Are The Products In Your Home Quietly Sabotaging Your Health? Unlock The Truth With Lara Adler Transcript

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Introduction and Guest Background

So use what you have and when it's time to replace it. There are a lot of resources. There's apps, there's websites. If you your health someone's health practitioner.

Is aware, they might be able to point clients or patients in, you know, towards, better products or better options and things like that. Certainly we can start then looking at food and, you know, looking at shifting towards more organic food.

I think to that conversation on this is always and it depends, for example, if somebody is working with a client or a patient that like, doesn't eat vegetables or fruit, the primary objective is to just get them to eat fruits or vegetables, regardless of whether or not they are organic, organic.

Next, layer up right in terms of moving the needle for health issues, the next layer up or further down that pipeline, they might switch to organic food to lower incidental pesticide.

Welcome to Doctor Talks, the podcast where every episode leads to a healthier you. Join us as we navigate the world of optimal health, uncovering groundbreaking strategies to conquer chronic disease.

In each episode, we'll bring you the latest insights from leading health experts, medical innovators, and wellness warriors. If you're seeking to transform your health journey, or if you're looking for answers to burning questions.

You've come to the right place. Get ready to unlock the secrets of lifelong health and vitality. This is Doctor Talks real talk from real doctors on the issues that matter to you most.

Hi, welcome to The Functional Edge. I'm Doctor Julia Ward, and this is where science meets real world strategies for living in a healthier, sharper and stronger, environment.

This is Laura Adler. She is an environmental health science and communicator who teaches health professionals and individuals with health based businesses to better understand the role of environmental chemical exposures in causing or contributing to chronic health issues so that they can more comprehensively support the clients and patients that they serve.

She trains practitioners to become experts in everyday toxic exposures so they can improve client outcomes without spending hundreds of hours researching on their own.

And I just want to say that your courses have been so, eye opening, because we got basically nothing zero, education in medical school, internship, residency, you know, even fellowship on, environmental toxins.

It's just not really talked about. Yeah, there's definitely a enormous education gap. That, you know, will probably take another couple of decades to fill on the curriculum side.

So you are not alone. Yeah.

Why Environmental Health Matters

And and just it really hits, for me personally on on a hugely personal note, because my, my family has been plagued with cancer. You know, I just like, there's so many family members that have had a diagnosis of cancer who have died from cancer.

And, you start thinking about exposures, you know, like, my, father was a chemical engineer. He used to wash his hands in these toxins and not think twice about it.

And so it's sort of. Oh, okay. Well, maybe that's why, you know, it just sort of. Everything falls into place when you start thinking back, along those lines.

So anyways, so I wanted to start off by what inspired you to focus on environmental health and educate medical providers about toxins? Yeah, I mean, I, I kind of stepped into the wellness space just wanting to help people eat healthier and just kind of like optimize their everyday health.

And in doing that work, you know, as a health coach, I have encountered, a small number of my clients that did quote all the right things, right. They ate better, they slept better, they moved better, all that stuff.

And their weight did not change. And so I felt compelled to see what was I missing? You know, clearly, I was missing something. And so I started looking into the literature around resistant weight loss.

And I kind of stumbled into this space of environmental, exposure. At the time, I had, learned about, class of chemicals referred to as obesity genes.

These are chemicals that can directly or indirectly, alter our metabolism in ways that can predispose us to gain weight, that can, lead to other metabolic issues insulin resistance, diabetes, obesity, etc..

And that really was just incredibly eye opening for me. I had been within kind of circulating within the wellness conversations at that point for like well over a decade.

And this was the first time that I was hearing about anything relating to environmental chemicals. And I was just completely fascinated by this topic.

And so I just started digging into the literature on this topic and and connecting with some of the research scientists that were doing the research published in this space, because I wanted to understand, like what what what else don't I know, right?

What? Yeah. And that actually, that question has actually never gone away. Because the more you know, the more you're like, wow, I don't know anything.

And so, you know, this was in, you know, early this was in 2008, 2009. So the conversation around environmental exposures, had not yet made it, although it was happening in academia and, you know, through through research, it had not made it down into some consumer awareness or within the conversations that, certainly.

But health coaches, nutritionists, dietitians that I knew at the time in my sphere were having. And so, and then the more that I kind of asked other types of practitioners medical, doctors, nurses, etc., I was learning that just like your experience, like this was not covered in curriculum at all.

Yeah. And that kind of felt like an oversight. And, so I started, you know, I started teaching in 2012 just to the colleagues, the health coaches, nutritionists, etc.

around me. And, you know, the the awareness about this topic has really transformed in the time between then and now. And it's been really heartening to see the conversation grow and to see an explosion of research into all these little corners of the environmental, health, environmental exposure, world.

And so, you know, I just I just feel really strongly that health professionals who are the ones that are either supporting people that have some type of health established health concern already or who are trying to avoid a health concern that might run in their family.

Right, like cancer or some autoimmune or something else, to help them address this, this factor, this aspect.

Common Misconceptions About Toxic Exposures

It's not the primary aspect or the primary needle mover in a lot of, chronic health issues, but it is a factor and, it should be it should be addressed right alongside all of those other lifestyle factors like nutrition and exercise and stress and sleep and all of those fundamentals.

And, yeah. So that's sort of how I transitioned into into that space. The space. That's great. And what motivated you to start? Well, I guess so. You decided to start teaching health professionals for greater impact of.

Yeah. I mean, well, you know, I as I was learning in the very beginning, I was integrating this conversation into my client work when I was working as a health coach.

So I did start the conversation there and kind of cut my teeth on, like the mistakes that you make when talking about a topic that is as overwhelming as environmental toxins.

So it's really through that initial, experience of like just overwhelming people to the point where they were like, I just glossed over and we're like, this is not helping.

And going and me taking a step back and going, okay, I have to do this differently. Differently. Because, you know, fear is not the the taste. I want to leave in people's mouth with this conversation and overwhelm is not what I want to leave them with, right?

And so, that's really where I kind of started learning about how to have a version of this conversation that is informative and empowering without being overwhelming.

And, and the to your point of working specifically with health professionals. Yeah, it was it was really just a greater impact, decision. And because, most, most people out in the world will only open their eyes or, you know, be open to the idea that chemicals in their these unseen factors in their daily lives, that they're like, well, I've been, you know, doing my laundry with these products my whole life, and I'm fine.

Right. And, and, people tend to only be concerned about these things are open to hearing about them when they already have a health challenge on deck that they're actively seeking to address.

For everybody else, it's not a problem until it's a problem. And so part of the motivation of working with the health professionals is that they are already working with an audience that are motivated and, looking to address whatever type of health issue that they have, whether it's, you know, something like eczema or something like, an autoimmune condition or cancer or what have you.

And so, you know, for everybody else, they're just like, yeah, I'm fine. I don't need to worry about this stuff. And I understand that. I don't I do think we all should be, aware of and taking action on some of these things.

But the audience that's the most motivated are those that are dealing with some type of health issue already. Those and women who are, you know, couples, people who are pregnant and wanting to have children, that's also the other, significantly motivated audience, right?

The fertility concerns. Yeah. Whether they're, having fertility concerns or they're just, you know, pregnant for the first time and they're learning about all the things they should do and shouldn't do, and they're more, hyper aware of not doing harm.

Yeah. And trying to avoid harm. And so that's an audience that is more motivated to take a closer look at some of these exposures. They're less dismissive of because they have a baby that they're, you know, growing and, and want to, have the best odds for, so they are more motivated.

And, and for everybody else, it's a, it's a harder conversation to have because it's a, it's a, it's an invisible in a lot of ways. Right. We don't see these things.

Yeah. And unfortunately, the effect from exposure can take decades to manifest in a diagnosable symptom or condition. And then it's very hard to kind of retroactively pin the tail on the donkey.

And environmental exposures is almost never it's definitely not never, but almost never the primary thing, that, you know, caused X, Y, and Z. I think people really love to be able to point a finger and say, that's what did it, or this is what did it.

For one thing, this is the one thing. For one thing, it's it's complicated and it's like an orchestra. Yeah. Of things that sort of come together to create an outcome.

And like I said earlier, you know, environmental exposures for most people isn't the primary needle mover in either direction, but it is a thing that moves the needle.

It is a factor. It is. Yeah, it's definitely a factor. What are some of the common misconceptions health professionals have about environmental toxins?

I think the biggest one, and this is, understandable, is that, the exposures are so small and insignificant that they don't really matter. And there's a couple of things that I would say to that.

The first is it depends on what type of exposure we're talking about. If we're talking about chemicals that have the ability to interfere with hormone signaling, and there's about 1000 to 1400 chemicals in our daily circulation that are, that fall into that category.

They're referred to as endocrine disrupting chemicals. Those chemicals don't follow the standard. The dose makes the poison framework that most people, including the field of toxicology, primarily uses to consider whether or not something is toxic.

And so it's really easy to dismiss the very low level of exposure that we're getting from our personal care products and our cleaning products and saying like, well, the dose makes the poison, the exposure that you have to drink.

You know, 50 gallons of this or you'd have to eat 50, you know, with servings of that a day in order for it to be problematic. But that overlooks the the well-established reality that our natural hormones operate at extraordinarily low levels within the body naturally, and that our endocrine system is tuned to this to, to use a frequency analogy to this really low frequency.

And when we have environment exposures that come in around that same frequency, whereas, you know, two other chemicals that maybe are not hormone disrupting, then yeah, the just as make the poison and those small amounts don't matter.

But so many of the chemicals that we are exposed to do have these hormone disrupting, endocrine disrupting, capabilities. So that's sort of one of the main things is that like it's really easy to be dismissive of this idea that, you know, hey, the dose makes the poison is, how all things work.

And it absolutely is the way that many exposures work. Like if you look at radiation, you know, their, extreme levels of radiation are absolutely deadly and low levels of radiation are not our bodies can can handle them, tolerate them without problem.

And so that, sort of exposure response path is very linear. It's very predictable. We can say, you know, hey, if a little bit is not, is is not that much of a problem, you know, more of it is going to be a bigger problem.

We see this with, you know, when people are trying to kind of, disagree with the idea that environmental chemicals, pose any risk at all is, you know, they say, well, even water can be toxic if you have too much, too much salt is is it's Goldilocks like too little.

It's not good to, you know, stuff like that. And so yeah, it's a yes and yes. Those things are true. And we have to

also recognize that the, dose response curve for endocrine disrupting chemicals is not always predictable.

It doesn't behave in predictable ways. And it's not linear. Yeah. It's not always linear. And so I think there is nuance to the conversation. Like as there is always that gets lost.

The other component that I think gets missed is people zooming out and considering the totality of exposures, in the sort of, sort of world of environmental health, there is a field of research called Exposome that's looking at what's called the exposure, which is all of the exposures that we get not just to chemicals, right, but all of the things that we are exposed to and experience in totality as a person throughout our lifetime.

And so, you know, when I hear sometimes very often medical professionals saying like, hey, the amount of, you know, BPA in a cash register receipt is literally not a problem.

Everybody needs to calm down. It's not a concern. You know, the amount is so low, it's not that big of a deal. It's metabolized really quickly, which it is.

How Practitioners Can Reduce Exposure

But that tells me that the person doesn't understand the broader context that we are getting exposed to chemicals like BPA from cash register receipts, from canned foods, from plastics, all of these different exposures throughout the day.

And we have to consider the totality. And so, no, in isolation, if that exposure in a cash register receipt or the amount of, say, a chemical in a personal care product on in a from an isolation standpoint, if we just looked at that one.

Yeah. They're not a problem. Yeah. But we're not exposed to just one. We are exposed to many throughout a single day. And research has found, at least as it pertains to some endocrine disrupting chemicals, that combinations of chemicals can actually be not only additive but amplified.

So the effect of an exposure to two endocrine disrupting chemicals is greater than the effect of each one individually. They amplify. And so that's part of the concern.

And that's part of what is kind of being explored within this exposome research. Yeah. Wow wow. And so how can practitioners, seamlessly incorporate environmental toxin education into their practices?

I mean, I think it starts with understanding, you know, what I call the what, where, how and what now. So what is it? Where is it? How does it affect people?

What does the research say? And then what do we do about it as individuals? I'll start by saying this is not a problem. That should be on the individual to figure out like this is a problem that does need to be addressed from a regulatory standpoint.

We do not have good enough regulations for chemicals in commerce. And so we need better and more restrictive regulations of chemicals in commerce, of industries that utilize this chemistry, that pollute into our environment.

Like that's the first step, but that often feels bigger than an individual person. Like, I don't know how to do that. And so then the focus is on, okay, well, what can I do as an individual to start addressing these exposures?

And that's the conversation that practitioners can start having in terms of, you know, starting to low, lower as many exposures as possible. And the with the recognition that not everybody's going to be able to do it to the same degree.

And that's totally okay. Right? It doesn't it's not a journey towards perfection. There is no such thing as zero exposure. The ship sailed on that I don't know.

I don't know if the ship was ever in port, you know, like, I don't know, but, it's not possible, right? We have polar bears in the Arctic that have PFAs chemicals in their blood.

We have PFAs chemistry in rain like these kind of these chemicals in a lot of instances are not easy to avoid or not possible to avoid. But that doesn't mean that we do nothing.

Yeah, it doesn't mean that we just go, whatever. We're all going to die, right? Especially because we know of, there's a long list of chronic health issues that are associated with, in some cases, causally linked to environmental exposures.

And so we do what's doable. Yeah, we avoid exposures or we reduce exposures where possible. And I think that that still matters because when we're you know, when you take a look at some of the research, epidemiological research of, you know, levels of certain chemicals and certain health effects, what the research, regardless of what we're looking at in terms of which chemicals or which health effects, if an effect is found, it's always at the higher end of the exposures, arc.

Right. So when we come lower, which is what we're aiming for, we see less symptoms, less disease. And so we're aiming just to move ourselves as low as, you know, just that section not zero.

Yeah. And so, you know, I think that in terms of practitioners having this conversation, it can be overwhelming. And so we just start with, what are the small, simple things that people can do every day.

And, and, and start encouraging people to move in that direction of choosing different cleaning products, choosing different personal care products, swapping out plastics in the kitchen.

They're all small things. On its own. You might go like, why? Why do I have to change my shampoo? I hear because I have a metabolic issue that doesn't make any sense, but I do think that it is the practitioner's job to connect those dots for people.

Doesn't need to be a big lecture, but it should be a a little bit of education to explain why we're asking people to do these things. And we do have large organizations, medical organizations that are encouraging their practitioners to do this.

So like Acog, the American, College of Obstetricians and Gynecologists is advocating and encouraging their practitioners to educate patients about endocrine disrupting chemicals in their daily lives because they recognize the role of edcs these these chemicals on impacting both fertility, fetal development, all of these factors related to, maternal health and fetal health.

And so it's really just like have whatever version of the conversation that you're able to have in your practice with clients or patients is that that sort of led me into the next question of how what strategies do you teach professionals to communicate the importance of these toxic exposures, but without causing overwhelm?

Yeah, I think, you know, over. I'll say this to start, unfortunately, the bulk of the conversation and I, I've been in this space in this specifically in the environmental health space now for going on 15 years.

I've been very active on social media as of the past roughly eight years. And what I see is that, the way that this conversation about environmental toxins, toxic exposures is presented is often in a oversimplified manner, a over hyped manner, meaning people are overstating what the research shows.

And also in a very sensational and kind of fearmongering way. And, and, and they do that because that's the currency of social media, right? We know that, outrage, tends to get it travels faster.

It gets more likes, it gets more engagement. And so people lean into that and they may, intentionally or even unintentionally be sort of perpetuating this fear based conversation about toxic exposures.

And that's something that I think we absolutely, desperately need to move away from, because we lose a lot of people in that conversation. The reality is not that handling a receipt one time or eating a bowl of canned soup one time, none of those individual exposures in our daily life is going to make a difference on its own.

And I think it's important to stress that while at the same time, telling people that it doesn't not matter does matter, that we lower these exposures.

And so I think one of the things that practitioner can do when, when communicating about this is, be really clear on what we know and what we don't know and point people towards, simple, easy to implement, free or low cost ways to minimize those exposures and constantly reminding people about what I just said.

It's not these little thing exposures here and there that matter. It is long term over the course of our lifetime. It is certainly more important during critical windows.

So during, you know, fertility, pre-pregnancy preconception, all throughout pregnancy, postpartum until the kid is, you know, child is a couple of years old.

That's an incredibly sensitive window, that we have to be probably a little bit more rigorous in terms of, working towards minimizing our exposures. But also recognizing it's not perfect if you're stuck in the elevator with somebody who has lots of fragrances on, you know, perfume, that does not mean that we panic and that we have anxiety and that we stress about it.

And I'm bringing all these things up because these are the things that I see people experiencing on social media. They hear about something and they immediately everything is a four alarm fire and I would say to somebody who's been in this space that is very passionate about the topic of environmental health, I don't want to say nothing is a four alarm fire.

I don't want to dismiss it to that degree, but I want to put it in its right place on this and the spectrum. Right? Right. So there are a lot of other things that are further up.

Yeah. On the on the scale of importance. But that doesn't mean that again, I will always go, but it doesn't mean we do nothing. Yeah. We have to recognize the greater scale.

And so again, I just would would encourage practitioners to focus on like what are the small, easy, practical interventions that people can fold into their daily routine, that are easy and that are accessible.

Accessibility is a big issue because there's significant, disproportionate exposures that certain populations, not just here in the United States, but globally, experience.

So, people who live in low income communities, black and brown communities, have disproportionate exposure to environmental pollution. And they have less access to healthy food they live in, you know, food deserts.

They don't have access to good green spaces. So these are all sort of primary social determinants of health that are so important. And so what I hate to see, which I see a lot is again, online on social media platforms is, health and wellness being positioned just happens through a lot of health professionals.

As you know, the only way that you can get healthy is to buy this, you know, $900 product or this $1,500 sauna. And I say you, if you have the money to buy those things, great.

Spend your money how you want. But if we exclude if we share that information at the exclusion of the things that are free, yeah, then we are, kind of stepping over this population that actually is the most exposed and that need the most intervention.

So now, well, that just leads me to my next question. What would you say are the top actions individuals can take to reduce their toxic burden in everyday life?

Yeah. I mean, I think there's, a couple of things. For example, consider your indoor air quality, you know, we spend 95% plus of our time indoors in a built environment.

Most of that is either at home or at work and depending on what people do, and indoor air quality is often overlooked. The fastest way for any substance, chemical, etc.

to enter our bloodstream outside of injection is via inhalation. And so what we the quality of our air matters.

Practical Steps for Everyday Toxic Reduction

The EPA is found that indoor air can be 2 to 5 times worse than outdoor air, even higher if you're, for example, painting in a room, and then you have chemicals that are being released.

And, you know, people will do things like they'll buy scented candles and air fresheners and room sprays and all of these home fragrances and I get it, they're nice and they make your house cozy and all of that.

But they are all releasing, certain chemicals like, volatile organic compounds. Benzene. Tal you mean sometimes formaldehyde? Often phthalates, which is an endocrine disrupting chemical, into to the air.

And then those chemicals don't just, like, evaporate, right? They settle and fall into the dust in our homes. Yeah. In fact, house dust studies, have consistently found that 100% of samples taken from all over the country, and they're certain samples from outside the country, 100% of samples have phthalates in them, likely because of fragranced materials.

And then things like vinyl flooring, and other plastics that can bleach some of these chemicals. So, you know, not buying scented candles, air fresheners, all of those home fragrances, the febreeze, all that stuff.

And and incense. Yes. Incense, I mean, absolutely, because now you're also adding particulate matter. With things like incense. People think because they're natural.

Yeah, they're they're safer. They're better. Same thing with essential oils. You know, I really encourage people to pump the brakes on essential oil use for the same reason.

These are volatile compounds, some of which can be harmful. The essential oils can still be, allergenic and respiratory triggers, asthma triggers, migraine triggers for people.

So, again, it just because it's natural doesn't automatically mean it's safe or better. Yeah. But to just ditch those scented products across the board, is a great way to improve indoor air quality, coupled with regularly opening your windows even if you live in a, a city or an urban environment, you don't have to be open all day, but 10 or 15 minutes of having the windows open, can make a big difference in allowing some of those chemicals that are, that are releasing from other places, like our furniture, our carpeting, the, you know, the home itself or walls and we want to give that an opportunity to escape.

And we do that by opening our windows. Another thing that is, falls into like the free and easy category, taking off your shoes is a simple thing that people can do.

You know, we're not just concerned about tracking in dog poop. You know, there are pesticides, heavy metals, polycyclic aromatic hydrocarbons. So, chemical compounds coming from a car exhaust that are carcinogenic that we track in on our shoes.

And if we have carpets, then those chemicals, those those compounds get stuck in the fibers of the carpet, and it becomes a, trap for a lot of these pollutants.

Certainly if we have children in the home, that are crawling on those carpets, then they're closer. Those chemicals are going to get kicked up into their breathing zone.

That's right close to the carpet. So that's a concern. So taking off your shoes is just a simple habit. Culturally, most places around the world do this in the United States.

It's not typical unless they're coming from, you know, they have ethnicities from our coming from, outside the United States. And that tradition has carried through, we tend to not, take our shoes off.

I always suggest, too, that if somebody is older and has mobility issues, etc., they have a pair of indoor shoes versus outdoor shoes. Obviously this like all things, isn't perfect.

I've posted about this on social media and people have said, well, I'm in a wheelchair, what do I do? And then I say, then you don't worry about it and you choose something else.

I don't worry about this one, right? Because it's not an easy thing for somebody who's in a wheelchair to control for. So just don't worry about it. Pick something else.

So taking off your shoes. And this one, this one says, increasing vacuuming and dusting. Okay. Nobody wants more housework, including, and we do know that, as I said, a lot of these chemicals settle in our house dust.

So that's the studies that are looking at the like what is what's in house? That's what is that composition have found, you know, dozen plus toxic chemicals that just live in our house dust at all times.

And so the more that we can capture that and take it out of the home, the better. Wet dusting is preferred to, like, feather dusting because that's just going to it's kind of getting stuff up.

It doesn't really take it. And and so wet dusting is just a damp cloth. And then you can throw the cloth in the washing machine and then reuse it. You know, hundreds of times.

So those are sort of some of, the best, easiest free, interventions. Beyond that, I would say another one that's not actually in the home, but like, you know, declining cash register receipts, as I mentioned, thermal paper is a exposure source to, BPA or BPA after BPF.

These are well-studied, well-established endocrine disrupting chemicals. We do even in the short amount of time that we handle them, we can absorb the, the chemicals through our skin, on our fingers, on a substantial amount.

Right. But in the totality of all these exposures, it's not, most people don't need those receipts. So, you know, you can just say no thanks. If the store has an email, the receipt option, choose that.

If people work in a retail establishment, wear gloves, just wear a pair of gloves. Or if you can't wear full gloves, you can wear like finger cloths, which are just like the little gloves just for your fingertips.

And just use those for the fingers that you typically handle the receipts. That's okay. So small interventions like that, that are pretty low cost or free, are things that like almost all people can implement.

Yeah, they're I think we're looking at, you know, looking at your, household cleaners and finding ones that don't, aren't laden with these strong, you know, fabuloso products that have heavy, heavy fragrances.

Right. People can certainly make their own. There's a lot more safer. Household cleaners available at the retail level now than there used to be. Again, we're not aiming for perfection.

I know people love to be like, well, this one ingredient, if it's better, that's better. That's what we're aiming for. People can decide if they want to go the DIY cleaner route.

I don't want to go that route. I don't have time for that. Yeah, for the most part. Right? Right. Clean up, looking at swapping out personal care products, is next on the list.

And I don't encourage people to throw out the things that they have. Just finish the bottle, whether it's for something better. Yes. And when it's time to replace it.

I mean, I think that's the challenge is, you know, people kind of present it as like, well, I'll never use this ever. It's so dangerous. Throw it out right away.

Yeah. It's like, well, look, people spent money on these things, and not everybody has the resources to just go throwing away perfectly functional product.

So use what you have and when it's time to replace it. There are a lot of resources. There's apps, there's websites. If your health someone's health practitioner, is aware they might be able to point clients or patients in, you know, towards, better products or better options and things like that.

Certainly we can start then looking at food and, you know, looking at shifting towards more organic food. I think to that conversation, this is always and it depends, for example, if somebody is working with a client or a patient that like, doesn't eat vegetables or fruit, the primary objective is to just get them to eat fruits or vegetables, regardless of whether or not they are organic, organic.

Next, layer up right in terms of moving the needle for health issues, the next layer up or further down that pipeline, they might switch to organic food to lower incidental pesticide exposure.

That way. But it's an it depends. Where is the person now? Are they eating, you know, Kentucky Fried Chicken and McDonald's then like don't push them towards that far end of the line.

You're not going to go with an organic hot well, you don't need 100% organic am I? And I don't try to. Right? I do the best that I can. I support local farmers, etc.

but it's not a, act of perfectionism. That's not what we're aiming for. I will repeat that 100 times because I want that to be the takeaway. Really, really, truly do want people to know that they can confidently address this topic of exposures without being afraid of chemicals.

Yeah, everything is a chemical. We have to remember that everything is chemical, right? And so, I mean, I see products marketed as like, oh, this face lotion is chemical free.

And I'm like, well, are you selling me the vacuum of space? Because to me, like, it has to be something. It's made of something. And those things are made of chemicals.

So like, let's be clear about our language, right? It might be free of harmful chemicals or chemicals that are suspected of causing harm, but they're not chemical free.

Right? Mean. Right. That's just a little yeah, a little a little thing. So certainly looking at food, people can then start looking at like water and whether or not there are contaminants in their water.

Yeah. That might be part of, what could be contributing to health issues, whether those are disinfection byproducts or heavy metals? Pesticides fast is certainly a big one.

A large percentage of the US population has fast chemistry in their water, and we've determined that, at least for some of the fast molecules, there is no safe level of exposure.

All levels of exposure are suspected to be harmful. So like these are serious. We do want to find out if they're in our water and then take action if there are, and one of those actions should be, you know, really pressing your water utility to move on, doing what they can to, to remove them as they are.

Yeah. Legally required to now. And I'll put a link to that, website where you can put in your zip code and it gives you your water report from wherever. Yes.

Water from. Yeah. So and and so people can look up their water quality report for free online. They can just Google water quality report on the city and state in which they live.

Water utilities are legally required to produce these reports annually. They usually come out in the summer or fall. And so you might not be able to find this year, but you can find last year's.

And that will tell you a little bit about like where your water comes from. Is it groundwater? Is it surface water, is it treated. And then it will look at and give you information on what are the levels of chemicals or metals that have been found in the water.

These are not tested. Like not every single one of those contaminants is tested for every year.

Chronic Disease Links and Emerging Research

Some are tested every couple of years. And so will usually tell you that, if you don't want to do that, then you can go to the environmental working groups, tap water database because what they've done is they've aggregated, public municipal water quality data and just put it on a single place.

Yeah. So they're not testing water. They're not giving information that's not publicly available. They're just aggregating it. So for that, it's like a convenient, place to look up your water.

It's also not going to be, truly accurate in not the environmental work. Sorry. The, Environmental Protection Agency, the EPA, under the safe drinking water Act, only regulates around 95 contaminants.

There are hundreds of chemical contaminants in our drinking water. The remainder of those are there legally, so they don't have to be tested. They don't have to be monitored and they don't have to be reported. So, you know, and so, you know, people can spend a couple hundred dollars to get independent testing.

And to my point about accessibility, not everybody can afford to do that. So this is where, you know, the best thing to start with is look at the free information that's available online.

And if people want to move to filter their water, any filter is better than no filter. Yes. So any filter is better than no filter. Some people might be in a situation where they live where like, hey, they just need like a basic picture filter for $20 and that's all they need.

And other people might live in areas where they have something like arsenic, which is very toxic and also very difficult to remove. And it needs specialty filtration, to remove arsenic from the water.

And so everyone's water is different. There's no perfect filter solution. I know that there's no one solution. There's no one like best water. What is a water filter?

Because it just depends on what toxins we're talking about. Yeah. And what are people's priorities. Because maybe they have a priority to remove, you know, this arsenic, but they don't really care so much about, you know, this other thing that might be in their water.

They're like, I don't really care about that. And so, it's not, you know, I certainly wish it was an easy answer. This is part of my frustration in the, wellness space where people are like, oh, they're endorsing specific water filters and saying, this is the best one.

There's no way to determine that because everyone that's like saying this exercise is the best for everyone that doesn't exist, right? Everyone's body is different.

Everyone's exercise tolerance is different. Everybody's underlying health issues are different. And so it has to truly be tailored to the individual. And that's also true for, ideal water filtration.

Yeah. Which are chronic diseases. Have you found to be most influenced by and by environmental toxins? I don't know about most influenced. I mean, certainly anything hormonally driven has a great potential to be, impacted by, you know, the large number of endocrine disrupting chemicals that we're exposed to.

The reality is that there is no organ system that's not touched in some capacity by either direct or indirect consequences of environmental exposures.

You know, we do know, for example, that like air pollution, just like particulate matter, PM 2.5, which is the fine particles that are really released from factories.

Also certainly during forest fire season, those are released, those lead to increased cardiovascular death. Like those are that's a big deal, right? Like I would say that those are probably a bigger deal than a lot of the incidental, personal, personal exposures that we get, say, through our personal care products or shampoos and things like that.

So not case like air pollution is going to be a bigger concern than something that might be in your shower. Right? I think also it matters like the answer's always going to be it depends.

Right. So it depends on what population that we're talking about. Are we talking about, developing fetus because for a developing fetus, certainly endocrine disrupting chemicals, certainly anything that's going to interfere.

With the neurological system. Right. We're building a human being during that time. So all of these exposures that can interfere with that building process can have lasting consequences.

If you talk to somebody who is dealing with, cancer in their family that has a predisposition genetically to cancer or epigenetic to cancer, for that audience, it might be the carcinogens.

It also might be the endocrine disrupting chemicals, which downstream also have carcinogenic effects. Or, you know, can can speed up the growth of cancer cells, for example.

So, you know, there really isn't anything that is, to varying degrees, associated with some type of environmental impact biota. I try to really differentiate between occupational exposures, which are higher than the normal population gets.

And I'm mostly looking at background level exposures, which are just, often called environmentally relevant exposures. These are just like the everyday stuff that we're all getting.

And, you know, one of the challenges with research in this space is, you know, we don't for ethical reasons, obviously, we don't test chemicals directly on people, right?

I mean, there have been historically some very terrible incidences where that's happened. But as a rule, we do not test chemicals on people. And so we have to use animal models to determine an, method of action of how is this chemical causing x, Y, and z?

We're looking at these effects, and then what we do is we look at human epidemiological data, we look in populations and say, hey, do the findings and epidemiological data mirror what we're seeing in animal models?

And, and we have to make educated inferences. Right? I think a lot of people are, you know, show me the proof, and that, as I like to say, proofs exist in mathematics, not in science.

In science, we're looking at evidence. And what is the evidence to suggest? What is the evidence? Say, and, you know, the same folks that will say things like, well, I'm not a mouse and I'm not a rat, and therefore this rodent studies don't apply to humans.

It's always a yes. And it depends. If that same research model is used to determine safety of chemicals, they

should also be sufficient to determine harm.

Yeah. Right. And so, oftentimes people will lean on animal studies to say see if they're safe, but then animal studies that show harm, they say, well, I'm not a mouse and you're an animal.

So those couldn't apply to me. So that logic is a little bit, selective, in that, in that way. Yeah, I think, I think I've meandered away from what your question about, but that's okay.

No, I yeah. So yeah, I don't even remember what the question was. Yeah. We were just talking about what? You know, kind of chronic health diseases and I know, okay, metabolic, thyroid, reproductive.

And then children's health because they're smaller, you know, they're more affected by these. Yeah. And absolutely. Yeah. So metabolic health cardio vascular, neurological, all of these things, there's so many factors.

There's genetics, there's epigenetics. There's, you know, stress, nutrition, lifestyle, all of these things factor in even, you know, like for example, the, the profile of microbes that you have in your gut.

Yeah. And either can be protective, like we do know that there certain species of bacteria in the gut that can be protective against exposures to, say, heavy metals, and that if we have more of this good gut bacteria, then the effects of exposure to heavy metals can be less.

And so and we know that from rodent studies. And so some of this, you know, is like, okay, but how do we how do we ethically test that theory in, in humans?

Right. So this is where there's a lot of, things that people sort of, or levels of evidence that people demand in this space that like ethically, we can't produce that.

Yeah. So we're, we're, we're operating on what we know from an animal model and what we can infer. Yes, between that model and epidemiological data. And a lot of people are like unsatisfied by the, by that.

Right. That they want absolute proof, they want absolute consensus. In the, in the research. And that's not always just not always exist. Right? Right. Absolutely.

Well, are there any emerging research trends in environmental health that you're excited about? I am really excited about the exposome research that I mentioned earlier.

I think that that's really exciting. I think it's super complicated. You know, as somebody who's not an academic in that space, I'm only kind of looking at it, from the outside through a pane of glass going like, wow, that's incredible.

And you know, my brain's kind of firing with what the implications are and how complex that network of kind of data parsing must be. So I do think that that's really exciting because it's more reflective of the reality of our lived experience of being exposed to all of these things.

You know, chemicals are studied in isolation, not in formulation or in, in, in the reality of the mixtures that exist in our bodies. And so, even the research that we have on isolated chemicals doesn't necessarily it's like a proxy for what we know.

It's not actually what we know because we don't know.

Closing Remarks and Podcast Outro

How do those chemicals behave in our body necessarily, or how do those chemicals interact with other chemistry? Right. And are there secondary byproducts that we're not even aware of?

Yeah. And so I think that that's really exciting. I think, you know, I'm really excited to see kind of what comes out of

that. I am excited to see more and more, you know, medical organizations really recognizing the importance, environmental exposures, and, and communicating that to their profession.

And, and really kind of pressing the gas on like, hey, we want you to go out and communicate to, to your patients about this. I think that's really exciting.

And then I think, you know, a bigger spotlight than we've had before on environmental justice issues is also really exciting because we have to have the conversation about marginalized communities with, disproportionate exposures.

And we need to address those, I think, with way more urgency than, you know, BPA and cash register receipts. I'm happy to lean into conversations on both of those.

And my space is more in the individual exposures. But I'm delighted to see more conversation happening in this bigger public health space. Disproportionate exposures.

And I think that's, I'm really excited to kind of peek into the window of what's happening in the world as well. That sounds amazing. Well, I want to thank you so much for your time and your expertise and all this.

It's been truly fascinating. And and again, I'm super appreciative of all the education that you provided, for me, for all these health care practitioner, because I think it was a glaring hole in our education.

And, it's just made, you know what? I do just so much more effective by knowing it's about it. It's good to hear it. Good to. Yeah. So thank you for having me. Absolutely.

And so thank you for joining me on The Functional Edge. I hope today's episode gave you fresh insights and practical tools to level up your life. If you found value in what you heard, don't forget to hit subscribe, share the podcast with someone who needs it and leave a review.

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