causing those strong immune responses and inflammation.

As you get healthier, and you're able to tolerate more circulating toxicity, the body will naturally increase the methods of elimination, because then your body can handle more.

So it doesn't have to store as much in tissue. So just by taking an effective binder, I kind of call it a detox accelerant, because it binds and then your body has more energy to start detoxing on its own.

Yeah.

Detox Strategies and Binder Dosing

So clinically, the way that I tend to explain this to patients is with that catch, think of a baseball in a catcher's mitt, right? And that's the binder.

The binder is the catcher's mitt. And what's happening is you're avoiding what you describe as enterohepatic recirculation, right? If in the bowel you've got toxicity, what we want is for that toxicity to be eliminated during a bowel movement.

And if it's not because of constipation, so you go more than 24 hours about a bowel movement, then that enterohepatic recirculation happens. And the bowel's job is to absorb.

So those toxins, you know, nutrients and toxins, the toxins that your liver has already processed, put into bio, put into the, they're now getting reabsorbed, taken back to the liver.

And now the liver has to take out yesterday's trash in addition to today's trash. And so I think what you're describing here is that what ZLA is doing is it's that catcher's mitt that makes sure that the trash gets out to the curb, right?

It doesn't sit there and accumulate in the body. And when we think there's also this, and you know, jump in here, Jeff, if I'm like getting this wrong, or if you have a different analogy that works well when you explain this, but the other concept to be aware of is the gradient, right?

So as we get rid of toxicity in the bowel, well now the liver can release more toxins into the bowel because there's not as much in there. And now that the liver can release some into the bowel, well now there's less in the liver and it can come down the gradient from the bloodstream.

And now that the bloodstream can… pass all those toxins off to the liver, well, now the cells can start moving more toxins out of the cell into the bloodstream, right?

And so using, as you mentioned, I was almost about to mention Chris Shade in this, he's the one who kind of came up with this push-catch. I like your catch and release as well, but so pushing toxins out of the cell is, we also call it mobilizing.

So you're gonna temporarily increase, well, hopefully temporarily, right? For people who I think are too sick, my patients included who are, either have mast cell activation, they're very, very sensitive.

If you add like a glutathione or anything that's going to actively push toxins out of the cell, you're going to increase circulating toxicity and symptoms with that.

Whether it's brain fog or histamine reactions and itchy skin or fatigue, achiness, all of these symptoms can go up before they get better. But when you have a gentle catch and release where you're just pulling things down the gradient, the body tends to be able to catch up and do better.

And you mentioned like as you get healthier, I think a big part of getting healthier is reducing the toxic burden, right? Just getting those toxins down.

But I love that catch and release, right? You're catching it with that glove is how I imagine it. You're catching it with that glove, and then you are getting it out of the system.

So, binders help with getting toxins out of the bowel. Can you talk about the role of the liver, the kidneys, the skin and lymph, the lungs, when we're thinking about a general detox strategy?

Yeah, absolutely. So it's, I mean, everything's working together because those are the body's, you know, ways to get toxicity out naturally. And then I think the key to an effective detox is to get all of those systems working better.

And then the key is, okay, how do you do that? Right. Me personally, I'm kind of a simple guy. I try to keep things as simple as possible, the least amount of supplements, et cetera.

So I personally don't target specific like, okay, we're going to do, you know, kidney support liver, like directly target each thing and you know, phase one, detox phase two, lymph drain.

I don't do all that. I think just unclogging the machinery kind of a step one, and then the body has more energy and then it can use that energy for whatever it wants.

Because you've got a certain amount of energy that's used for everything. And let's say 20% of that is going to detox. We'll call that detox energy. And if you're not as healthy, maybe you're using 95% of your energy on microbial waste or something else, you have 5% on detox energy.

If you can bind to some of this other stuff that's clogging up and taking up space, taking up energy, Now you go back up to 20% you're detoxing four times faster on your own.

You haven't specifically worked on any specific pathway. It's just that you have more energy in your body uses that energy to do what it wants to. So kind of what I learned a lot about detox during our case studies program.

Because we prior to launch of zeolite labs, we did a case studies program just to, you know, make sure zeolite actually worked, make sure it was safe, make sure it worked, etc.

And one of the main tests we used was the illegal scan, which is a tissue level or have a mental tissue level, heavy metal analysis. So it looks at the level of heavy metals in the tissue of your hand and So we were able to show that our zeolite was actually able to reduce all of the 15 metals tested for from the tissue level and in theory from the organ level because as the levels rise on this tissue test, that means they're coming out of somewhere else.

They're coming into the tissue and then they drop and then they kind of cycle back and forth and it's kind of a cyclical pattern. With all these tests, the levels never just go straight up or down the cycle.

But what we found is just by binding in the GI tract, it was encouraging the body to start letting go of heavy metals from tissue. And it was very interesting because the body did so in the way that it wanted to.

So the body would group certain metals together. So out of the 15 metals, sometimes you'd have, so essentially the way I look at it, when the levels go up on this test, they're coming out of organs into tissue, general tissue.

So my three levels of detox really quickly. Level one is active toxicity processing center, which is GI tract and gut or GI tract and bloodstream. Level two is general tissue, which is going to be just general tissue throughout the body.

Level three is going to be deep storage. That's going to be like more organs and deeper level stuff. So I think when the level goes up on this test, the metals are coming from organs, level three to level two.

And then when they go down on the test, that's when they're going from level two, general tissue, into the body's processing center. And then there's a cyclical effect.

So the level will go up, down, up, down, up, down, and the body will group metals together. So sometimes you'll have aluminum, gadolinium, mercury, and lead going up.

while the other 11 metals go down, and then you test a month later, the other 11 metals went up, and gadolinium, lead, mercury, and aluminum went down, and then they cycle.

I'm sure that's confusing for patients to see. Yeah, I mean, it takes a lot of explanation, but I treat the test, I do every 30 days of testing, so it's basically like a challenge test, but the levels don't move very quickly on tissue, so you can't do it like after a day.

So, you know, you do a baseline test, you take the zeolite for 30 days, you retest, the metals used to go up indicating you're dumping metals from tissue.

Then the next test, the levels come down. And what's super interesting, it just shows you the innate intelligence of the body is when the levels drop, they usually drop to the exact same level they started, like sometimes to the fifth or sixth, you know, decimal point of specificity on this test.

So it shows you that there's kind of this threshold of what your body wants to deal with in tissue. And then your body starts dumping stuff. It becomes stressful.

Then the body says, okay, let's slow it down. Now let's excrete it. And then it repeats and it repeats. So that's where detox is up to the body. Ultimately not up to a supplement, because even if you take the strongest synthetic healer during the world and it goes into an organ, if your cell, if your body does not want to let go of that metal, it's not going to let go.

right, because the body is doing what it's doing to protect you short term. So that's where some of sometimes fighting against the body with certain detox methods can backfire if the body doesn't want to detox and some people I think they think they're detoxing but maybe they're not detoxing, especially the deep level stuff because deep like binding in the guts easy detoxing the liver is easier because you can you can always push more bile as long as you're you know getting it out and effectively you know removing it but then the level two detox with general tissue is not that difficult.

But when it comes to level three, like deeply stored mercury in the brain and things, it's a little trickier because the body has to want to let it go.

And in order for it to want to let it go, generally you have to reduce the toxic level of level two and one to make room, kind of that downstream effect.

Otherwise this mercury just gets stuck there. So a lot of people we tested in the case studies as well, a few people had had their mercury and Malcolm fillings out for 20 years and they still had super high levels of mercury and silver.

And the tissue level and they're like, well, you know, I had these things out. I've been doing all these detox protocols. It detoxes a little bit. I think it's simpler than people think, but also it's a little bit more challenging because I think a lot of times it's up to, the moral of this is it's up to the body.

If the body doesn't want to detox to some extent, I think it will not detox the deeply levels, the deeply stored stuff. Right, if it doesn't have the support, if it doesn't have either the nutrients or that gradient that's created or the capacity, right, if you have toxic burden plus infectious burden plus stress and you're sleep deprived, then a nutrient deplete, right, like you, the body doesn't have capacity to do it.

But every cell is designed to detoxify as we started with, where every cell is designed to metabolize and detoxify. But you need the right fats around the cell in order for that to happen effectively.

You need that downstream gradient. You need enough glutathione. You need B12. You need all of the all of the components of that.

Managing Detox Reactions and Sensitivity

Some people report really strong reactions when they start detoxification protocols, both good and bad. What do you think is actually happening during this and how should people kind of think through and navigate these experiences?

Yeah, so what I always tell people and in an ideal situation, if you're effectively detoxing, you want to either feel nothing or you want to feel better.

That's an ideal situation. That's not always going to happen. It's not always doable. But when you feel worse, it's a sign that there's more, you know, level one circulating processing toxicity than what your body wants to deal with.

That's why your body's telling you that there's more than it wants to deal with. That's what the symptoms are. Now, sometimes these symptoms are unavoidable.

But if you can avoid them, then that's going to be ideal. So someone that is kind of at max capacity in their daily dose of toxicity at their threshold, some people can actually experience detox reactions every single day without even being on a detox protocol because there's more toxicity than their body can handle.

So they're actually experiencing detox reactions. That's kind of the same. What would that feel like? It could be headaches. It could be irritability.

It could be joint pain. It could be whatever you're prone to. Acne. A lot of this will come up in people's skin. Yeah. Acne. I mean, it could be mast cell activation syndrome.

It could be an EMF sensitivity. It could be a lot of things. And that's without even doing anything. And then when those individuals take something to mobilize toxicity from tissue, They generally feel way worse because they were already at max capacity.

They were actually over max capacity. They were, they have exceeded their capacity. Then they've just added a bunch of stuff and now their body doesn't, it wasn't even able to handle what it was working on before.

So now there's an increased level of inflammation, increased mast cell activity and you know, all this stuff. And it's, that's, I think not a situation where you want to fight through it because, or especially not long-term because sometimes it takes a long time to reset from those situations.

it can also cause a lot of tissue damage, right? Like you've spoken to this concept of the body is trying to protect you, right? Our work is in dimension Alzheimer's and Alzheimer's is associated with misfolded proteins like amyloid and p-tau and phosphorylated tau.

These are They're associated as like the evildoers, right? They cause Alzheimer's, but they're there to protect you. And I think when we have this idea, well, why isn't the mercury coming out?

Well, because the body is attempting to protect you from it. It's keeping it stored. I think many people notice this, you know, with all the GLP ones out there right now and a lot of people losing weight, they go through kind of this detox reaction.

I'll have people say, generally inflammation comes down, but if you're going too quickly, not only do you have the risk of like muscle wasting and other things, but gallstones come up.

Literally, I have a good friend who's an obesity medicine doctor. She uses a ton of GLP-1s and she puts everybody on medication to prevent gallstones and kidney stones because as you lose weight quickly, you are getting rid of a lot of toxicity.

You're mobilizing fats. You're metabolizing in a really different way. People will talk about thirst that they didn't have previously. And so I think that, you know, I use that as an example because it's a way to quickly mobilize when you're losing fat.

quickly, whether it's through ketogenic diet or fasting or GLP-1s, right? It doesn't matter. But you can have this, like the keto flu, I think, is this rapid detox as you mobilize it at the cellular level.

Now, the smartest thing I worry about thin toxic people more than overweight toxic people because the smartest thing the body can do is put that toxic burden into adipose tissue or into fat cells so that it's not in your thyroid, it's not in your ovaries, it's not in your brain causing a neurotoxic, neuroinflammatory response or a thyroid disease or infertility or whatever else might come up with toxic exposure that has an impact on our health at an organ function level.

So I think that concept that you've eloquently spoken to is like, the body's trying to protect you. That's its job. It's doing a great job. Sometimes it's almost doing too good of a job, especially as we realize, oh, a toxic burden is contributing to my overall health burden.

So how do we get out of that? And binders are a great first step. I would also just, I think, add to that, that drinking plenty of water, making sure your body can flush through all of the natural detox processes, making sure you're hydrated, making sure you're having bowel movements, making sure that you have lots of good veggies that give

you that liver support that you need.

that you're sweating regularly, whether it's through sauna or exercise, and maybe even moving lymphatics, and then exhaling, detox breath work can be super, super helpful.

But I think binders are an easy way to reduce burden on the liver, burden in the bowel, and enhance the conversation around zeolite. So I want to go back to the zeolite dosing paradox.

And I know that this is a really important part of the conversation. I want to be sure that people understand it because there's, there's this sort of risk, you know, of detoxifying too quickly, but then there's also like the under dosing.

What if we're going too slowly? We never catch up. So talk about the ZLA dosing paradox and what are the tangible things that people can do to make sure they're getting the right amount?

Yes, the two most important things with zeolite is getting the right quality and the right quantity, right? So the quantity is the dose. So with most things, especially sensitive individuals, you know, mass selectivation line, that spectrum, they're just automatically going to take everything and micro dose it or titrate from low to high because they want to, they just don't want to overburden the system.

Generally with zeolite, that's the worst thing you can do. So, the paradox is that higher doses are gentler on the system than lower doses. Why? And there's a 40-page document on zeolitelapse.com going into all of the mechanisms of action here, but it said that the baseline theory is 10 milligrams of zeolite is more likely to cause a detox reaction than 10,000 milligrams of zeolite.

Essentially, well, one, I would say I don't think zeolite was ever designed to be taken in a microdose. 1 milligram, 2 milligrams, 10 milligrams is microdoses.

You don't see anyone trying that with activated charcoal. You don't see anyone trying that with clay, I don't think, generally. You don't see anyone trying that with pectin.

These things are all in powdered forms. Zeolite, for some reason, people thought, well, we need to start microdosing it. And then all these companies started producing microdose products, which can be problematic for a lot of people.

So essentially what happens is when you take zeolite, it has a lot of properties. One of those properties is biofilm disruption. And that's one of the mechanisms here.

So let's say when you take any amount of zeolite, you go in, you stir stuff up. You kind of make a mess, right? Because through binding, so many things are attached in the body.

You know, you bind to a metal, it's attached to parasite. You bind the metal, another parasite's released. Things are attached in bowel films and other areas.

When you bind to something, things get stirred up. If you took a little bit, you've basically made a mess. Now your body has to clean up this mess. So the net effect of the binder actually could be an addition of stress on the body and symptoms.

And people might think, oh, this is good. This is detox symptoms from deep level detox, but usually it's not. Usually it's actually just from stirring up things in the GI tract causing immune reactions.

And you're not even getting to the deeper level detox and your body has to clean up the mess. It's the opposite purpose of a binder, which is to reduce stress.

That's 10 milligrams, let's say. Let's say you took 10,000 milligrams, which sounds like a lot. 10 grams, yes. It's just

a couple scoops of powder. It's not that much.

It just sounds like a lot when I say it in that term. You take 10 grams, two scoops of zeolite powder. Now you've gone in, you still go in and you make a mess.

You stir stuff up, you disrupt the biofilms, but now you have extra binding capacity. You have extra zeolite cages available to help clean up the mess that it made.

So then the body doesn't have to do all the work. So then the net effect is usually a reduction of stress. And let me put this in a net. I want to talk about the biofilms a little bit, just because clinically I always think if I'm going to add a biofilm, I better have a little bit of bug killer in there.

So like some oregano, garlic, I mean, as long as people, Mimosa, you talked about parasites, so like maybe a little Mimosa pudica, like some other, something to help keep that gut, that bug burden down if we're going to start, you know, like taking the biofilms off.

Nutrient Status, Resilience, and Heavy Metal Competition

Do you, do you consider that? Yeah. Let me give one more example on the dosing because I don't think it was that clear. And then I'm going to address that because that's super important.

So let's say you have your processing center, which is your, let's just say your gut, it's holding a lot of toxicity and you're at, you know, 100% is the max you can handle of toxicity from your daily dose.

That's food, water, air, external sources. That's internal production, metabolic waste, microbial waste, recycle toxicity, et cetera. After you hit 100%, that's when you get symptoms.

So that's where some people have symptoms every day. Some people get symptoms when they mobilize toxicity. So let's say you're at 90%. So you're not symptomatic, but you take zeolite and it goes in, it kind of stirs things up and it adds, you know, 20 units of 25 units of toxicity or 20. So you went from 90 to 110. Now you're getting symptoms because it added stress.

If you were at 20. and you took the zeolite, you don't get symptoms because you had more room to receive the toxicity. That's why some people are more sensitive because their cup is a little bit fuller.

Now, if you took, if you're at 90% and you took a tiny bit and it reduced it by 5, you're at 85, it added 20, you're still overflowing. If you were at 90 and you took a bunch of zeolite and you reduced it from 90 to 10, now your body has more room to receive all of the byproducts of the detox.

And that could be through, you know, increased limp or, you know, bile or, you know, dumping toxicity from tissue, whatever it is. So the key is to bind to as much stuff as possible in the processing center, and then have room to receive the stress that inherently comes from detox.

If that makes sense. Yeah, absolutely. It makes a ton of sense. So it's the opposite. So with most detoxes, the more you take, the more stress it adds because you're adding to the cup when you mobilize toxicity.

With zeolite and other effective binders, the more you take, the more stress you're reducing because the more you're removing from the cup. So they're opposite approaches.

That's why the reverse titration works because you're reducing stress, not adding stress. And, you know, I wanted to talk about balancing detoxification with rebuilding and nourishment.

How do you think through improving nutrient status and overall resilience? Because we had just kind of mentioned this potential bug burden, like, you know, I think toxic burden, infectious burden, and we're sort of balancing that, getting after both of those things, especially in chronic complex cases.

But nutrient status and overall resilience are also an important part of that conversation. So how do you weave that in? Okay, so nutrient status, and then I'm going to go into parasites, too, because everyone's always interested in parasites and it's interesting.

But essentially with nutrients, you've got what's coming in and you've got what's happening to the nutrients once they're inside your body. A lot of times the issue is not what's coming in.

It's, you know, is your body able to properly utilize, absorb, transport, etc., these nutrients? There's a lot of factors that determine that. Sometimes you've got bugs and things that are you know, stealing the nutrients.

Sometimes you've got, you know, cellular inflammation preventing the uptake. I think, you know, cell membrane integrity is huge. So when you have low cellular voltage or low cell membrane health, then your cells are basically on lockdown.

They're not letting toxicity out and they're not letting nutrients in because they're in this lockdown state. So by raising cellular voltage, you're allowing the nutrients in, you're allowing the toxicity out.

Then of course, the question is, how do you raise cellular voltage? You want to, you know, that could be anything, you know, there's specific devices and technologies, but then, you know, really it's removing the things that are draining you on a daily basis.

So your cells will naturally start raising their voltage and opening up. So with nutrients, and then you have the direct, direct, um, you know, metals are competing for space with essential minerals.

So you've got, you know, this mimicry going on. So essentially, let's say you have an overload of lead in your bones or in your body that competes for space with calcium.

So if you have more lead, you're taking, you know, the calcium might not be getting to where it needs to go because there's a placeholder there which is lead and that could be problematic.

So it's called ionic mimicry where the body will actually hold on to toxic metals as placeholders for minerals. Although they're toxic, they can still be utilized for cellular purposes.

So that's one of the reasons the body doesn't let go. So either you're not getting the nutrients, so your body's holding on to metals. So that's why sometimes taking proper mineral supplementation from food can help you detox because then your body can start letting go of metals because it has the proper nourishment.

But sometimes you need to actually remove the metals first for the minerals to be absorbed. Right. And there's kind of two trains of trains of thoughts there, but yeah, you've got competing metals.

You've got, you know, aluminum and silicone. You've got a lead and calcium. You've got cadmium and zinc. You know, you've got, you know, mercury and selenium and iodine.

You've got all these things. When you have the heavy metals, like mercury, that's a perfect example, mercury and iodine, right? amalgam fillings, a lot of times people end up with hypothyroidism, Hashimoto's or some sort of thyroid issue.

And not to mention, of course, all the brain stuff, which you're an expert in, because you have these amalgams and the mercury goes to fat and the closest fat is going to be the brain and the thyroid, generally, right?

So you get an accumulation of mercury. If that's displacing or messing up the utilization of iodine, that's going to be highly problematic for a thyroid.

Well, yeah, we usually think about like the bromine fluoride, the halogens being a really big issue there. Yeah. Yeah. I mean, it's absolutely, but if the thyroid is messing up the iodine, then you don't have proper iodine and then

you're not going to be able to naturally detox the fluorines and the bromines and et cetera.

So sometimes it's more of a downstream or I think a lot of the issues are actually mercury. And then when you get the tests for all the other stuff, the other stuff shows up because those deficiencies are from the mercury toxicity, messing up the iodine, et cetera.

Oh, interesting. So that's why it's always tricky because we find what we test for, but sometimes that's not like the actual route. And it's always hard to say.

But yeah, there's direct, you know, displacement of metals, minerals, just the metals themselves causing oxidative stress will deplete minerals because when you have higher levels of oxidative stress, the body has to use its antioxidant resources to fight that.

So you're using up your glutathione, you're using up your SOD, you're using up your vitamins and your lower levels. So just by reducing oxidative stress, removing metals, the vitamin levels just go up on their own without supplementation.

Right. You just have less nutrient requirement. It makes perfect sense. So Jeff, I ask everyone, and you are younger than the vast majority of my guests here, but at this stage in life with what you've learned so far, what brings you the most joy?

I think my personal mission statement is love God, live love, make a difference. So, you know, love God, love others is a good one, but that's, so that's my personal mission statement.

And then my professional mission statement is meet the need in wellness. I think those kind of tie in, right? So just doing other things to help other people, you know, more blessed to give than to receive.

So I think, you know, helping other people. And right now I'm helping other people with health and that's, you know, what, what brings me fulfillment right now.

Really adding value. Yeah, wonderful. And in terms of healthy brain aging, what are you doing personally outside of zeolite? You know, what are you committed to personally so that your brain ages well?

Yeah, absolutely. So, I mean, I do take a lot of zeolite more than I need to, 60 grams a day. And then I do, you know, I try to keep it simple. I try, I live in the forest.

So, I mean, I know not everyone can do that, but I do live in an acreage in a forest. I don't have Wi-Fi, you know, really clean water, just, you know, really kind of simple lifestyle in that respects.

I'm really big into EMF mitigation, so protecting myself from radiation through avoidance.

Personal Health Practices and Closing Thoughts

And then also, you know, I use like different technologies for harmonizing and blocking and All sorts of stuff. Yeah. A lot of technology. I like, I like different therapies, but getting back to nature, some of the simplicity, detox, proper food, proper water, EMF mitigation.

Yeah, amazing. Jeff, this has been a fascinating conversation. So grateful for your time. Toxins and detox, I get so fired up and excited about it and it can feel really complicated.

But I think today you helped unpack some really simple things that we can be doing and how we can feel empowered around these environmental exposures that can accumulate.

And also some of the why of how challenging this can be for people to navigate. So strategies like binding agents, like how that can play a role, but also how we can use dosing and high quality products to make sure that, you

know, we're getting the best outcomes possible.

I really appreciate this discussion because it's a reminder that detox isn't just about a quick cleanse or something short term, but it's really about understanding our daily exposures and supporting the natural innate systems of elimination and then making really thoughtful choices and using the tools to reduce our overall toxic burden over time, not about just like a week long detox.

So I want our listeners to take away that while we can't avoid every toxin in the modern world, although Jeff's doing a good job of reducing his, we can become a lot more aware of where exposures come from and take practical steps.

So Jeff, thank you so much for sharing your perspective and the work that you're doing in this space. Thank you for doing the work that you're doing. It really helps us better understand the complexity, but also the simplicity in how we can put the pieces of this puzzle together.

Absolutely. It's a team effort. Thanks for everything you're doing and had a great time. Wonderful. If you have found this episode helpful and today's conversation interesting, please share this episode with someone who you think might benefit.

Until then, think well, age well. We'll see you next time. Thank you so much for listening to the Think Well, Age Well podcast. If you enjoyed today's conversation, please take a moment to subscribe, leave a review, and share this episode with someone you care about.

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Until next time, keep thinking well and aging on purpose.