Decrease Your Exposure To Neurotoxins Transcript

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Introduction to Environmental Medicine

Welcome to this episode of the Reverse Alzheimer's Summit. I'm so delighted to introduce you to a teacher of mine, Dr. Joe Pagano. He has literally paved the way for the naturopaths like me, who are committed to doing the work of treating chronic, complex illness.

He's particularly an expert in the field of environmental environmental medicine excuse me. He's written books that I referred to regularly in my practice.

They are huge source of support for me and for my patients. And so I cannot wait to dove into the details of how Dr. Joe Pagano treats his patients. Welcome, Dr. Joe.

Well, thank you for the very kind introduction. And it's always wonderful to see those who were once my students now become my teachers. So congratulations on your work.

Oh, thank you so much. So let's dove right into it. Just describing and maybe defining for people who don't know what is environmental medicine. And that's actually a surprisingly good question because I think it's a field that's evolved quite a lot in the last few years.

So in the past, the doctors who specialize in environmental medicine tend to specialize in what I would call the yellow canaries. And I don't know if our listeners know about the story, but the old time coal miners had a serious risk of being poisoned by carbon monoxide.

And by the time you recognize there's carbon monoxide off or dying. So they would bring yellow canaries into the mines. And when the canary started to fall over, they know, oh, there's carbon monoxide, this get out here because there are more sensitive to it.

So just like the yellow canaries are certain members of our society who are more susceptible to environmental toxins. These are metals and chemicals in the environment.

So the Obama message and movement focused on these people for good reason because commercial messaging had nothing to offer for them, or very little copper, I should say, suffered acute poisoning.

So they specialize in that. But something else started happening. And I would add that part of that trend about 15 years ago, after looking at a lot of research, I started to realize that while yes, yellow canaries for a big issue, there is now so much of these metals, the chemicals environment that they were affecting everybody, not just those who are most sensitive.

As a matter of fact, as I dug into the research, I started realizing that and I make this assertion very, very strongly because I believe that your research is there environmental toxins have become the primary drivers of chronic disease throughout the whole world. It's not just yellow canaries.

Everybody in our field in biomedicine is dealing with both. And can you give some examples? You mentioned metals and chemical toxins, but what are some of the names of those that people might be familiar with?

Well, let's start with number one, just the number one toxin. According to the CDC, it's Centers for Disease Control.

Arsenic Exposure and Disease Risk

And and I independently just looking at the research, that's where I came up with this. Well, and I don't agree with everything on their list because they have this record list of, you know, thousands of toxins.

I disagree with some of the rankings, but nonetheless, arsenic is arsenic is number one. Arsenic. Wow. I wasn't expecting your statement. Yeah, I thought.

Well, doesn't that only happen when a spouse is poisoning their spouse or something like that? The reality is your find these numbers stunning. So we know from that research that if people are drinking water with more than ten micrograms of arsenic per quart of water, they have seen if increased risk for disease.

I'll talk about those diseases in a second. But the problem is, number one, with that ten microgram number, it doesn't consider genetic variability or nutritional deficiencies, both.

Let's just stick with that test. And so it turns out that 10% of the public water supplies in the United States have arsenic levels, more than ten. So these are public water supplies.

Now, here's the kicker. Only half the public water supplies have reported the arsenic levels. Why is that? This is like a $50 test. So why would these multimillion dollar organizations that report them?

Because and this is my pejorative perspective, because once they're reported being high, they're kind of fix it and it's hard to do. So not only is the water supply commonly contaminated in United States, but many foods that people can commonly consume have arsenic in them.

And now these numbers are changing. But in the past, you see rice and chicken with a primary source of arsenic. In addition to water. Now they are still a source, but there's a source as well.

Nonetheless, when you say, okay, so let's look at now the average amount of arsenic in people. The U. S. government does a good job of tracking toxin levels.

And it turns out that ten micrograms per liter, ten micrograms of arsenic per caught or liter of urine is researching. All the disease associations pop up just what percent of the u.s.

population is about, bobcat. I have no idea. I mean, I test a lot of people for urine, arsenic, and the majority of them it's present. I guess I wonder how much is relevant, right?

Is there some normal about or does everybody have risk? For instance. Go a little. Let's go a little further. Yeah. 35% of the people the United States have arsenic levels, about ten micrograms per liter of urine, 35%.

Wow. Now, now we look at genetic susceptibility. So we are actually very good to get rid of arsenic. The half life of arsenic in the body is between two and four days.

So that tells us as a species, we're exposed to Arctic as we evolved and we have way to get rid of it. But we don't have get away, get rid of it. If we're being constantly exposed to think, well, kill it.

So, you know, the kind of rule of thumb in toxicology is that it takes four half lives to get tox now on the body. What the half lives are, let's say three days on average, time is almost two weeks to get rid of arsenic when a person exposed to it to get rid of it.

Okay. If you want to be exposed every two weeks, that's just fine. Well, Woodford, what is in your drinking water? What if you had a lot of rice and fish?

Rice and chicken? What if all your sources weren't there? So the reality is that it's a huge, huge problem. You know, I discovered recently with a patient he was eating a ton of chicken.

It was all organic. And his arsenic levels had quadrupled over the course of a year. And we couldn't figure out why, because I thought it was only conventional chicken.

But it turns out even organic chicken has a significant amount of arsenic in it. And so in the past, Arctic compounds

were intentionally added to chicken feed.

It was standard of care for the USDA that no longer standard of care. However, the environment where chicken had been grown has been saturated with arsenic.

So if they stop and you start doing, you know, organic, growing and everything else, well, if that's soil as arsenic, it's going to end up in the chickens.

How fascinating, man. What a mind blowing statistic that three, three, 35% of people have enough arsenic. So what happens to them? What are they. Are what for? Exactly.

So how does that translate into disease? One quarter to one third of the major cancers are due to arsenic, lung cancer, prostate cancer, pancreatic cancer.

The primary causes of them are arsenic, you might say. Well, lung cancer. That was due to cigaret smoking. Yeah. So guess what is very bad. Cigarets are high in arsenic.

And cadmium as well. Right. So when you start layering these heavy metals on top of each other and probably the chemical toxins that are also in those cigarets.

Well said. Because so much of the toxin research is done on one toxic at a time. Who's exposed to one toxin at a time? Our whole population is exposed to toxins.

And so what happens is one of the ways we protect ourselves from the damage from toxins is with good science. Ira Glass is one of the best measures of longevity.

People are pretty smart to find live longer because they're better able to detoxify. But the more and more toxin people are exposed to, the more they deplete the glutathione stores, the more susceptible they come to damage from other toxins.

How can we support our glutathione pathways? There's basically three strategies striking them into number one is decrease depletion. So don't drink too much alcohol.

Alcohol depletes the fire. For example. Kyra, that. Is, promote the body's ability to produce good fire. And its production is dependent upon the availability of cysteine.

So limiting factor. So, again, people in a cell system will increase growth, high levels. And the third way is give people glutathione directly. They can't do that orally because the gut breaks down.

So it has to be either liposomal or topical. Or IV potentially or. IV nature. Right. Right. And then are there foods that are high end and acetyl cysteine or glutathione?

There are plenty of Twitter high end system.

Glutathione, Methylation, and Detox Support

So, for example, if a person doesn't want to take a pill, but they were willing to take a fruit, concentrate away powder is very high and sustained and will increase glucose levels very effectively.

From my natural pathway training, the things that come to mind first are things like milk thistle and dandelion and artichoke and that family of foods.

And of course then also the the brassica family veggies that are high end, at least the sulfur compounds. So how fun to get into, you know what we can do about this?

I want to go back to that neurotoxins because of course, we're here talking about Alzheimer's and how we can prevent. It back up just a bit on our stick.

So there's a really important thing I want to say to the audience, and that is the way we get rid of our stick is through methylation. You may have heard of homocysteine.

So if a person has high homocysteine levels, they must have methylation problems, which means you have more problem with arsenic toxicity. The research is very clear, people that as homocysteine levels go up, so they're the more toxic forms of arsenic in the body go up.

And so do correlations with diseases like diabetes, sort of zap and strokes and cancer. So a lot of people still think that you take folic acid in order to decrease homocysteine levels.

Well, the problem with folic acid is that that's not a natural molecule. Folic acid does not exist in nature. It's a synthetic chemical. So you have to ask to modify it through two conversion steps before factor.

Well, the problem is that people have the MPH bar polymorphisms and everybody knows about that. These are the this is the enzyme that's supposed to help make folic acid available in the proper form so that it will detoxify consistent.

Well, if those enzymes not working very well, the folic acid doesn't detoxify the Arctic very well. So you look at research on giving people folic acid who have arsenic, high Arctic levels.

It's right next. Now, in contrast, if you give people natural folate such as is found in food, that it very effectively goes right in to making the homocysteine cycle better and making methyl groups available for get rid of arsenic.

And it's not folic acid folate that report. In my clinical practice I add methylated B9 or folic acid acid methylated B12 and B6. So that combination of B six, nine and 12 with the nine and 12 being methylated.

Is that am I doing the right thing? Usually we see the homocysteine come down. That right on the finger. And so we're also helping support, of course, cardiovascular risk and insulin resistance, detoxification, and particularly with arsenic. Yes.

Okay. So neurotoxins now. Okay. The arsenic cousin. We have to talk about mercury. Yes. So when and I'm happy to talk about Mercury a lot. So when we're talking about neurotoxins, there's an important concept that people need to realize, and that is ask.

Compared to other toxins, there is a pretty big difference between which toxins are worst for the fetus versus which are worse for the adult. So it turns out that while our brains are evolving, we have a high level of susceptibility to neurological damage.

But then and so there's certain kinds of toxins that are worse there. But then once the brain is developed, they're sort of toxic and make the brain degenerate more quickly.

Now, it turns out there's only a couple of toxins that both affect the fetus and affect the adult. Mercury is one of them. So the fetus is very susceptible to methylmercury damage while the brain of the adult is more susceptible to much of elemental mercury damage.

But it doesn't matter where it's coming from. What matters is mercury is a huge neurotoxin. And we can get rid of those, both arsenic and mercury using similar processes.

Right. So certainly avoiding the exposure like you, you disguised and then adding good a sound. There's also silica products and then deletion agents.

What is your feeling about chelating at this point? So that's another very good question because it's quite, quite a

challenging area. So when I try to help people decrease their toxic load, I have basically three strategies.

Strike number one is supports. I mean, there's nothing better than just not letting that stuff into the body. And I talk a lot about that. Second is supporting the body's normal routes of elimination.

And then the third is directly correlated it out. So, you know, I'm a naturopathic doctor. My preference is if the body can do it, let's help the body do it.

Because, yeah, we have all these processes, these enzymes and and and various physiological mechanisms to get rid of toxins. So to make sure those are working properly.

But sometimes the load is high enough or presents a genetic polymorphism where they're not as able to get rid of the toxin. Then we have to get into more aggressive interventions.

Now, when we're looking at coalition therapy, there's two strategies. There's Ivy collection therapy. There's also an oral collection therapy. Now there's some topical and things like that, but in general, those are two categories used by far the most.

The advantage of the Ivy Therapy is that it gets rid of toxins much more quickly. The disadvantages. We're doing ivy therapy. But when the organs of elimination aren't functioning properly, what we naturopaths call the mutter is the organs of the nation are not functioning properly.

And you could stir things up faster than we can get rid of them. So I prefer the oral collection route because it's not as dependent on the you might how well the body's mechanisms of detox are working.

You know, in my practice, it's primarily older folks who, you know, are over 65 post-menopausal women who are at risk for developing dementia and of course, men as well.

But I really worry about their bones and I know this is a favorite topic of your wife. So, yes, mind over to that interview if you're curious about osteoporosis and its links to dementia.

But while I'm chatting with you, you know, I really want to dove into this among stories, conversation, because chelation is not without risk, particularly because of the potential to die mineralized.

Mercury, Chelation, and Safer Detox Strategies

And that that puts people at risk for osteoporosis when they're already at a phase in their life, when they're at high risk. And so my preference, like yours, is to focus on those among three.

Can we go through those and give our audience some really tangible takeaways that they can maybe think about at home? I have to tell you, I'm still shocked when someone tells me that they have a bowel movement once a week and that that's their normal.

Or when someone doesn't ever sweat, they can't remember the last time they were sweating. So let's dove into each of these organs and give people some tips for what they can start doing today.

Right. So they don't. I think this is so important. I actually wrote a book on is called The Toxin Solution List for Consumers. And in that book I show people, well, here's I'll talk how the toxin causing disease.

Here's where they come from. Here's how the body gets through them. And here's how you can help your body work better or get rid of these things. So I start with the gut.

I mean, right now, so most people don't realize that a huge portion of the detox enzymes in the body are actually in the South of life in the gut, because in many ways their first line of defense against many of these toxins.

So we have to make sure that the detox enzymes in the gut are working optimally. And when we. One way to do that is make sure they're not being overloaded by toxic things be released by bad bacteria in the gut.

So yeah, leaky gut plaque, bad bacteria. Now you're dumping all these toxins into the body. Okay, so now is the gut not able to do its protective mechanism?

Right now, it's overloading the liver. So sick when we work on is the liver. Get the low work help help the liver work as often as possible, which means what nutrients are necessary for liver tours?

Well, turns out, deliver these almost all no required nutrients and majority. The population is deficient at least one and many are deficient in many nutrients.

So just something simple but need to be vibrant for the enzymes to work. No, b vitamins doesn't work for women. So those detox enzymes and the latter half of them depend upon iron.

So whenever a woman is deficient in iron, you know, excess administration, whatever they're not going to be able to make as many of the detox enzymes in liver.

She got to get work at the deliverable can work. And the third one is the kidneys. So it turns out the kidneys are just as important for detox as is the liver and many of the common experiences people have in the modern world are devastating to the kidneys.

If you look at, for example, the consumption of nonsteroidal anti-inflammatory drugs, there's a direct correlation between the use of those drugs and kidney failure.

So I'm teaching my class the best here on Healing Systems. Well, the point I like making is the body's tremendous ability to heal. If we just give it a chance.

I found this great study a couple of years ago where looked at people with stage five kidney failure scheduled for either dialysis or can replacement so that EGFR of average for 12 and this particular study says you know a healthy G of EGFR is about 65 and as it goes lower, you get to a point where keys can function, you either die or get fixed.

So they took these people who are you had stage five kidney failure, end stage decade yourself. They're going to die. All they did was haven't stopped taking nonsteroidal anti-inflammatory drugs.

Six months later, the EGFR was over 25 should over doubled. All they did was stop the damage. Stop the damaged body has tremendous ability here, but sometimes it's not so easy to stop the damage.

Sometimes the damage is happening because of some environmental factors hard to deal with, or maybe some favorite. I still think that person's doing. They don't want to give it up.

But nonetheless, if you can fix the causes, things get better. And then the fourth impact is the skin. And the research on sweating and how it detoxifies.

It's really, really strong. It's really important. And can I add lungs to this list? You know, it's a good you know, I never I've never addressed the lungs.

But I think you're right. Maybe I better pay attention to that. Tell me what you know about the lungs. Well, there's I just think of, you know, when a cop pulls someone over because they think they've been drinking, they use a breathalyzer.

And what they're measuring is a pseudo aldehyde. And this is a metabolite of alcohol. And so that's a way that we're detoxing alcohol, even. And there's also these, you know, wisdom traditions that have breathwork associated with them.

And I've been in Breathwork classes where you can smell oil paint fumes and you can smell chemicals. As people start using their breath in this very particular way.

And so I encourage and I, I think also the nervous system, you know, this being sort of a secondary detox organ. But if we're not an arrest digestion heel state, if we're always in a fight or flight freeze, very tense state, we tend to hang on to things.

And so by using Breathwork to, of course, exhale and potentially exhale toxins and optimize that, and then also to balance the nervous system, I think we're able to let go of things a little easier. Hmm.

What doesn't serve us anyways? So I just offer that simple. Good idea and I need to pay attention. I think if I get to do a second edition, I'll have to add that because you're totally right.

As you may recall from class, I am very intolerant to garlic. I mean, garlic, razor and smell people's breath all the time to the bite. I get rid of the sulfur compounds.

So it's not surprising they get rid of other things as well. Right. Right. And how we balance the page and the system, I mean, so much is happening in the lungs that I think is underappreciated.

By another one another or detoxification I don't talk a lot about because kind of pressing that is breast milk nursing. Right. It's very clear that when women nurse, they actually decrease, get rid of a lot of toxins, which is good for the woman.

And I think I would say one reason why nursing is associated with decreased risk of breast cancer is because they're get rid of things like PCBs, polychlorinated biphenyls, which are a major cause of breast cancer.

And so the more the woman breastfeeds, the lower her bisphenol A levels. That's the good news. The bad news is the babies get it right. And at a time when that developing brain is so susceptible.

To the worst possible time. And then you mentioned skin and so sweating, but also lymphatic. It's very moving lymphatics. And there's a lot of fun things that people can do, like the rebounder or mini trampoline and dry skin brushing and castor oil packs.

There's a lymphatic massage and there's so many kind of fun and nourishing things that people can do to help support that lymphatic drainage as well. And then the lymphatic system in the brain is something I think even since you were my teacher, we've learned so much more about the lymphatic system in the brain and how during sleep that really supports the the detox of the brain itself in this very unique system. Yes.

Yeah. Very, very, very well. So. So how do you personally avoid neurotoxic ions? That's a very good question. So my my dove into the environmental mess started about 15 years ago last year, a couple of while this program Canada.

Detox Organs: Gut, Liver, Kidneys, Skin, and Lungs

So when the wealthiest man in Canada came to me and said and by the way, he treated me as if he sent his personal Learjet down to Seattle to pick me up and fly me the Calgary Alberta queen.

You know, get gets your attention when somebody does that. Know he said, I have all these oilfield workers and I've been doing conventional wellness programs for them and not much results.

How about if you bring your next housing medicine ideas? And I said, Well, sure, but you know what? I'm a true believer in natural medicine. I'm also very objective.

So an art can determine what your people need. I want to do some lab tests on them and watch them for nutritional status or test for toxic status. One test for metabolic function.

How much I spend is a blank check. I said blank check. You said yes. If you can convince me that this test will help improve my employee's health, I'll pay for it.

Fine. Now, this was this was 15 years ago when the first 1/1 one, Randi, I did at that time, 1500 dollars of lab tests on 4500 oilfield workers. So now, I mean, but twice as my product quit, about 3000.

So I when I found it, you're going to find this interesting. So all these people I tested for nutritional status, less than 1% did not have a nutritional deficiencies.

Okay? Neither 99% had to have at least one nutritional deficiency. When you look at the average person, it was like five nutritional deficiencies for the average person that looked at toxins.

I follow these toxins as a way know what's going on with those toxins and that didn't meet bollixed up look at insulin levels and fasting blood sugar and whoa, look at this.

A lot of blood sugar problems. And I started kind of putting one and one together, two and two together and say, wow, they're up. It looks like it's all come from environmental toxins.

So that got me very, very interested in this area. Wow. You know, we did a clinical trial in my office. Now much smaller sample size, just 23 participants with measurable cognitive decline.

And every single one of them had measurable, toxic burden. And so certainly I'm convinced that this is a major player in terms of cognitive decline. Way to go.

Let me finish with that. So please. One of the things we thought a lot of was mercury going on. Back to your original question. So that became so interesting to the funder that he he wanted me to look at about 2000 studies on Mercury because I got really deep into as murky, caused, damaged.

How do you assess that, how to get out of the body, etc.? And once we figure that out, that's also one reason why we went to oral collection rather than evacuation, because we have to look.

So we deal with people in the field like that. You don't see them very often and I ve too much of a risk of adverse event without risk when we're not around.

So we did the oral, which was safer, but the case histories too. We had people, we had one guy, for example, who had been chronically ill since age 13, had a mouth full of several fillings, was in out of the hospital, basically either a doctor's office or in a hospital once a month for several years.

Finally, in desperation, decided to try our protocol of getting all the mercury of his mouth and killing it out. Out the mercury and all his symptoms went away.

I got to I got this list, a two page list of all the symptoms, and a year later, they're all gone. Just might get mercury out of the body. I mean, how incredible.

And what a gift rate for somebody who's going from doctor to doctor to doctor, not getting an explanation for it to be that simple. And it's really curative, right?

The key, those symptoms don't come back as long as it doesn't get re-exposed. The body has the ability to heal itself and fully resolve these things. Okay. So tell me again, what do you do personally?

Oh, I'd say that's what starts out okay. So as are doing this work, I started realizing that we have both direct measures of toxic load and indirect, so indirect measure as well.

How much led to the blood or how much Arctic the New York indirect measures are like an enzyme in the liver called GTP. So in the past, GTP projects both both acronyms are used.

It was measured as a measure of liver inflammation or liver damage. But since then, better tests have become available to determine liver damage. So it's not news as routinely anymore.

But usually a routine test if you're really inexpensive with such an objective, is that it goes up in the body in proportion to toxic load. So that means that when a person consumed a lot of alcohol, be exposed to mercury or cadmium or all these other kinds of things that goes up.

But within the normal range to normal raises between between ten and 16. So since it goes up within the normal range, it was not considered significant, but it turns out GTA directly correlates with the risk of disease, risk of death.

For example, looking at DDT, remember the normal rates 10 to 60 and above 40 is associated with a 26 fold increased risk for diabetes IGT above 30 between 30 and 40 is associated with an eight fold increased risk for diabetes right smack in the middle of the normal range.

So why did my GTA? It was 27 and when I first saw the 27 I thought, wow, that's a good range. It kind of 60. Then I start seeing all the diabetes research and research.

Wait a minute, maybe have more toxic load than I realized, so I then start becoming more careful. So I went from 27. Then a few years later after that it went down to 24.

And then just last year I checked it again. It was down to 70. That's telling me I'm doing a good job of decrease my toxic exposure because my body is not having to produce as much detail.

Fantastic. So. So one more thing now. Sorry I keep monographic here or monologue in here anyway. What does DTT do in the body? It recycles this ion are by these barghouthi cosine are smaller by say oh we're supposed to talk to God.

We need more growth on this recyclable side more officially. It's just another example of how incredibly adaptive our bodies are. Because of you. I run DDT on everyone.

Oh, good. And I'm curious. So what did you change when you saw that 27 and now you have it down at 17? What was it that you did differently?

Reducing Toxic Exposure in Daily Life

Oh, I just became more and more stringent about avoiding toxins in every way possible. So food. Food, water, air, health and beauty aids. So you look at our home, okay?

So you come into our home, you have to take off your shoes. When the water comes into our home, it goes through a very sophisticated filtration system.

And our home and our air conditioning. We have what's called a MERV 16 air filtration system, along with an electric precipitate. Are we only buy organically grown foods at all possible?

We grow as much from produce we can. We only use health or beauty aids that don't have phthalates in them. So we just everything we can do to decrease toxic pressure we do and it works.

Cleaned house so literally and I love that you said you take your shoes off at the door. Right. This is such a simple, easy habit to form to just wear different if it's cold, wear different shoes inside.

And a patient said to me one day, she's like, You're right, it doesn't rain in the house right outside. We have rain will wash away the toxins that are sprayed and it hose and you know out outside wherever you're walking around in the parks and on the sidewalks.

But inside, if we track them in, there's nothing that really gets rid of them. They just accumulate in carpets and rugs especially. So this is a really important thing to not ever track them in.

And I notice with my my patients who have animals that go roll around in these toxins and walk around in these toxins, they don't wear shoes that they can take off and they get in bed with them.

They tend to have higher levels of glyphosate, even if they're eating organic. Interesting. Very good. Very good observation. Yeah, it's fascinating, right, because we're doing that detective work often when we get a toxin panel that comes back elevated, we have to sit there and kind of brainstorm and I list the most common things, right?

Like in my patient, I described she was eating organic chicken and so we thought it can't be that chicken. That's creating this arsenic issue. And so we're brainstorming and asking the experts and trying to figure it out.

And sometimes we're just planting a seed. We don't fully arrive at what the exposure is. And then I've also had patients who, after we have the conversation, they go home and they were like, I read the ingredients on my hairspray and that's where it's coming from.

And so then they have the opportunity to switch brands. That's, that's, yeah. So what are your like if you had overarching strategies for protecting the brain?

Have we covered them all or is there anything else that you would suggest? Oh, absolutely. So of course, number one is going neurotoxins religiously and I, I try to work with people.

Is that the exceptions in this area may be problematic. What I mean by that is people they what you don't like your function, you know, healthfully as much as possible.

You know, the occasional lapses into the conventional way of living. Yeah, it's okay. A light is just occasional in general. That's true. Unless that occasional lapse is to expose a person to these neurotoxic to have a long half life.

So look at PCBs. Polychlorinated biphenyls have like the body is measured in a few of them in months, but most of them it's years to decade. Oh, wow. So, for example, you go to restaurant, you have farmed fish.

Farmed fish just right now, as near as I can tell, the primary source of PCBs for people eat that farmed fish and the PCBs in there if they have a 20 year half life that Mr.

PCBs on the before before rest of the person's life. So we have to be careful when we do these know, not being quite as careful at times of our lives.

We don't do things that will be permanent. So that's interesting. I, I say to my patients, because of listening to your lectures when I was in school, please don't eat farmed fish.

Salmon people associate salmon with good brain health and being really good for you. However, what I say and correct me if I'm wrong is that farmed fish is not only not good for you, it's bad for you.

So ask at every restaurant because this is where it often happens, right? Is they don't say if it's farmed or wild. And I know I'm always that person that's like, Sorry, guys, I'm going to ask and I'm not going to get the salmon if it's farmed.

It's just not worth it to me to be exposed to those toxins. And people sometimes don't like having dinner with a lot of myself because I remember we're in Florida at a conference and the Texas fancy restaurant and their big thing was fresh fish.

Well, that's just fine. But then they started looking at the kinds of fresh fish like Chilean sea bass, one of the worst sources of mercury. And so everybody was already there, Mercury SEBASTIANO So we were asked this why?

We said, well, you're going to consume several milligrams of mercury if you eat that stuff, and it's going to be with you for a long time to start to damage your brain.

You really want to eat that food? I know it's hard. And and I think, you know, your commitment, like watching that guy come down, certainly with my patients watching that when they avoid these toxins, they feel so much better.

And in my office, we measure that their cognitive function improves. And so, yeah, it's a little bit what can we. What measure use like. We use mucus gauges as well as Cambridge Brain Sciences battery of neurocognitive testing.

And then we also use the WAVY, which is an EEG measure. And what we see is as we and we don't just do one thing right, we, we, we do the environmental medicine piece, we add nutrients and get them dialed.

We also add hormone replacement exercise, sleep management. You know, there's we really are throwing all of functional matters that are natural topic medicine at patients with cognitive decline.

But we see that measurably among multiple measures. They get better and their quality of life scores go up, their relationships improve. Of course, their sleep improves, so their energy improves.

And it's just it's an absolute privilege to watch these people blossom and in, you know, the last half of their lives. Would you similarly link to those tests of clear variance?

Should I look at the online neurocognitive tests and they seem like a good idea? But the one time I tried it, they didn't have the user interface set very well.

It was just too difficult for patients. So if you're going to work it better, I'd love to see it.

Brain Health, Testing, and Resources

Maybe CNS Vital Signs that's another really common when the doctor bredeson uses because it can be done at home. The mock as I'm sure you're familiar with the Montreal Cognitive Assessment, this one needs to be done in person by a trained somebody who's trained to to do it.

It only takes about 15 to 30 minutes maybe. But you do need to have that interface directly with a with a usually a tech a nurse or somebody who's trained and then the Cambridge Brain Sciences is an interesting one with a lot of scientific backing.

And it it has it breaks things down into like verbal ability, executive function, focus and different components of cognitive function. So we had statistically significant increases in memory scores as well as overall cognitive scores with these interventions over time.

Have you published this? It's in peer review right now. Oh, great. Yeah. I'm really excited to get the word out there. Very consistent with what Dr. Bryson's research is also showing. Right?

Yeah, it's a lot of fun. So I want to make sure that our audience knows how to find out more about you, where to get your books, where they can learn more and are used.

You see patients. Oh, so thanks for the implied compliment. So these days I think my job is teaching the doctors. Okay, so that's that's what I mostly do now, write textbooks and books for consumers.

What the first part of question. Books and where people can learn more. Okay so you'll have website WW w Dr. Pizarro dot com and I think it's gone right now because we're glad to have this interview because we're doing an update on it.

We're just go to Amazon, put my name Joseph Elizondo at Amazon and. If your consumer my book The Toxic Solution I think you'll find an interest. It's one of eight books I have out I will offer to coauthor.

If you're a doctor, I have a book I coauthor with another master graduate, Dr. Walter Cronan, called Clinical Environmental Medicine. And that's where we lay out a lot of this, the foundations of environmental medicine.

And I think people find it very useful. Very I certainly can attest to that. I find them all very useful. I have read them all and and suggest the toxin solution to my patients, as does Dr.

Bateson. So yeah, we really, really appreciate the work that you've done there and how you explain that and make that really practical. Dr. Fasano It's an absolute privilege to have your time and expertize, and I just could not be more grateful to have you here today.

Thank you. Well, thank you for the interview, and I wish you success in your venture here. Thank you. Thank you.