Introduction to Environmental Health

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I really want people to understand that just because it doesn't cause trouble overtly, clinically, physically, visibly, that it doesn't mean it's not working in a slow indolent way.

It doesn't mean everyone's going to get disease for sure, but you have this combination of your genetics, your lifestyle, which is like sweating out chemicals and sleeping properly to remove chemicals and all these other components, and then you have these environmental chemical exposures.

So it's that dance between genetics, lifestyle, and exposures that will change the balance of whether or not you develop anything clinical and my argument is my always has been my argument for 18 years no matter who's in charge of regulation or who's in charge of the country or who's in charge we have to do it for ourselves we have to have agency over our own choices Welcome back to the Think Well, Age Well podcast.

I am your host, Dr. Heather Sandison, and I'm delighted to introduce you today to Dr. Ailey Cohen. She's a board certified rheumatologist, integrative medicine physician, and an environmental health expert who helps people understand how everyday chemical exposures can affect their health.

Dr. Cohen practices in Princeton, New Jersey, where she treats autoimmune and inflammatory diseases, all while helping patients address lifestyle and environmental contributors to chronic illness.

She also founded The Smart Human, a platform and podcast dedicated to educating the public about hidden toxins in our food, water, and daily products.

and how we can reduce these exposures in really practical ways without being afraid to walk around in the world. Her interest in environmental health began when her dog developed a rare autoimmune disease, which then led her to investigate the role of chemicals in modern life and how they impact immune function and long-term health.

Dr. Cohen, I am delighted to have you here. Thank you so much for having me here. Thanks. So I am curious, you got into conventional medicine, you're a rheumatologist by training.

When was that moment where you're like, oh, maybe there's more to this than just what I learned in school? You know, I was, I would say this, the dog story certainly is legit and organic.

And you know, I was a new mom right out of fellowship for autoimmune diseases. And I was living on a farm where we live now. And for whatever reason, my dog, who was a puppy at the time, he was our first born actually, he was four and a half years of age and he developed.

autoimmune hepatitis, which is an autoimmune disease against his immune system attacking his liver, which is not only unusual in dogs, but it's unusual in this breed and also very young.

So I really woke up quickly and said, well, what caused this? What triggered his immune system? Was it the drinking water we feed him? Is it the pesticides being sprayed on our backyard?

And would it affect my kids? So, you know, this epiphany of there's something more here started at that moment, but I also really always had an inkling that there's no free lunch in all of modern day life.

And I learned that because I studied anthropology in college and it just always was infused in everything I was learning. that we didn't just land here with nice shoes and great cologne.

We actually have been evolving for millions of years and that change in our environment has happened rather abruptly when it comes to even just environmental chemicals.

Right. I mean, just saying that makes me think about screen time and sitting and the effects of, you know, being addicted to social media and AI and all of the things that can come with modern day life, cars, and I mean, there's just so much to meet on that bone.

Go back to your dog. So introduce us to Trexton and like, just take us through, like, how did you figure out, how did you connect the dots?

How Dr. Cohen Got Into the Field

I know you said you had this inkling, but like, did you get him tested? Did you test the environment? Did you test the water? And did he get better? So he did not get better.

I will say this, we extended his life about six months and we treated his autoimmune disease. I mean, who knew I would ever be doing that, but he did not.

I mean, he had developed a very small liver by the time we diagnosed him. It was too small to function. You know, so that's not, that's a sad story, but believe it or not, he is the reason I'm here talking to you today.

He really created the spark that led me down this path for the last 18 years. And so I have, you know, I, I honor his memory by doing this work, but you know, it's one of those things where when something like that happens, first of all, I had no understanding of chemicals.

Like I was starting at zero. Like what did you learn in school? Well, nothing. I mean, basically in terms of environmental health, this is, you know, 20 years ago, almost 18 years ago, my son's in college right now and he was a baby.

So the idea that there was, I've been going through training and internal medicine residency training and med school and biology class and fellowship in autoimmune disease and no one ever talked to me about chemicals, air quality chemicals, food quality chemicals, drinking water chemicals and how our water system works.

So at that point, I was just so confused because I figured if it was real, I would have been taught this information, right? And if it's not real, I wouldn't, you know, that's why I'm not hearing about it.

It's all fringe or we're protected. Why is it on shelves? Because there's something out there. Our federal government, our regulations are protecting us.

from any problems because everyone uses these products or everyone drinks this water. So it was almost like myth busting in my brain to say, why is there a disconnect?

And so it took a long time to dip into the medical literature, which I never would have even looked into. had I not been curious enough to try. And it turns out, even 20 years ago, there was an enormous amount of research on a lot of these chemicals that are in our food and water.

And at that time, it was becoming very, I would say it was becoming more and more well known that these chemicals can work like hormones. Not all of them, just the ones they were studying.

Like BPA was one of the first, bisphenol A. My co-author, Frederick Bomsaw, for two out of the three books I've written, He was the person that I used to watch on CNN in 2012 when he was talking about BPA being removed from plastic baby bottles.

That was a lot of his research and his colleagues from around the world. So I got into this by listening and learning from people who were doing the research.

And then I realized it wasn't connecting with the clinicians. And so that's how this kind of built upon the platform, the smart human, which I began because I figured if it's not getting out there any other way, let me do it.

Yeah. Which in contrast, you know, my naturopathic education, we, I mean, we spent an entire year in environmental health and environmental medicine. And it was, that was really ingrained in us and, but there's like 4,000 naturopaths in the US, right?

There's just not enough and they don't take insurance. And so, you know, you just end up with patients not getting the information and not, and also not connecting the dots about how much and having that same perspective of like, well, if everybody's exposed to it, everybody's eating that, everybody's spraying that, everybody that's available to everybody to buy on the shelf, it's so easy, I can have it delivered to my house by this afternoon, then how could that possibly be bad for me?

So can you talk a little bit about that? Because it almost feels like conspiracy theorist, but yet there is very clear evidence in the medical literature.

And there's a very clear path through like the FDA and the EPA about how this happens. Like, can you break that down a little bit? Well, to be honest, it all starts with the fact that the US hasn't had any regulations for any of the products that we use.

In fact, if you go back to 1938 with the story of lash lore and mascara being applied with really bad dyes and then that could make you blind, that was the impetus to start working on the cosmetics act.

Um, but the idea is that nothing's really changed there. It's always in the U S been a big emphasis on manufacturing freedom, on innovation, on design, on technology, on new chemicals.

And, you know, in the 1950s, we had, you know, Monsanto and living better through chemistry at the world's fair. Right. And so we've had this momentum where there's never been great reason financially or otherwise to put into place guardrails that require testing before these chemicals go into the products that we use every day.

And especially the chemicals that don't cause a rash or don't cause anything obvious. When things When we can't see, touch, or feel them, we assume that they're benign.

And what we now know, actually, is that many of these chemicals, if not all of them, certainly can be found in blood, can be found in urine, can be found in breast milk, can be found in certain cases in sweat, and that those chemicals have a lot of different ways in which they disrupt the normal physiology of the human body, be it the endocrine system or be it the immune system, like I describe in the book.

I really want people to understand that just because it doesn't cause trouble overtly, clinically, physically, visibly, that it doesn't mean it's not working in a slow indolent way.

It doesn't mean everyone's going to get disease for sure, but you have this combination of your genetics, your lifestyle, which is like sweating out chemicals and sleeping properly to remove chemicals and all these other components.

And then you have these environmental chemical exposures. So it's that dance between genetics, lifestyle, and exposures that will change the balance of whether or not you develop anything clinical.

Regulation, GRAS, and Chemical Exposure

And my argument is, and my always has been my argument for 18 years, no matter who's in charge of regulation or who's in charge of the country or who's in charge, is we have to do it for ourselves.

We have to have agency over our own choices. And here's why you need to do these things if you want to, and here's what to do if you want to do them. And to me, that made more sense throughout these years.

Yeah, and I guess I'm curious. I guess my perspective is it's a little bit of both, right? We have to advocate for ourselves as well because some of these things are ubiquitous.

We cannot avoid them. you know, advocating and being involved in telling the powers that be what our priorities are is also an important part of that.

And making, you know, controlling what we can control because we don't have control of everything, but if we can make decisions about food or personal care products or about how much we sweat or how well we sleep, then yeah, we wanna optimize for those things.

How much of an impact do you think this brass process is in through, I think it's to the FDA, right? This generally recognized as safe. this idea that, I mean, that when you have the federal government saying to people that this is stamped as generally recognized as safe, but that process is a little off, then like, can you explain, can you go into that a little bit?

And do you think that that's a big contributor to the amount of exposure that we have at this stage? Well, let's start by saying generally recognized as safe was never really a governmental regulation.

It was designed more by the manufacturing industry of these chemicals that go into our food system. By the way, many of the food system chemicals are also in our industrial chemicals, our cosmetics.

There's a lot of crossover. But to that point, generally recognized as safe was really designed as a loophole in many ways to be able to get things into the food system.

Now, originally it was designed to get vinegar and ketchup back in the 30s. into our food system because everyone generally recognized acetic acid as white vinegar or vinegar, ketchup, condiments as being okay.

But what has happened since is that we've had thousands, so we're something like 13,000 food additives that are now available, estimated that go into our food.

And that's things like coloring and artificial flavoring and crunch. There's actually chemicals to make things crunchier or mouth feel. There's all sorts of emulsifiers and ways to make things look shiny or look congealed or any number of things.

So, you know, we have so much that makes up processed foods and makes them look more tangible to the average human that, you know, it's one of those things where the horse has left the stable.

And so it's very hard now to take all of those 13,000 and do the right studies, do the chemical studies that we now know how to do, but it's almost like, how do we do that one at a time?

There's some legislation called the Tosca, which is the safe T-S-A-C-R. God, I'm losing my mind. The safe cosmetic sacks, but there's also the Food and Drug Administration also does the medications.

But then we also have the agricultural community that really has not embraced improved testing the way we now know how to do it. There's really great work from a colleague of mine named Maricel Maffini, and she wrote a whole chapter on the textbook that we published for Oxford University Press on food additives.

And she and her work and all her colleagues have really been watching the market even so. not just saying it's bad, but saying this is why it's bad and this is why the regulatory oversight is so poor or limited or non-existent, and this is how we can fix it.

But those aren't being pulled in in terms of the oversight. You know, we do it so much for the will to do it. Yeah, you

have to have the will, but you have to have the financial will.

And that technically is the biggest problem. You have to have the standards to create. You have to have the fighting the lobbyists that fill the agricultural lobby world.

You have to have the drive and you have to have the finances, but you also have to have the scientists. You have to have fast throughput, which basically means that you can really run multiple chemicals at a faster pace through the testing system.

So you can get multitudes of responses as to whether or not things are harmful. So long story short, it's a hard thing to go back on. And I would say, you know, from a volume perspective, I would say food is by far, everyone knows food is big volume into the body, but I also make the argument that we're missing the whole argument of water and drinking water and how much more we can get in terms of contamination into the human body without thinking about if we don't know about the water system in this country.

Yeah, and then there's, you know, you're talking about testing each of these individual 13,000 additives, but what about when they, you know, they dance together in our bodies?

What about when they're, you know, there's just a whole level of complexity there that we have a reverence for, and I don't know that we would ever fully understand, no matter how much data you could collect.

But we do know that people are more obese, people are more toxic, there's more autoimmune disease, there's more neurological disease. And that is probably, I mean, certainly my opinion is that that has been driven a lot by the amount of toxins that we're exposed to.

I feel like we could go in so many directions in such a rich conversation. And I, of course, want people to feel empowered by a combination about toxicity.

We hear the word toxins and, you know, with influencers and podcasts and all of the scrolling. There's so much of that talked about in the wellness conversations.

And I think that you mentioned the word fringe, and it can still kind of feel that way. So from a physician's perspective, having written the books on this, what are the toxic chemicals that actually affect the body?

Like you mentioned water just now as being one of those big things that we want to be aware of. So like, what do we do? What would be like the big, like the top five, if you will?

So when we think about water, I'll just give some very tangible ideas because and look, you're looking at me with colored hair. My kids are lacrosse players.

They play on, you know, really kind of toxic turf for the last 18 years. They're very good lacrosse players. You have to live your life. OK, so let's stop right now and just say, Life is too scary overall and what we're living through to be overwhelmed with this topic.

What I want people to think about is being empowered to know the hacks and why they're so easy and practical and even cost effective. And that's what the book was about.

That's what I post on the smart human every day or week or whatever. So the idea is to say, you know, listen, we're in it. We made it. This is our pickle we created, but let's figure out how we can best handle it.

And to your point about regulation, you know, just because, you know, we can do a lot in terms of, you know, talking to senators and voting with our, you know, thoughtfully and purchasing with our dollars in a way to move the market, which doesn't take away from what we do in our own home.

home, which is where we have real control over our lives, sometimes even work. Where I'm at, I can control a lot of

the exposures in my work through cleaning products that I purchase, through an RO filter that I have there.

It costs $300. So there's lots we can do where we spend the most time. And it makes a lot of sense to start there instead of feeling like you're fighting the world, in my opinion.

But empowerment is really key. I'll give you a couple of really tangible examples of what the problem is and what to do about it. Drinking water. We have to have in the 160,000 wastewater treatment plants for municipal tap that we have in the US that serves, you know, 80% of the US population uses tap water, right?

That water is actually only required to be cleaned off for 91 chemicals over the last 50 years. Okay. And we've had hundreds of thousands of them added that can get into our water.

Well water, which serves 20% of the US population, has its own issues because you don't even have to test it, only if you sell your home. So there's problems with both.

The solution really is that you clean your water when it hits your home. It's called the point of use, where you're hitting it before it hits your glass.

And so it doesn't matter what farmland it's coming through or pipes that are lousy and filled with lead or plastic. None of that matters if you're going to clean it when it hits your home.

And so the best way to do that now is affordable. You know, so you can have filters that have carbon block filters that are your typical pitcher that are on the refrigerator door.

Those are carbon blocks. So they're a chunk of carbon and water goes through them pretty quickly. And that's convenient, right? But it doesn't take a lot of stuff off.

So it's good enough. It's good enough for now. It's, it's a good starter. But if you really want to spend even less money, believe it or not, over time, you want to move into what's now available at a very reasonable cost, which is reverse osmosis.

And the pore size of that material is so tiny that it's catching things like a sieve. It's catching all of the plastics it can find. It's catching chlorine.

It's catching lead. It is just, you know, they're not all the same and you're not going to test all of them. But, you know, for the most part, reverse osmosis is the most aggressive way that consumers in the US can actually clean water.

And they're now so much more accessible. I have one in my kitchen plumbed in the back that a plumber put in for 150 bucks for one hour. It shouldn't be longer than that.

And then I gave my son one for college and he put it on his desk and you can put sewage in the back and it makes clean water in the front. And likely it is sewage in the back.

I don't know what he gets his water from. But the idea is that we have a lot of different ways in a cost-effective way to clean water. And chlorine, for instance, as an example, just one example, has to be added to municipal tap or else we'd be back in the 1700s, right, with pestilence, right?

But the idea is that nothing is taking it off once it hits your home.

Practical Ways to Reduce Exposure

So detergents and chlorine are added, even fluoride are added at these wastewater treatment plants for many good reasons, some of them arguable. and then you just don't get them off until you get your home and then you can get them off, right?

And chlorine affects the gut microbiome, right? It kills bugs. That's the whole point of it. So when you drink water that's chlorinated or detergents, you're going to offset the good guys in our gut that manage our immune system.

So that's a real tangible visual, I think, for people to think about. Can I dig into that one with you a little bit? So Aro, what comes up for us in San Diego, so San Diego is like at the end of the river, right?

So we have whore and there's a ton of military bases. So we've got perchlorate and all kinds of things from missiles and jet fuel and all that that's getting into the groundwater.

And what I've seen with my patients and we test, we test people's chemical toxicity levels, And at-home RO systems, there's two things that come up. One, we're also in the desert in San Diego.

And so you're wasting anywhere from two to five gallons per gallon you get, you're wasting of water. And then the other thing is mineral repletion, that people will become mineral deplete if they're drinking exclusively RO water without adding minerals back.

So I'm wondering, how do you manage those things that come up with RO water? So those are great questions, really. And so here's the thing. The wastewater is an issue for a lot of people in California, for sure.

Water is an issue. But I will say to you this, going for co-pays to doctor's offices, spending money on procedures, all the things that we think are never going to happen but down the line, I arguably say you have to do prevention and you have to think about that as part of your wellness lifestyle and prevention strategy.

My water bill, California water bills that I've talked to people, they're not guzzling and it's not a whole house filter, right? You're not going to waste money on a shower and getting a whole house RO.

You're talking really about just drinking water with cooking water and it's not a lot. So I really debunk that in terms of what I recommend, not getting a whole house, just getting localized water for your kitchen and taking water with you when you go to dinners.

I take it with me for lacrosse games and tournaments, that kind of stuff. In terms of the mineralization, water is never meant to be for nutrition. Period.

End of story. So the fact that people make a big deal about that is, to me, something that they may not fully understand. But electrolytes, whatever you might be losing from calcium and electrolytes, you should be getting from food anyway.

Your food is the source of nutrition, not your water. Your water is the source of hydration. and to clean the body and to manage the lymphatic system and manage the kidney and the function of the kidney and to maintain normal blood pressure and acidity and alkalinity.

But you don't really in any way need those minerals to survive. You need good food with it. You need to eat healthy and you need to have enough hydration to make the gut microbiome work with all the food that you do eat.

But there's no world that I've ever lived in where reverse osmosis contributed to someone's health in a negative way. So that's how I answer that. The other thing I wanted to mention about living where you live with the perchlorate, one of the most aggressive types of environmental chemicals is perchlorate, thiothionate, and nitrate.

And these are coming from, like you said, airplane fuel. But it's here in New Jersey, I see the planes flying over to get to Newark Airport. So it's really in all of our farmland, whether it's organic or not, it's all of our cattle, it's all of our, anything that's outside is prone to that.

One of the things I try to tell people, and it's in the book, is that those chemicals tend to love to stick to the thyroid gland and manipulate thyroid glands.

So one of the key issues in the solutions, which I talk about in the book, is that if you have a great multivitamin, A great multivitamin, and you're not counting on taking in iodine from food because you may not do it every day, a great multivitamin should have 150 micrograms of iodine in it.

And we're deficient in that as a general rule. You don't want to take too much. To be honest, that's a solution for an environmental problem that we've created.

And so I fill it with, you know, I try to fill this book and also the smart human with lots of here's the problem, but here's the solution or else I really don't talk about the problem because I don't like to scare people for no reason.

Yeah, of course, of course. Yeah, I think it's challenging to navigate and water is something that you want to get right. I have seen people in my clinical practice, there's a trend and people who drink exclusively RO water are depleted minerals.

And we see that. And so I tend to recommend that anyone using an RO filter that they do make sure that they're conscious about repleting minerals. But yeah, yeah, I'm heartened to hear that you have not seen that in your practice.

Well, I tend to really focus on the diet. I also have them on multivitamins, every single human. Well, maybe that's. I have the four human fertilizer supplements that you can't even get enough of, even with the most wonderful diet, even the cleanest in the food system, which is hard to say already.

But the idea is that I don't test a lot of testing. I don't test people for chemicals anymore. I used to do that because I was afraid of everything. But now I realize that the testing, especially out of pocket testing, which I don't do, takes away from the doing.

It takes away from the purpose. massage or the travel or the mental health support or the RO filter. So I'm very conscious that the testing, unless it's used to motivate people and they need it, which certainly a lot of people do want to know that information, I tend to resort less to testing for both water, for food, for even your body.

for chemicals because it also varies day to day in exposure to exposure. So it's one moment in time, but I really do like to focus more on where to put that money that actually is the solutions more than, you know.

Yeah. Yeah, yeah, yeah. I like, I mean, this is a fun conversation. I'm not saying that one way is better. They're just in perspectives, but we use the testing because sometimes what I'll see is like, there's a ton of parabens.

You've got a personal care product. And I will have people tell me up and down, I am so good about this. I use the Yucca app. I use the healthy living app from EWG.

I know that I'm not being exposed, but their parabens are off the charts. And I'm like, there's something. And sure enough, someone will come back and be like, oh, I was using this under eye cream and I thought it was fine.

And it really makes helps with the fine lines and wrinkles. But it was the one thing and it is off the charts and parabens. And so I feel like there's some detective work that's kind of, and it can be really scary.

And sometimes I sit there and I'm like, I don't know where you're getting this, but you've got tons of benzines. And sometimes people come back. I had this one guy who was full of herbicides and pesticides and had horrible fatigue.

He had been like a Navy SEAL. He was some sort of military special ops person, very, very high functioning. And he was overwhelmingly fatigued and had huge levels of pesticides and herbicides.

And he only bought organic. We were like, what is going on? This doesn't make any sense. And it took him to find out he had been going to Whole Foods and getting the green juice.

And at Whole Foods, they don't use organic in their green juice. It is pesticide juice. But he was thinking because it was Whole Foods, it would be all organic.

And it just wasn't. So he stopped doing that, and it did. Within about 10 days, it all came out, and his fatigue went away. I have found those helpful over the years, and it can help me find patterns to look for where the exposure is coming from.

But I also can appreciate exactly what you're saying. It's like, if that takes up finite resources, and then somebody isn't getting the water filter, or they're not getting the air filter, or they're not getting the other things, then that isn't…

It's way better to focus on the doing, as you said, than the testing. Couldn't agree with that. In the book, what I wanted to do about the book was that in order to avoid as much testing as possible and save money, I wanted people to have a 50-question survey to understand one or zero and put together a pre survey, not to judge, but to really help people help themselves to figure out where their exposures are.

There's a whole symptom tracking process by which they can start with the symptoms that I listed. And then at the end of the journey of the 21 day plan that's in the book, they can actually redo the symptom tracker.

I mean, there's so many bells and whistles in there to make people not have to spend money beyond, you know, very reasonable. So that was kind of my goal is to try to get people to do the work of detective work on their own.

And that would save them maybe a little time and effort, but there's no question if there's, if there's something that you see clinically, for instance, if I see a patient that has a real concern, I'm checking for heavy metals.

I'm doing that through, you know, first I start with LabCorp and Quest and all the national labs that are covered for insurance, and then I can always take a deeper dive, which by the way, those labs are listed in my book.

So there's all these different ways to go from screening all the way to more aggressive. And here's how to do that in a reasonable way. Yeah, no, I love that approach because it's not just the cost of the test, right?

If you don't have access to a provider who knows how to interpret that test and to order that test and is set up with an account with that test, then yeah, it becomes not just the cost of the test, but the cost of seeing the provider, establishing with the provider, and then the work, right?

The bandwidth that that takes up. And sometimes it's worth it and sometimes it's not. If we can take these easy, actionable steps early on, then we can.

Hey, if we need to go see that provider at some point, we're going to get so much out of that visit having done these foundational pieces. Totally agree.

Yeah. I mean, and I think you have to know your population, know your patients, see where you meet them. Because I have some patients who have never seen a vegetable before.

And then I have a lot of patients who school me and I'm like, when do I sign up for your class? Right. I think it's really interesting, as you know, that the patients are much more educated than you'd ever think they were.

They have all sorts of access and they have really good questions. So, you know, you have to sort of meet them where they're at with what level of interest they have with diving in deep.

Yeah, absolutely. I want to switch to a brain health perspective that's, you know, think well, age well. My focus is on dementia and I want to understand what do we know about environmental exposures and the cognitive health risks or neurodegenerative health risks?

Yeah. So, you know, a lot of this tends to go back to, again, anthropology and thinking about how anthropology plus physiology of the human body for millions of years.

We didn't know much about the gut microbiome for so much of human existence. And then all of a sudden, boom, we're hearing so much left and right, up and down about how it's the largest immune system in the body.

It's 26 feet of bowel. The gut microbiome is so thin and vulnerable. to the inside of this long tube and it's like very thin and covers the surface area of a football field.

Long story short, we now know so much about how the gut connects with the brain in many ways. Well, there's actually a variety of ways. There's crossing that gut into the bloodstream itself, but there's also the small chain fatty acids, which I call the poop.

of bugs, of microbes and bacteria that are making that really important substance, those substances. And so basically if you feed your microbiome fiber and clean food and organic whenever possible, because again, there's pesticides on non-organic or you can wash non-organic produce and get some of those pesticides off.

But that's the food that feeds the microbes. The microbes make this kind of poop or small-chain fatty acids, which actually cross the blood-brain barrier.

And so there's that connection to the brain where if you fix the gut and help itself and help get that in order, you can often really affect the brain and the brain chemistry, which is not just short-term mental health stuff, right?

Anxiety, depression, mood, schizophrenia, sleep. in children, but it's also the long-term exposures that we think about when it comes to dementia and Alzheimer's and aging well with our brains.

So again, it's a great place to start. What do you clean up before you put into your body, drinking-wise, water-wise, so that you can have this whole cascade and ecosystem work properly?

Yeah. And then what about Parkinson's? I feel like that is one where we see these really direct links between a neurodegenerative process and toxic exposure.

Can you speak to that? So Parkinson's disease is really interesting. And there's some really great colleagues of mine that have put out some really nice books on this and papers.

We now know that pesticides are a big problem with Parkinson's. There was a study that came out a couple of years ago about even living near golf courses and how you have higher rates of Parkinson's disease.

But it turns out when you read the paper, it's not really as much the spraying in the air as it is getting into the water. The water systems that are around golf courses make their way into the wells that have no stop guards.

And also the streams and lakes become the wastewater treatment plant water that goes back to your home. So there's a lot to be said. Again, the punchline seems to always come back to a lot of the same stuff is that if you can filter your water, you don't have to pick up and move because there's really no place there's no chemicals don't exist.

It's really about how do you make the place you want to be. the safest it can be. And so again, reverse osmosis can do that. Parkinson's disease is interesting.

I wrote a lot about it in the textbook, but also in the second book I wrote called Non-Toxic. And a lot of it has to do with this genetic predisposition.

We now know there's a series of genes that can be turned on or turned off. And actually some of the most common pesticides can do this. So again, it's the genetics that we all can't always manipulate.

It's the exposures that we can try to manipulate and reduce and whether or not that creates a clinical disease or not is variable. It's like we don't know, but we want to try to control what we can control.

And so that's why when I think about pesticides, I think not just the air quality, the bug sprays that we spray with abandon or the pesticides that are sprayed in my backyard that I leave town for a couple days if they're going to be spraying and they owe me that New Jersey law.

But it's also the water and it's also the food quality, all of which can have pesticide exposure. And so I'm trying my best to reduce those exposures over time.

What about sunscreen? So sunscreen, I use the, you know, the lowest toxicity level. I use non-nano particle because I don't want any of that getting through my tissues that I don't want it to go to.

Non-nano. What was it? Non-nano. I used, I don't use sprays because we often breathe in a lot of that when you don't even think about it. Although my son's really liked the sprays.

So it's a battle with my teenagers, right? You have to live with your kids. And so I always look up my sunscreens and I always have the ones that are for sport because I sweat a lot when I go running.

I use hats. use, you know, I'm covering places that I might not want to get the back of my neck is often an area, my top of my feet with, you know, flip-flops, places you don't always think about.

But sunscreen is really important and it will reduce the minimal vitamin D we get. So then it goes back to those four fertilizer vitamins I talk about, which is one of them is vitamin D.

So again, here's the problem. We have a sun exposure risk for skin cancer. Let's choose the safest product when we're outside along with other measures.

And by the way, that may reduce our anthropologic exposure to vitamin D. Let's figure out another way to get it into our body. And that's the boom, boom, boom that I try to lay out whenever I get a chance.

Okay. So I had asked you the five most high impact things that you can do. We started with water and then my fault, we went on a tangent for a while. There's still so much fun stuff to go into.

So let's go back to that. What are the five highlights, impact things that people can do?

Water, Food, and Personal Care Choices

Okay, so number one, I always say don't buy stuff you don't need because more times than not, we're buying cleaning products that we don't need that we've been marketed to for decades, you know, cleanest doorknob, cleanest surface, you know, carpet spray, surface spray, sink cleaner, oven cleaner.

That's all ridiculous because we really just need baking soda, white vinegar, castile soap, lemon juice. go back to the basics from our grandparents, right?

So if you buy less, you're gonna be less exposed to the chemicals that are used in them and not have to be a toxicologist to understand that, right? So buy less and whatever you do wanna use, swap it.

And these are the four A's that I use in the book, the four A's of environmental health. The first is assess what you're buying, what you're using, what you're bringing in your home, what you're eating, what you're drinking.

The second thing would apply to this point is avoid or swap. So either lower the number, and or swap the things that you want to keep in your life, but you just want to find a safer version using environmental working group or Yuca or Clearia or any of the resources that are now free and available.

The third A, by the way, is add nutrition, diet, exercise. And the last is allow, you know, having flexibility when you travel, having kids wanting to color your hair, all that.

So the first thing is basically don't buy a lot of stuff you don't need. The second thing I would say is take your habits and clean up your habits. Clean up the things in your life that you actually do the most, because that's gonna always be the most inputs into your body.

So for example, I'm a big tea drinker. I don't like coffee. I drink tea. So when I really started this process, I thought, hmm, let me start with cleaner water.

So I filter my water every morning. Hmm, maybe I shouldn't use styrofoam, Dunkin' Donuts cups every morning. Maybe I should kind of swap over to stainless steel or ceramic in my home.

And so I made that swap. And then I thought, oh, tea bags, okay, they're not organic. Maybe I should switch to organic tea bags because then I would at least have USDA organic, which is actual a good certification, only thing we have in the US for food quality.

And I'll do that. And then I thought, hmm, maybe I don't want microplastics in my tea bags because they're so variable. Why don't I go with loose leaf and have a stainless steel diffuser?

And then I said, I like my cream and sugar. Don't tell anyone, but I really like my cream and sugar. Why don't I get USDA organic sugar and cane sugar and creamer?

And so now I've kind of created this system along with my stainless steel insulated bottle that I take to work that I've now taken this habit of everyday exposure and I've cleaned it up.

and then I move on to the next process. So by volume, that's going to lower exposure overall. The third thing is I really emphasize drinking water. It should be at the top of the list, and often it is.

I don't know, I'm switching them around. But drinking water to me is the most misunderstood, undervalued component of the human body that we just don't think about.

There's a billion dollar industry on diets, cooking, cookware, whatever, different different ways to lose weight all the plastic water bottle industry.

Everything and yet we don't think about the actual water that we're served when we go to a restaurant it lands on our table and we drink it we don't know if it's toilet water we don't know where that came from so I think we need to think about how do you create a system that you can afford that you find reasonable but that you're starting to really think about water where you go, when you go.

And if you can't buy or get cleaner water, you know, you choose other options. You know, bottled water is certainly available in a lot of places now. So that's what I would choose as opposed to tap water.

Would you choose a plastic, like a bottled water in plastic over tap water? Stainless, like say you're at the airport, right? And there's no glass behind security.

I've looked. You can't get a Pellegrino. You can't get anything in glass. So if it's between filling up your stainless steel water bottle or getting a plastic water bottle at the airport, like what do you do?

Great question. And I post on this almost every time I travel. So I'm glad you talked about this. So it turns out that when you go and buy plastic water bottles anywhere, that it actually has the word ingredients on the bottom, on the bottle somewhere.

Okay. And it's managed by the FDA, not the EPA, by the way. So they have a lot more leeway in terms of regulation on bottled water and the quality of water.

Often it's tap water. But when you look at the ingredients, it'll tell you how that water is cleaned. It'll say distilled, which is just heating to high temperature, which only kills off bacteria and viruses, but it doesn't affect any polymers

or compounds that are in there.

Or it'll say reverse osmosis or it will actually have a gall to say municipal tap, which means that they literally are charging you, but filled it up for you in a plastic bottle.

Okay. So there's all different types of things in the ingredients. You have choices right there. It's not going to cut back on plastics. You don't know where it traveled from.

You don't know how hot it's been, but you have a choice in your water quality, at least from that perspective. Now you also have these big water filters that are carbon block in airports.

My son has the same one as in an airport as he has in his dorm, you know, first floor of his dorm hall. So these are becoming very, these are very popular because they move fast.

They're carbon block. They're not perfect. They're not reverse osmosis, but I always take my stainless steel bottle with me on vacation because I'll use it for coffee or tea.

I mean, tea. And I'll also use it for water for the whole time I'm there on the trip. It has to be empty when you go through security, by the way, because they will take it.

And that's an expensive bottle, technically. But I will choose either or. There's a lot of times that I'll just pick up, take my stainless steel and use the carbon block for sure and not want to get the microplastics.

But you have those two choices now. Yeah. And so, sorry, I think that was number three was water. Green is water, food quality for sure. I always say USDA organic whenever possible with the USDA seal.

Frozen USDA organic produce is probably better than fresh supermarket organic, by the way, because that travels so far and loses so much nutritional value.

Frozen actually gets flash frozen. So a lot of people can't get their heads around the fact that frozen food would be actually healthier. But frozen USDA organic is sort of the best you can get if you really want to go for nutrition and less chemicals.

But any organic or conventional that you wash appropriately in white vinegar or what have you, there's lots of ways to do that without getting organic.

So food quality really matters. I try to keep my food clean whenever I can. I certainly have a good time on vacation. I certainly have kids and had to buy a bunch of sports drinks for the team and was like twitching the whole time.

But you do what you got to do. And then my last thing I would say really is what we put on our skin. But for women really, particularly who don't hear this enough, feminine care products, which is intravaginal exposure, it still gets into your bloodstream.

And if you have a lifetime of tampons and a lifetime of personal care, it's a really simple swap to get some cleaner products, you know, for that purpose so that people can really lower that, especially in women.

Yeah. You have also talked about the concept of green chemistry. Can you define that? So green chemistry is a very general term, which has to do with how do we design products that are more healthy, less plastic, less problematic, not just through the human life cycle for exposure, but even when we throw it away, where does it go?

Where does it break down? If we're talking about things that go down our drain in our water system, they're going right to the water treatment plants that are going to circle right back to feed us with water and municipal tap.

It's very cyclical how we work in this world, and things that go into the air will circle back onto lakes and streams and go into our water systems. So it's a vacuum of components that we want to be thoughtful.

So green chemistry is starting with the right materials and ability to get that cleaner from the get-go so we don't have to worry about chasing our tail years later, like with plastics and trying to put the genie back in the bottle, so to speak.

Yeah, I just got back from New Zealand and I was really struck. Every single like to-go takeaway food container is compostable there. And I just even coming back here, I get my organic green juice from my grocery store that's close to me, which is amazing and convenient and awesome, but it comes in plastic.

And I said, you know, it says it's maybe recyclable or whatever, but it's full of green juice. It's not going to get recycled. And I just had this aha moment.

It's like, why don't we take that plastic? Is there not some way to get that plastic and get the value from it? But it's like every time it burns, it's getting into the air or every time it's in a, in a, you know, if it's going into the land or if it's going in the ocean, like it's always going somewhere and it's having an impact.

And that's, that has an impact on our health long-term. It's just kind of, it's so wild and it's such a huge problem. And there's also solutions to it.

It's just about the will, the financial will and like that people express that it's priority, that it's something that they're interested in. So I don't, I don't have solutions for all of it, but I think that they're out there.

Hopefully like your sons, that generation, excuse me. new ways to make packaging, food packaging that's combustible, that's not going to hurt humans. But what's interesting is like, for instance, there's a bunch of studies that was done on using casein, which is a milk protein, to make certain packaging.

And it was really good at making that. But then you have to really think about kids who have milk allergies, you know? So there's no transparency in the food packaging industry, let alone the food industry.

We have to see what's in there, even though we don't like all of it. But with food packaging, it gets a little stickier because having relatives that have severe food allergies, these are the kinds of things you don't want people creating products out of nuts and milk, God forbid.

So I think it's just a really sticky area, but I think there are good people, believe it or not. I also follow the good people doing green chemistry that are really coming up with cool solutions.

Brain Health, Parkinson's, and Climate

And I'm very hopeful. I mean, I'm very optimistic that we're going to have a turnaround of certain areas. In the meantime, we have to do it for ourselves and not wait for people to fix it for us.

Right. Yeah, styrene is something that we measure in people that comes in those environmental chemical panels. And that is elevated often because of food packaging.

People don't realize having hot to-go soups and coffees like you mentioned in Styrofoam, you are drinking styrene. But I bring my, my stainless steel camping container to our local Chinese food and our local Indian food.

And I've created a relationship with them because they're not, you know, I mean, they probably think I'm crazy, but that's okay. And I bring it so that I don't have to bring home these packaging.

So I'm not saying everyone has access to that. I really am not. What I'm saying is I've tried to really think through every way to cut back where I can.

And I'm always surprised how pleasing people. There are people that are very open-minded and flexible to the request. So I think it's worth asking if you want to.

Yeah. And also, if that happens at a very local level, my little town of Encinitas, styrofoam isn't allowed, but the next one over it is. And so that is a very hyper-local, environmental, like your vote really makes a difference in that kind of, if that comes up on a ballot.

I want to switch to like, kind of this, I mean, we're talking big picture a little bit here, but environmental health and climate change, there's a big intersection there.

And how, when we, when we start to think about long-term human health, can you, can you speak to that a little bit? Not, we don't have to get too political or anything.

Oh, I never really get political. I try so hard. There's nothing I post that's political because I look at everyone as a human, right? The smart human, we all bleed red.

We're all humans. So when I think about these issues, I try not to make them political. Unfortunately, they are political because whoever's in charge is also in charge of regulations and health moves.

So, you know, it's a hard thing to disentangle, but I will say that climate change Certainly, it's real. It does exist. We do have enough evidence to show that.

And listen, we're all trying to do the best we can in our own microcosm of our home. You know, when I think about microplastics, I don't just think about them in my body.

I think about the Yarrow filter that I took up to my son's You know, the same one I gave him for his dormitory, I brought it for the weekend of lacrosse in the hotel and I thought, why not make my own water?

It's this big. And then I don't have to buy 15 bottles of water, which is what we typically did. We would go to the store and as opposed to having municipal tap, we'd pick up a bunch of plastic bottles, huge ones for our hotel room.

Now I don't have to do that as long as I'm. you know, using my car. So I think that, and that was the first time I did it. I actually posted on the smart human on Instagram.

I wanted people to see, and then I gave details of why and how I did it. But the idea is that, you know, it's a very scary time. We have kids. We have grandkids, we hope, someday, not now.

The idea is to think about how can we do better in our own space. And how can we vote and work in our communities to do better? And it's a hard thing to lift.

So all I can say is I try hard to think about that, not just about my human body exposure, but also the planets and the land around me and how that gets affected by my choices every day.

Yeah, it's like think globally, act locally, kind of that sort of perspective, like do what you can with what you've got. And if there is an opportunity to do something that has a bigger impact, like take it.

If there's one mindset shift you wish everyone could make around environmental health, what would that be? The only one I really think is the biggest one is the fact that our environment does and can and possibly have an effect on your health.

We don't know which kind, how it's going to do it, but we know that it can get into your body and affect your body's physiology. So I just want people to be aware and open-minded.

to thinking about that connection, because that was something I was never gifted after my training. I had to figure that out on my own. And now that I figured it out and have the science to back up the recommendations, I just want people to understand that and kind of to tiptoe in.

It's a journey for everyone. It's 80-20. It's progress, not perfection. But when you tiptoe into these topics and not be afraid, I think you can get very empowered.

You can be very knowledgeable. And so that's the one thing is to know that that problem exists and to know that we can actually reduce exposures by a lot of what we do lifestyle and product choice wise.

So I ask everyone here, what brings you joy at this stage in life? And really in the context of like aging well, what has shifted? Gosh, that's a big question.

I like the idea of feeling good every day. As I'm hitting perimenopause and having other choices to make about my healthcare and how I manage myself, I want to be able to get up and run.

Run brings me joy. That's my big thing as I'm a runner, but I also love my career. I love what Unfortunately, Truxton gave me in terms of messaging and career and curriculum writing and all that.

I have a summit, a women's health summit that I'm putting together for April 25th. Please check it out on Instagram at the smart human. So I just want to be able to do the work I love education for as long as I can.

My dad's 86 and he's still practicing nephrology can barely walk, but he can do it. So I want a career like that. So I want to feel good, not asking for too much.

And I want to have a career and help others the way it sustains me now. So I want to, I want to focus on that. So yeah, if I have those things and my family's healthy, I'm pretty lucky gal.

Yeah, it sounds like purpose, right? Having that purpose and then there's no better feeling than waking up feeling good in the morning, right? I love it.

That's awesome. I want listeners to know where they can go. You've mentioned your books. If you would just tell us again the title of your books, where they can buy them.

You mentioned your Women's Health Summit coming up, so where to find that. Just how listeners can learn about your work. And are you still seeing patients?

Are you taking patients in New Jersey? Yeah, I love my patients. They hold me accountable. They make me humble. They make me a better doctor. So I'm still seeing patients in Princeton.

I'm also doing telemedicine consults. I don't have a license in all the states, so I do a lot of consulting where I second opinion other people's visits where there are doctors or there are rheumatologists or what have you.

I do consults on chemicals and exposures and all those things. I can be found on social media, everything is the smart human. The smarthuman.

Mindset, Joy, and Where to Find Dr. Cohen

com is a lot of stuff, my courses, my academy, if you want to deep dive into some of these topics like pesticides and integrative rheumatology and all that.

My smart human summit, which is the first time I've ever put one together, has 11 of the best clinicians, physician specialists, journalists, authors coming in to Princeton, but it's also going to be live streaming and available.

So yeah, these are the projects I live for. I write curriculum for programs. So I'm having a good time, but it's all the smart human on TikTok, Twitter, Instagram, Facebook, website, all that stuff.

So please find me and follow and check it out. Well, thank you so much, Dr. Cohen. It's been a really, I think, important and engaging conversation. So many of us sense that the modern world is exposing us to more

chemicals than our grandparents, but understanding what actually matters, what those high, easy top five things to do are, and that are very realistic.

I know that this can feel so overwhelming to people, but you have really helped to empower us with these actionable steps that can be taken. I really appreciate your work, bringing this scientific rigor and practical guidance to a really, really important conversation that's often left out in those conventional relationships with providers.

And it's not just about the fear and knowing too much, but really about empowering people to meaningfully reduce their exposure and support their long-term health so that they don't have to end up with autoimmune disease and neurodegenerative disease.

So thank you, thank you, thank you for joining us today. It's been a real privilege to have this conversation with you. Well, thank you so much. Wonderful interview.

And thank you for connecting me with your community. So I appreciate that, Dr. Sandison. Thank you. Thank you so much for listening to the Think Well, Age Well podcast.

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