Introduction to Environmental Toxins

All right, guys, welcome back. We are talking to Doctor Jill Carnahan. Thank you for coming today. You're welcome. Glad to be here. You know, this is awesome, because in almost every conversation we've had, it almost it gets led down a few rows.

Always. One is like sleep, you know, let's talk about sleep. And another one is environmental health. But this is a sort of new concept for a lot of people, not for you.

This is what you've been screaming for. The rooftops for a long time. But we are finally going to dive deep and silo this and focus on it as a topic everyone has said.

Yeah, work on your talks and work on the environmental load. Open up that channel to get rid of toxins, etc., etc. but we haven't dove deep, so we're going to do that today to start what is even a toxin like?

What are people for the very basics, the ABCs? What does it even mean? Yeah. So, I love talking about this topic because people more and more just don't feel well.

They're like, I don't I'm aging. You know, they give we give all kinds of excuses. And I don't believe in just the aging excuses. I don't feel well. I wake up more achy and my brain is not as clear.

So this is one of those things that I call the elephant in the room, which is the thing that is really suppressing our immunity and changing our world, and for many reasons that we can dive into.

So toxins are everywhere. They're in the air that we breathe. They're in the water that we drink, they're in the food that we consume, and they're all over in our environment.

And we should have. I don't want to make this a doomsday talk, because the truth is, our bodies have the capacity to detoxify. We are created and made to do that.

We are good organ like that's our one of our main functions is how do we, you know, not accumulate these kinds of things that are harmful. So the good news is, if we give ourselves the right nutrients and the right tools and the right things, which we'll talk about, we have everything we need to live in a world that is a little bit toxic, things that are toxins that you may not think about.

Our water supply often contaminated with things like arsenic or runoff, pesticides, herbicides, from farm, super common glyphosate is being used everywhere.

And so even now they're finding trace glyphosate or roundup inorganic ones. And California. Oh, well, it's everywhere even in you know, it's it's getting because you can't have someone spraying a crop.

You can't like had a line in the air where the spray and the organic and there's spray. So there's ways in places that these, are everywhere. The other thing that's happening as we manufacture goods and services and new products, we have all kinds of new innovative ways to do things.

But what's happening as well is literally thousands, of chemicals exponentially are increasing, and being approved for use each year. And a lot of these have no safety data.

Number one, in synergy with other chemicals. And number two, by themselves in human safety. So we feel like the Environmental Protection Agency is there to protect us.

And they are, but they're not testing each of these chemicals on humans for decades before they're released. So there's a lot of new things in our environment.

Even, for example, BPA, we know is harmful. So now there's new types of bpas that they say are better. But I'm not convinced that the new baby is there any less dangerous.

Common Sources and Why Testing Misses Them

So we have things like phthalates that are in perfumes and lotions and creams and things we put on our bodies. We have things like parabens that are same thing shampoos, conditioners, things like that.

We have things like, that, organophosphates, pesticides, things in our food supply that are used on farming, and glyphosate. We have things like heavy metals.

And now with the wildfires out west, I'm in, Colorado where it's a huge area. California. A lot of these places are experiencing more wildfires and more climate change than ever before.

And in the smoke from the wildfires, we just had a mass of fire in my community the end of the year. And, what I realized through that was the toxins in the air quality was just as bad as a toxic mold exposure.

And I saw the labs of patients change just with the smoke in the air. So it's everywhere now. It's like the trees are burning. There's, residues from metals and things.

So we're getting and then if you think about houses nowadays, the back purchases are made of plastic types of materials. So this stuff is burning. And when things are burning and creating air quality issues as well, as you know, the the all of these things accumulate, our systems just get overloaded.

So that's just a small glimpse snapshot. There's many, many other kinds of things that are empowerment and it's exponentially increasing. And what you said makes so much sense because a lot of people, you know, you'll see social media comments online or replies to videos and people will say, oh, you guys are quacks.

This stuff is safe, right? And why they say it's safe is because the people that rely on to vet it for them, tell them this is not necessarily like go eat this, it's safe, but there's no red flag.

Right? And that thinking of, well, did the science happen in the same context that the human experiences it? And that point you made us so valid and so important because most of it is in a petri dish, right?

The science happens in the lab. It doesn't happen the way a human actually experiences that chemical in the co-factors. What else did it touch? Where did it come from to what degree?

For how long and consistently did it happen? You know, so you have to understand that how you live is not the way things are tested. Yeah. And two really simple examples that everybody can relate to.

Number one, glyphosate roundup know it was tested human cells in a lab and said safe for humans no problem. But what they didn't test was the effects on the gut microbiome.

And that's where as it's a it's a metal, it's a key layer of minerals. That's how it was originally discovered. And so what happens is in the gut Achilles the minerals that number one, we need.

Number two, the plants need, which is why it harms the plants. And number three our microbiome needs. So the biggest effect of roundup or glyphosate is actually on our microbiome which affects our whole body.

But it's not the cells of our body right. So that's where it has a dramatic effect on human health. But it's not necessarily the way that was tested. The second example of synergy of some of these chemicals, they have hermetic effects, which means very, very, very tiny doses.

Normal toxicology has okay, there's this curve. And at some point there's a dose that causes toxicity in 90% of humans. And they use that dose to, you know, regulate what's the toxic levels of these chemicals.

Well, a lot of these types of endocrine disruptors, which mean they have a hormone like effect in the body, like, around, organophosphates or pesticides.

These will have a biphasic, disruption in human growth and development and, function. And they'll have, affected incredibly tiny levels because it's almost like a hormone on the body.

And then the standard toxicology levels and they're not testing those. And then the other thing that we find is in synergy, when you put two of these together, it's not just like one plus one equals two.

It's one plus one equals 100 or 300 or whatever. Right. Toxicology changes. And it's not a typical curve that the toxicologist is looking at. Yeah. It's exponential in nature.

When you start to get into those you know those mixing. So yeah the you know when we look at the ABCs going back to basics, I, I'm convinced if this was the first time I would ever heard it that yes, there's an exposure, there's stuff out there.

Second step is, well, convince me that that's a problem. Why is that bad for me? Right. There's a lot of people that still say, that's fine. My ancestors lived this way.

It's fine. So what does it do to you? Yeah. So it's all about toxic load. I love talking about this to doctors because anyone layperson, doctors, whatever, it all makes sense.

It's almost like in this has to do with genetics. We're all born with a bucket. If you have genetic snips that affect some of your detoxification, like glutathione or whatever those things could be, your bucket may be smaller.

And so you're born into this world with a smaller capacity for that toxic load. We all can handle some load, and we're meant to do that. And what we do is it's almost like bailing out the water of the bucket.

Toxic Load, Genetics, and Disease Risk

Our detox genetics are working pretty well. We're bailing out at the same rate. It's coming in and we're fine. But at some point many people reach that threshold or the top of their bucket.

It starts spilling over the top. They can't keep up with that baling motion of getting rid of the toxic load. And someone like me gets cancer at 25 years old.

And that that was an evidence of my toxic load getting too high for my body, and then started to damage DNA and cause cancer to develop at a very young age.

So what happens is when someone has the capacity, whatever they do genetically, some people, it's a, you know, the 95 year old that smokes and drinks and is fine and lives day 105.

That person has a very large bucket and so their capacity. But some of us, like myself, genetically have a smaller bucket. And so we reached the threshold in our 20s and we start to get overloaded.

And we have autoimmunity, cancers and neurodegenerative diseases as the top three things that we see. And if you look at the statistics around autoimmunity of all types of neurodegeneration, Parkinson's, Alzheimer's, ALS, etc., Ms..

And then also around cancers, those are exponentially increase in number. It's related to this toxic load. So when you think about load, it's basically like we can handle to a certain point.

But when that load in our environment overcomes our ability to bail out the bucket, then we get sick and it happens to everybody. It's just some people have a larger bucket.

And that's the challenge is you get this one size fits all approach like grandma smoked all. She's 90. I don't believe you. Right. It's fine. In fact, that was her treatment.

She would say I have a sore throat. Give me a cigaret. Yes. Or whiskey. Right. So, Yeah. And I can understand why that would lead people down the path of, like, this doesn't make sense, but you're off ignoring the bottom 20 or 30%, and you don't want to be in that bucket.

And guess what? For the middle, which is the bulk of us, that person that has those amazing genes that can drink, paint and pee it out and just, you know, no problem.

We've seen it in our data. It's far and like, it's maybe, I think certain ghost genes, it's like less than 5%, that one, which is more around the gut.

Yeah. I think something like 80% of people are off and are doing well. A very tiny fraction, less than 9% actually do that properly. Right. So yes, you're going to hear stories about people that have no problem, but you're more likely in the nine, 81 or 91% than the 9%.

So what then actually happens to the body? Say you're this person who has the small bucket, who is going to express some kind of problem. What does the toxin actually do to cause damage?

You got it. Yeah. And I also want to mention real quickly, one thing I think about that makes it super simple, and I might have mentioned it earlier, is clean air, clean water, clean food.

It comes down to really simple things. And we can go do a 21 day detox or go to Switzerland to the clinic and do a liver call. And we can do these really intense detox things.

But the truth is, and this is great for your listeners, because you don't need a functional expert. You don't need to go to a doctor. You can start with basics and choose to put clean things in drink, clean water, clean food, breathe clean air.

And those things don't have to cost a lot. And they can be very simple inputs that can prevent that toxic load from accumulating. So you can do things and we'll talk about each of those categories and what you do.

But your original question was more like, how might we know? How might we know that we're exposed? Right. So this is where a lot of the toxicity symptoms.

And then what does our body do? I'll talk about both those things. The first thing is how would we know. Basically the symptoms of toxicity can be very big.

And so this is where like I mentioned before, someone might just think, oh, I'm getting older. They wake up in the morning, they're more achy or they're stiff.

So pain in general is accentuated by toxicity. Brain is a big one. Brain is affected on all levels. So a lot of people will say, I'm forgetting things.

I have more memory. I have cognition issues, board finding mold in particular, which we didn't even mention yet, and it's one of my favorite. Yeah, absolutely affects the brain.

And probably the number one complaint we have is cognitive dysfunction. And that's a toxin in the air that we breathe. So that basics of clean air, clean water, clean food and then the symptoms can be brain, they can be skin, they can be digestive, they can be, neurological.

So almost any symptom sounds kind of like it's not true, but it's true. Almost any system can be affected by this. And you could be more prone to get sick.

You could be more cognitively impaired. You could be more Rashi or hives or issues with the skin. A lot of times the skin is one of the detox organs. So we will manifest toxicity with acne breakouts, rashes, mass cell activation which is another whole hot topic where the mast cells that cause release of histamine and other chemical mediators can be activated and cause symptoms all over the body.

So those are kind of the symptoms. And then I think your next question was, what else can we do about it?

How Toxins Affect the Body and Detox Pathways

What would you like me to go. Yeah. So essentially, like in between, I got exposed to mold and I now have eczema or a migraine. What actually happened?

What are the toxin do to me? Yeah. Okay. Thank you. So. So how we detox is, we do detox through the lungs, through the air that we breathe, and we can externally exhales toxins more.

The primary method is through our internal hepatic circulation. That's the liver, the gallbladder and the gut. And I'll briefly describe this because if you understand how this works, then those methods that we use to help detox or some of the symptoms might make more sense.

So basically we have toxic exposures. Some of them are water soluble. And they can go into our body, into the blood filtered through the kidneys and then out through the urine.

Those are fairly easy to deal with. And the kidneys help us in that case. And the urine is the way that we excrete them. Other toxins are fat soluble.

These are a little more tricky because we maybe inhale them or get them in our body through exposure to the skin, or even eating them. And then they can go into our fat tissues and be stored.

This is where we need to actually get them out of storage into the bloodstream. Bloodstream is filtered by our like the car. The filter in the car is a liver.

And that filter of the car basically takes those toxins, transform them into an intermediate through phase one of the liver. And then that intermediate is actually more toxic than the original.

So you don't want to stay there. Phase two then takes that intermediate into a water soluble toxin that's now been changed in form and release it into the bile.

The bill is stored in the gallbladder, but then the bile goes out, drip, drip, drip through the gallbladder into the small bowel. And the small bowel should excrete it in stool.

But we're really good at recirculating and basically recycling the bile. So about 95% is the effectiveness of our bile recycling. So we often use things that have a charge that will have actually pull out the toxins through our stool.

That's why we use like clay and charcoal and light and some binders, because they have a little bit of a charge and they'll grab on to the toxins in the bile, and they'll help escort them out permanently through the stool, in the body, through the gut, so that liver phase one, phase two into the bile, into the gut, through the stool is a really prime way of detoxifying some of the fat soluble, toxins that get into our tissues.

But we still have to have before we get to the liver in the bloodstream, we have to have a way to kind of release them from the tissues. And that's where things like dry brushing, infrared, sauna, PMF mats, sweating, all those kinds of things are super helpful.

It's starting to get the body to release that load of toxins in the tissues. That's critical. And PMF so what what's going on there? Because what do I understand is you're sending electrical currents into your system.

So how would that help with toxicity. Yeah. So I'm a huge fan of that and all these other things I mentioned. So anything any way that you can energetically stimulate the enzymes of your cells to work better, you're going to get all of these functions better processing.

So one thing like my PMF mat has infrared and a little bit of heat, so you're getting a little bit of sweat with that. But even that electrical stimulation, just like one of the mat settings, is, the Schumann frequency, which is the frequency of the Earth's surface.

So you could technically, that's why we feel better if we go on vacation to the beach, we walk barefoot on the sand. Right? We're literally connecting to the Earth's magnetic frequency.

It's like natural PMF. And the reason why we love vacations. Because if we are on the coast, on the beach, walking barefoot, we usually feel better because we're naturally getting that energetic from the Earth's surface.

But of course, we can make it happen with our mat. But there's will actually stimulate, the and they're going to stimulate mitochondria whose mitochondria are really related to energy.

Mitochondria can be the main powerhouse is the powering cell. And each cell is going through the process of detoxing as well. So that would be the way that.

So lying on the sand is literally a form of cellular rejuvenation. Absolutely. Yeah. And that's why keep people built better camping or on the ground when we go out in nature and you actually are connected to the earth, a lot of people are like, I feel better, because it's awesome.

It's awesome. And intuitively, people know that when you feel something, something's happening, right? Yeah. There's some pleasure in being away from work.

But you know, that last so long when you truly feel rejuvenated, you maybe you are. Maybe something happened, right? So, you know, so going back to what you said about the three key inputs, it's you know, what you breathe, what you eat, you know, other what in water.

What I think about eating to me that becomes complex. And I'll give you an example with myself. So there was a drink that I really enjoyed that was a carbonated drink that had stevia in it.

So I kind of felt guilt free. Right? There was very little of it. It was carbonated water, stevia and a natural flavor. Right? I drank it for 3 or 4 days in a row, and I started getting headaches and I thought, what did I change?

And the only thing I could see was this. So I stopped drinking and the headaches went away. So I looked up natural flavors. Yes. And I found a natural flavor is derived from a plant or an animal, so it's natural.

So I said, what's wrong with that? Then I found in order to process it and get it into that drink required 75 chemicals. Wow. Yeah. And that's a it's usually up to 175 to 100.

Right. So but none of those are required to be listed because they're not ingredients. Those are processing chemicals that take that thing extracted from the plant.

Get it ready, put it into the chemical, put it into the food, whatever. So how does somebody know what's clean? Like when you go even you go buy a bag of organic quinoa chips and you feel all great about yourself.

It was still processed on a heavy metal machine that's clean with sprays every couple of days. Where do you start? So this is such a great question because it can be totally overwhelming.

And you just put a perfect example as far as like, okay, I'm trying to do this good thing. Yeah. And things nowadays are so confused because they hear keto, they hear paleo, they are vegetarian, they hear everything in between.

And like, what am I supposed to do? And here's an interesting thing that I'm sure a lot of listeners will relate to. Dilution is the solution to pollution, right?

Is our bodies, if they're polluted, they're going to dilute and gain weight. How many people have you heard now they're struggling with unexplained weight.

You can't lose weight more than ever before in my practice. And people who are eating good, exercising, right, they're doing the right stuff. But it's not calories in calories out anymore because the body is smart and it's like, if you're toxic, I'm going to protect you by putting more fat in your system to dilute that pollution.

So this is a big deal because as they gain weight, they're confused. They're like, what am I going to do? And the same thing with the diet. They're like, I'm eating really clean.

I'm doing everything I'm supposed to do. I'm not losing weight. I hear that all the time. And the first thought that I have as a clinician is there's a toxicity issue.

And what I know to be true is we can do all the right weight, weight loss things in the world.

Food, Water, and Air Exposure Basics

But if they're super toxic, like, say, they had a mole exposure or say they had chemical exposures or heavy metal, mercury or lead issues in their body, it's going to be very difficult for them to lose weight because when they start diluting, they become more toxic.

So when they have the weight and I've seen that over and over again to for someone in the wrong order wants to lose weight first before they detox, they get very sick.

When they lose weight, you know, and they gain it back. Yeah. So this is a big deal with our with our, with our people. So, it's it is a what to eat. Back to your original question. What to do?

What's unfortunate is this the rate limiting factor for all of us, including me, is convenience. Right. And I'm going to pause there, because if you think about it, if you could grow your own food, you could harvest it, you could cut it up, chop it up and eat it. And it was real health food.

We all know that's the right way to eat. They come with us, including you and I have time and we have full time gardener and chef. Right. Like that is not practical.

So what we have done is we've sacrificed what's really good for us, which is local, organic, homegrown, if possible, as close to past, you know, as close to your source as possible.

And one ingredient, two ingredients, maybe three, you know, then cooking with these real, real foods, or having chickens in the backyard for eggs if you're, you know, eating or that kind of thing.

That's the way it should be. The practicality that for most of us is almost impossible. So then we have to compromise the how can we get even? For example, for me, I'm going to confess here I would rather grow my own broccoli, cut it up, have it for salads and stuff.

I buy it, cut up. It's organic, but it's cut up in a package. It's got plastic around it. Right. Because I that saves me five minutes and five minutes to me is valuable.

And again, I'm just confessing here because I don't do things all right either. But if I were doing things right, you know, so we all know like going back to real food, real sources, things we can identify with 1 or 2 ingredients is

ideal.

But then how do we do it in a real world, any time you take even a grain, for example, rice, if you take a full, you know, whole grain organic rice and you cook it, you know, for half hour and make your rice or quinoa, that's going to be better than if you take a product made of rice and processed.

So rice crackers, rice cookies, rice cakes, quinoa cakes, quinoa. So anytime you take some of that to the more processed form, even if it's organic and made of a few ingredients, you're losing quality.

So I always say go to the more less complex form. But again, you have to figure in the time factor. And then as far as what's right, grains have become kind of villainized.

And so a lot of people are on paleo diets. The part of the issue there is, I think our digestion has been impaired by a lot of this. So we have more trouble tasting grains.

And if you have bacterial overgrowth or fungal overgrowth or issues in your gut, sometimes the grains will exacerbate. But a bigger issue no one's talking about that I think might be the real culprit, is grains are the most commonly contaminated with molds and mycotoxins, and as our grain and food supply is adulterated and stored in bins and things like that, I think that maybe the reason people are feeling better in a grain free diet is because they're avoiding most of the mycotoxins.

That makes a lot of sense, and I feel the same. And there's also chemicals used to dry things and preserve them, which are not listed as ingredients. Right?

Yes, I know in Canada there's a chemical that's actually illegal in most of Europe that's used to dry wheat so that it could be stored in the grain silos.

Yes, so that it can be processed and held. And it's it's a pure toxin. I don't know how else to describe it. And that's why it's literally illegal in other countries.

So, you know, so this this is awesome because you start to think about how it goes in and what you're what you're putting in and doing the right thing.

Going back to the water, which is 2 or 3 things, what is clean water mean? How do I know what I'm doing? The right thing there? Well, we trust our cities and municipalities to test and treat and that we should be getting clean water.

Granted, that hopefully is the case in many cities, but there are still quality sheets of water even in our city municipal water supply. So I recommend patients test their water.

And I think we should all have good water filters either in our fridge, not just the the fridge filters can be great, but often the freestanding pitchers or things that you can buy.

I have a Berkey water filter. You can get reverse osmosis for a whole house and under your sink you can get like clearly filters and other great brands of different brands of things that you can have.

And most of them are, incredibly, good at filtering out all the particulate, the two that I mentioned, I think there's 200 chemicals that they'll filter out.

The reverse osmosis, which is the most common for a whole house filter, is great. But there's a caveat for us as most as we'll also remove minerals. And we also and minerals create a more alkaline product, which is why I do recommend we drink like I'm right here.

Have a glass of San Pellegrino. Which is just any good, European mineral water because it's still, it has the, rich, minerals from the rock. And that actually alkaline is our body.

When we're more alkaline, we do better detox. So just by drinking mineral water still or sparkling, we're going to help our detox between meals. But when we go to reverse osmosis, it's a very acidic water because the minerals have been stripped away.

So if you are using reverse osmosis, it's a very clean water, but you're losing minerals. And if you drink that acidic water, your body has to buffer because it keeps the pH steady in your blood.

So what it will do is a pull minerals from your bones. So you could be more prone to something like osteoporosis if you drank only acidic, you know, reverse osmosis water.

Your whole life and did more plant minerals. So patients who do use reverse osmosis, I always recommend taking a mineral supplement calcium, magnesium, phosphorus, etc..

Zinc. And then I am a huge fan for detox. As well as encouraging patients between meals to drink mineral water from, you know, European or other sources like that.

But it can be tricky because we just went through that whole thing and you can't use, you know, aro is going to cause acidic, but test your water and make sure there's no issues there.

What do you use to test it? So most counties and cities will have free testing. So you can actually use that. There are a few paid tests off the top of my head.

I don't know the companies, but you can actually get a water test, send a sample and get a report. And again, because cities have to do this and they have to share, what if you would ask your city, they would have to give you a report of their water testing.

You can ask who they use. So first of all I just ask for a report. It's free you know. And then second, I would maybe do an independent test if you were concerned.

Recent example I had a patient who had natural gas. They were had a well water and so. Well, for sure, if you have a well in your farm or your place, then absolutely, you need to test that because of course you're the one regulating that.

There's no one else watching that you. I grew up on a farm and had cancer at 25, and we drank wild water. And I have no doubt in my mind that some of that wild water probably had contamination from the runoff of chemicals from the farm.

Yeah, it makes a lot of sense. You people think of things as siloed, like the land is there, the water is here. No, it's all working underground and doing things that you're not thinking about.

And it's all seeping in. Right? So, and then the last one, I mean, other than walking around with a hazmat suit, how do you deal with with air? Because I can understand in your home.

But how do you manage that? Okay, so this is big because, even I'm super knowledgeable. Environmental toxicity. And when I heard Walter Carignan maybe five years ago talk about this, and he said 80% of our environmental toxic load is from the air that we breathe, I was shocked, but it's true.

So this is probably the biggest one. And again, we take it for granted because we're just breathing every day. We don't know. I like I said, after the wildfires here, I realized how toxic the air quality became because of the burning of all the materials that are manmade and plastic and everything, and the trees and everything as well.

So air quality, what to do? I would recommend at this point in time that most of us have a good quality air filter in our homes and offices. So for me, in my other room, I have a standalone Austin Air filter.

I actually have three in my condo and five in my office, and we have really good air quality because that you don't

need to use that brand. There's many, many other great ones out there, but what I recommend is you get a good Hepa filtration system that's going to be the particulate.

And then you also want to have a good VOC that's volatile organic compounds. These are like fumes from chemical off gassing things like formaldehyde. And the way that a filter will have a block is usually a lava clay or charcoal or zeolite center where they actually pull out from the air those VOCs.

And that's really important as well, because as we look at the studies with nano particulate from exhaust and the box like off gassing from carpet and cabinets and mold, and those are probably the most toxic, and they're going to be way too small to be filtered by Hepa.

So these are like 2.5 microns and smaller. And you really need a VOC filter to get those. For example, the one I mentioned, has a VOC filter up to 2.5 microns.

It will filter viruses. So it's funny that during Covid we had five filters in our office. Our office worked the whole time. We all really well the first two years.

And part of it I think was our air quality. Yeah, that makes a lot of sense. There was a lot of companies out there that dealt with sort of industrial air cleaning. For example.

You know, food processing facilities. Yeah. And they did studies saying that. Wait a second. When we put this in a certain environment, you can't find viruses.

You know, literally they proved it. And this didn't get out into the mainstream. But there's plenty of papers. I know the university at Florida, I believe, published something with one of these companies.

So going back to what you were saying earlier about, you know, telling us some of the ways you may feel here are some of the warning signs. Yeah. So I get that now all of a sudden, if there's, you know, all the question marks, migraine skin, why is this happening.

How does someone then know which environmental insult is causing that. Got it. And one thing I want to mention too, that's really important that I ask in my histories is have you gone on vacation recently and feel better now?

Mold, Home Environments, and Practical Testing

We have those things like walking barefoot that helps you, but environment is going to change with our location so often. If you're questioning, okay, could this be my house or my office or the outdoor air because there was fires or something in my location if you change location.

So for example, say someone moved to Denver five years ago and their whole family is having health issues now. Ever since they moved, there could be multiple reasons, but if it's their whole family in the same house, in a new environment, there's a high likelihood that in that house there could be something like mold or natural gas or fracking that's affecting the water, which we didn't even talk about.

So some of these things that could affect their environment. So one clue that it's environmental is if you feel different in different environments. And granted, there's things like altitude, there's things like air quality, there's things like water. So there's more than one, input.

But that is a big clue. If you I had a patient who had, you know, mold in her house. She went camping outside for ten days, and all of her symptoms resolved.

So we knew there was an issue with that, and but we didn't know what. But we knew there was an issue with her home. So that's one thing really important, because if you change environments, you feel better, there's something going on in your environment or if all of your family sick every since you went to a new home, there's something going on in that environment.

So that's the first thing. And then like I said, it can affect any system, any kind of thing cognitive stick, skin, big, all of that. What to do about it said our next.

Yeah. I keep motivated because I get excited and then I'm like, okay, call me back, tell me where we're going. So so first of all, find out if there's an issue and ways you can do that.

You, mole is a big one, and I'm just going to talk a little bit about that because it doesn't it's kind of a, a prototype for a lot of the other toxins.

So say, for example, you had a little water leak from your dishwasher under your sink and you thought, no big deal, you dried it up. But over the next two years, there was mold behind the wall, as you can see, because that would particleboard get damaged.

Most of the time. If I would just say, do you have mold in your home? 99% of people are like, no, there's no mold because it's not visible. Yeah, you don't think about that.

But most of the time, if it is in your home or environment, it's hidden. It's behind a wall, it's under a sink, it's under floors. And it can still be a big issue because it's constantly this living, growing organism that's putting off these volatile organic compounds that are so toxic to humans.

And we can get sick from that even if it's hidden and we can't see it. So that's the first thing. Second thing is you want to think about, have I had any water damage?

Water intrusion. Is the attic sealed house the crawlspace? Have the windows been leaking? As are condensation? That's not supposed to be there, is there?

You know, water leaks under the sink, dishwasher or washer dryer? Is the vent of the dryer appropriately vented to the bathroom, properly vented. So there's not humidity accumulation.

So all these things matter. And then the second thing is how do you feel in that environment. And if there's an issue, you can start by testing the dust in your environment through a qPCR test.

Any patient or person can get that themselves and just see if there's any evidence of mold in the dust of your home or environment, because that's a great way to kind of test.

And so you find a loads of stack your batteries are ketamine, which are really black toxic mold. Then you can go deeper and higher. Inspectors say, well, where is this coming from?

But it's a nice, easy way to check as far as air quality. You can buy on Amazon, air quality meter yourself. There's super high quality in the thousands of dollars that you might get from an inspector, and there's ones that you can use for personal use that are $100 or more, but much lower cost.

And they do work. They check particulate matter like we mentioned, at 2.5 or below. They can check the particulate in the air, which can be from even cooking, or from, particulate from fires.

They can check the box volatile organic compounds, which can be from like cabinetry or carpet, new carpet or any sort of new materials. Or they can be from mold.

And they can also check levels of formaldehyde. So you can actually get a meter yourself and check your air quality in your home. And that's a good way to start as well.

So in your home there's a level of control. It's your environment. You make decisions. Then many people have to go to other environments like work or family.

And if you know, like you said, that's the place, especially if it's work where you have to go daily and you know,

that's a place that makes you feel also, well, are there things you could you can't convince?

Yeah, maybe you can, but you can't convince a whole building to be ripped apart and fixed because you don't feel well. So are there things like supplements or other things you could do to support?

You know you're not feeling well in an environment you don't control? Okay. Great question. Because this happens all the time with landlords or workplaces or whatever where the patient that you're stuck in, they have to either go to work or they're renting a place and their landlord or their boss doesn't understand.

So yes, number one is that air filtration. So if it were me and I was have an office cubicle, or I was, in a situation where I couldn't change it, even rental, I would get a standalone air filter sitting right beside me, and like actually run.

That is getting if I'm seeing the office, because that will help a lot because that makes a bubble around you. The air quality, at least there is pretty filtered and it'll decrease the load of what you're being exposed to.

If you're really, really, really sick, some people have to make choices of leaving the job or changing because if you are really sick, which is a caveat, because some people just have mild symptoms, they maybe have allergies, that they can deal with.

But if you're really sick, you probably won't get well if you're going to stay there, because it's just one of those things where you're like bailing out, kind of like the bucket.

Your buckets become full and you can't really unload, but things that you can do and have control over, for example, I travel a lot and I'm still mold sensitive, but hotels all the time are moldy.

Yeah, so I take charcoal with me everywhere I go. It's in my travel bag right here. And literally if I feel funny or fill the mold exposure, I will take charcoal.

It helps me almost immediately. It's incredibly effective, incredibly cheap, just plain old activated charcoal you can get at your local drugstore. You don't need a special brand or kind or anything.

So that's a really helpful tool. Anything you can do to enhance your glutathione production so you can take liposomal glutathione. You can get IVs, you can take under your tongue, you can take oral.

But some people don't tolerate that. And there's precursors as well. Those would be know cysteine, glycine glutamine vitamin C, selenium. You can take all of those things or 1 or 2 of those things to enhance.

I take most of those every single day. So I just have in my system a lot of precursors and a lot of support for that glutathione, production in the situation where your lungs are affected or someone has asthma or, they have an irritation chemical irritant to the lungs, you can actually nebulizer you'd want this would be a prescription from your doctor.

You don't want to use over the counter because it needs to be sterile. But you can get glutathione or NK to nebulizer in a, nebulizer as well. So you're breathing in.

And that's a great, if people have primarily lung symptoms, I will give them nebulizer good effect or any C. And it's incredibly effective even post Covid.

I would give people that because it really helps clear up the lungs and the inflammation there. Yeah. You make me think of, you know, people when when they finally agree to get to work.

Meaning. Yeah, this is something I need to focus on and fix. You think of that in the context of your home. That's where your brain goes, right? And people will do all that work, go to work, and really never put two and two together and think because they don't think of it as an environment they control.

So they never even start to think about what they can change. And it reminds me of. So I'm in Toronto, you know, not far from Toronto. There's a city, that is considered the cancer capital of Canada, right?

It is also the steel manufacturing capital of Canada. So the industry that that city is built on is people working in the steel manufacturing factories, breathing in toxic chemicals from them, processing metals all day long.

And it's the cancer capital. But if you look at, you know, go to their homes, things are clean and organic and nice, and then the exposure maybe isn't at home.

And it's just even just the cognition and bringing that forward and even thinking about it, it's hard to even get there. For some people, it really is.

And I love that you say that because these are not easy solutions. Like, that's why this topic can be very depressing. But I give up, right? Because there's no it's just it's environment, nothing I can do.

And for example, with the wildfires I talked to some some experts after the wildfires, we could all tell literally the outdoor air was worse than indoor.

It was horrendous. I would get headaches and not feel it because there was so much sweat and chemical from those fires in our air for the couple weeks after.

And I literally talked to some actors and they said, okay, go get an N95 respirator, which is one of those that has charcoal. I'm sorry, not N95 and 100.

And it literally is a kind of a doomsday mask. Exactly. And you wear that around along with like she recommended. I wear that out in public when I'm walking my dog.

I'm like, not going to do that. Even though and granted, I it's a great recommendation, but it's, it's so extreme to go to those levels, right, that it's like, okay, we're weird.

There's something wrong here. And we're not. It's just like protecting our bodies. It made sense. But, that level of of protecting yourself can sometimes be really inconvenient or feel really strange.

And if I really had wanted to protect myself, I should be wearing that and 100 mask around outside. Well, you know, three weeks after the fire, you know, what people think is a real big priority.

Supportive Detox Tools and Clinical Resources

That's a problem, right? And you know it is. What are they going to think? How is it going to make me look versus how am I going to feel? And what am I slowly doing to myself over time?

So yeah, I just it starts it awareness and understanding that it's even something to look at. And then it starts with, you know, habits at home and habits at work and understanding.

It's the day is 24 hours, not just when you're sitting in your bed. Right. So, you know, that's one little thing I want to mention too, if you have to, all of these things, whether it's fine, organic or, shopping local or we have to make choices because none of us can do it all perfectly, and that's okay.

Doesn't mean you're going to be fine if you don't. But you mentioned something to sleep. We spend eight hours or sometimes seven in our bed, you know, bedrooms.

So if you have a choice of where to focus and you can't do everything, that's where I would focus. Is the air quality in your bedroom and your bedroom sanctuary.

Like if you had to make a choice. That's where I put the air filter. That's where I focus on, you know, those kinds of

things because you're spending a lot of time there.

And during the night is when our immune systems reject, you know, regenerate and do most of their work. It's when our liver does most of the work. It's when we, you know, like, a lot of the things that happen in our brain through the lymphatic system, which is the detox of our brain, it all happens overnight.

So if you have to focus on something, think about your sleep and where you sleep and the quality of air when you sleep in those kinds of things. And then the bedroom would be great.

That makes so much sense, because you've just taken literally 30% of your day and dealt with it. And it's a time, like you said, it's isolated. You're in a room and you're detoxing anyway, and you could support that process.

So how often do you have to get into things like people's mattress or blankets or, you know, things like fire retardant memory foam? How important are these things?

Yeah. So a couple little areas, the furniture. The sad thing is almost everything legally has flame retardants on it. I think California's the most progressive state.

So a lot of times manufacturers in California or sales in California actually list a lot more clearly what the harmful chemicals are in a product. Whereas like here in Colorado, we may not have the same disclosures because we don't have the same legal protection, you know, in in place.

So you can sometimes see in state of California this thing is considered a carcinogen, where you wouldn't see it in other states. And that can be important.

Mattresses, furniture very commonly contain flame retardant. So again, if you're spending a lot of time, especially a mattress, you want to stick one that does not contain flame retardants.

And the granted, it be great to have all organic cotton sheets and stuff because if you don't as chemicals we do absorb a lot of our skin. So, women and men, bath and beauty products are a huge source of toxins.

Young women makeup is a lot of that. They often would have heavy metals or parabens or phthalates or those kinds of things in there. I remember when I got cancer at 25, one of the things was, why did I get cancer at 25?

And I went through all of my bath and brought it body and cleaning products over a year or two, and really started understanding how much was in things that I was using.

A great resource that's free and nonprofit is environment working Group. They have a, database on chemicals in, different products, especially hair, beauty, makeup.

So if anyone's wanting to look up their product and see if it's safe, that's a great resource. You can go there, it's free, and you could look that up.

That's awesome. And something you just touched on there. I mean, we could spend an hour just on this, but in general, everything we've been talking about applies to everybody.

But then when you look at women, there's a whole other threat. When you have environmental toxins interrupting your hormone cascade. Yes. Which yes, it for sure.

It also also has a problem for men, but the impact is just so much more aggressive, severe, obvious when it comes to women. How much of that do you see in terms of hormone disruption?

Because somebody is already environmentally sick. Massive, massive, massive. And again, my cancer was breast cancer, which is a hormone, repeated throughout 25.

So it was absolutely part of my story. One thing I found you mentioned chemicals that were banned elsewhere in not in Canada. There's one that is still used in the US called atrazine.

And this was, made famous by Silent Spring, that movie and book about how a lot of the runoff of water was causing changes in the frogs. And they were also not being able to recreate, because our produce any frog babies, because they didn't have the right genitalia.

And that was all from the atrazine runoff. So it was a massive endocrine disruptor. It was banned around the time I got cancer 20 years ago in the, EU and the European Union.

It's still used today frequently in the US. And the area I grew up in. The farm area is one of the highest concentrations in the entire United States, so could talk about endocrine disruptors.

There's no doubt in my mind there was probably some atrazine exposure to me, and probably in the water supply in the world, water, and had a hormone like effect.

And what that does, a hermetic hormone like effect or and you can disruptors. All this means is these chemicals act on our body like a hormone would. So it confuses the body and starts to stimulate or do something that a hormone would in excessive levels.

And women could have endometriosis, PCOS, uterine fibroids, this area which is irregular, painful cycles, they could have infertility is a big one for both men and women and cancers like breast and prostate.

Those are all things that are becoming more common because of the endocrine disruption. Yeah. And for and this is why we say that it's a red flag for women because women have to deal with estrogen toxicity.

Which men really. Yes. It's also existent for men. But the amounts are traced. So it's not really a big deal. But there's a whole other health concern women have to deal with.

So if you already are estrogen toxic, but so many women are, and then you're adding a whole other layer of really estrogen because that's what your body treated as hormone.

Then you're feeling that fire in a big way and you wonder why so many more women have breast cancer show of ovarian cancers, all these estrogen toxicity problems.

So how do you then deal with that? Because a woman's going to come in with fibromyalgia and she's going to say, treat this. And you're telling her that it's a toxicity problem.

And she'll say, well, no, fix my problem, I have fibromyalgia. Yeah. And you ask another question earlier that I ran right by and it was like, how do you know what to go for and what do you.

So we do like in my clinic in function and we do testing. But one thing as I teach clinicians, it can be overwhelming this topic. And to find every toxin in your bucket can feel like an insurmountable type of thing.

So the important thing is to know we're all toxic, period. All of us do it better than others, but we can assume there's toxicity. Now, granted, there is different ways to detox different chemicals, and what we do is urinary testing.

We can do blood testing. There's different ways to test for these and get kind of an idea of what's happening. But there's no perfect test and there's no panel that does all of them.

So the best we can do is kind of get an idea of what might be happening. Is it more the Pearman sulfates, persistent organic pollutants, pesticides, or is it more than heavy metals, or is it more mold or something else?

And, then what we can do is the great thing about detox is the same principles that work for liver, gallbladder, guts. Some of the stuff I described, they will detox most chemicals so you can put patients on a detox protocol, which

would involve, some way of mobilizing toxins that could be dry brushing, infrared sauna, Epsom salt baths, mat, getting outdoors, sweating, exercising, mobilizing the toxins.

And then the supplements would be something along the lines of the stuff we talked about for glutathione, liver support is huge. So milk thistle, nasty like colic, acid, anything in the realm of supporting that liver detox pathway?

B vitamins, methylated B's, sulforaphane and things that are related to phase two, and all of that. And then binders. Binders are a huge part of it. And you can do different types of binders for different types of chemicals.

But basics are clay or charcoal or zeolite or glycol, manas or chlorella. Those are all common detox binders that would do a protocol that would detox most of the toxic load.

Now, if you're dealing with a certain heavy metal, you usually need something like DMC or EDTA or something stronger that specifically binds to that metal.

Zeolite can also be helpful. But those are kind of the basics of detox that are so awesome. I'm thinking that I need to come to Colorado and spend a week in your clinic. No.

So do you actually clinically see patients too? Yeah I do, that's awesome. So how does somebody work with you and your team? Well, I, the very busy clinic kind of waitlist, so I do have a Pas, who sees patients, who's taking new patients, and, I this is one reason why I'm here with you.

I do three blogs. Three. So the best way is I've got tons of free resources because there's a lot you can do. So on my website, you'll need to come there ten, you know, a decade or more of free blogs all about these topics if you want to know more.

Doctor Jill Carnahan there. So I have to post articles and blogs there. And of course, I have a, podcast called Doctor Joe Live, which is on YouTube, iTunes and Stitcher and everywhere you can find it in YouTube channel as well, where again, just try and get out the information and empower patients to help themselves.

That's also been I've been watching you do that for some time now. You know, we originally met, it may have been 3 or 4 years ago. I've listened to the podcast.

I've seen you on various podcasts speaking, and you have never stopped going out there and just preaching, preaching, preaching, preaching, because there needs to be awareness.

If you. Three years ago, nobody knew what environmental health meant, right? Right. We've been doing it for a long time. But now people are starting to understand and you're seeing more articles about endocrine disruptors and women are starting to learn, and it's becoming sort of normalized.

But it was your work that made that happen. Thank you. Thank you for that. So and again, you've done it here again today. You know, we thank you for your time.

So this was amazing. You know, it's great that you're able to join us and impart your knowledge on us. I would advise anyone that wants to learn more, go to the blogs, get the books, listen to the podcast.

Jill has been everywhere, so it's very easy to get that information. Thank you again. This was amazing. You're welcome. Thank you so much.