



# THE SPECTRUM OF HEALTH

— P O D C A S T —

Podcast Session #21

## What's Making Our Children Sick?

with Dr. Michelle Perro

*Dr. Michelle Perro is the co-author of “What’s Making Our Children Sick? How Industrial Food Is Causing an Epidemic of Chronic Illness, and What Parents (and Doctors) Can Do About It.” Dr. Perro speaks to Dr. Schaffner about Genetically Modified Organisms (GMOs) and how parents can help make sure that children are safe and healthy.*

To learn more about Dr. Perro, please visit  
<http://www.gordonmedical.com/team/michelleperro-m-d>

**00:07 Dr. Christine Schaffner:** Welcome to the Spectrum of Health Podcast, I'm Dr. Christine Schaffner. Today, I have the pleasure of speaking with Dr. Michelle Perro. Dr. Michelle Perro and I met recently at a conference, and I am so impressed with her book, "What's Making Our Children Sick?" I have a special interest in this topic because as you all know, I'm a new mom. I think that there's so much information that we need to share to keep our children healthy, and Dr. Perro does an excellent job with this, so I hope you enjoy our conversation today about genetically modified foods and how to keep our children healthy.

**00:42 DS:** Dr. Michelle Perro is a veteran pediatrician with over 35 years of experience in acute and integrative medicine. More than 10 years ago, Dr. Perro transformed her clinical practice to include pesticide and health advocacy. She's both directed and worked as attending physician at New York's Metropolitan Hospital to UCSF Benioff Children's hospital in Oakland.

**01:04 DS:** Dr. Perro has managed her own business, Down to Earth Pediatrics. She's currently lecturing and consulting as well as working with Board and Medical Associates in integrative health centers in Northern California.

**01:18 DS:** Welcome, Dr. Perro. I'm so excited to interview you today on our podcast.

**01:24 Dr. Michelle Perro:** Glad to be here, Christine, thank you.

**01:26 DS:** Thank you. Well, Michelle and I met recently at a conference this summer. But, Dr. Perro, I've known of your work, and I've known about your practice since I took over Dr. Louisa William's practice in Marin County in about 2015, and I know that we exchanged a few emails, but we never got to meet until this August. I have so much respect for the work you're doing, and being a new mom, I thought this would be a really appropriate conversation to share with our audience today. So again, I'm so thankful for your time.

**02:00 DP:** Equally. I know of your work, and I'm a fan as well, so I think we have a mutual fan society going on. We can pat each other on the back, and it takes us all to do really good work, Christine, so it's really a pleasure.

**02:14 DS:** Well, thank you, and I would love for our audience before we get into our conversation to learn a little bit more about your background. You're a conventional medical doctor and a trained pediatrician, and you have experience in emergency and acute care, which I think is such a valuable foundation from where you're sharing all this new information with us. So, just tell us a little bit about how you got into medicine, and how you became an expert in integrative and alternative medicine as well.

**02:44 DP:** Sure, I would love to share that with the audience. As you mentioned, my background is in acute care, I was a pediatric emergency doctor for many years, and what happened to me is worth repeating because it's happened to so many of us. I had a kid, and this was 24 years ago, and my kid had some health challenges. I had a fortuitous, serendipitous encounter with an MD homeopath, and I always give a

shoutout to her. She's still practicing here in Marin County, Dr. Ifeoma Ikenze, and Dr. Ikenze said, "Michelle, give Jessie 'Spongia Tosta.'" She's a Nigerian woman and being from New York, a troglodyte city in terms of integrative medicine, I hadn't heard of homeopathy, I'm embarrassed to say now. And so, I give my son this little remedy, and he gets better. He gets sick again, repeat the remedy, he gets better again. I'm like, "Wow, wait a second, you've gotta be kidding me, it's a freaking miracle."

**03:45 DP:** So I started studying homeopathy. I needed to learn what these little affordable, tasty, (you know how hard it is to get kids to take medicine,) sugar pills were. That began my study of homeopathy. Back in 2000, I had worked with Ifeoma for a while. I was doing homeopathic and Western practice, and opened my own little cute Urgent Care in Fairfax in Marin County, and I was doing this integrative blend.

**04:13 DP:** At the same time I was doing all this, I started seeing this decline in children's health, and it was kind of gradual and around 2000, and I'm like, "Huh..." and by 2005, 2006, I'm like "Well, wait a second. Things are shifting, what the heck's going on?" I was not really in tune to that, and was a busy mom. I had two small children, my own practice, yadda yadda, like so many women putting out many fires at once. I was approached by a group of gals here in Marin County to stop the spray against a light brown apple moth. They wanted to spray the entire coast of Northern California. They were called Mamas, and these gals enlisted me because they needed a doctor on their board. And boy, I didn't want to do it. I was reluctant, I was busy. I really wanted to say no. And like many good women, you know what I did, Christine, I said yes. I was like, "Sure,

yeah, of course. I have nothing else to do." I wasn't an activist. When you're seeing patients all day, you're not thinking about, "Oh, I'll become an activist."

**05:22 DP:** So these gals stopped the spray. I did very little, except drink organic coffee and hang out at their houses here and there and make suggestions on occasion. They really did all the heavy lifting. One of the gals in that group asked, "What did I think about GMOs?" And in 2006, I didn't have a thought about GMOs. I barely knew what they were. There is another revelation of embarrassment, but that's the way it was. It wasn't in my literature, that's for sure. So she said, "Michelle, you need to read Jeffrey Smith's book, 'Seeds of Deception.'" She thrust the book at me, and like a good pediatrician, I listened to women, especially these smart gals, they knew everything, and I read the book.

**06:04 DP:** I read this book, and I started learning about GMOs, and I read the work about the first researcher. He's a plant biologist, he's still alive, named Dr. Arpad Pusztai, and he worked at the Rowett Institute in the UK. His research came out around 1996 to 1998, and he was the first scientist to look at the role of genetically modified food, before introducing it into our food supply in the UK. He thought GM food was going to be fine, and what he learned was that it was not fine. He was a hero, and the BBC reported on his findings for two days, and then he was fired from the Rowan Institute.

**06:46 DP:** I won't get into all that, but I started really digging deep into Dr. Pusztai's work. I would be remiss if I didn't honor him like almost every time

I speak because he really was a life changer for me. I recognized, "Oh my God, this can be what I'm seeing in every kid who has leaky gut, intestinal permeability. This is why I'm seeing all this dysbiosis, and imbalanced microbiome in kids and their parents." By the way, I talk about kids, but it's grown ups too. I thought, "Woah, wait a second." And that began the beginning. I couldn't close my eyes. I said, "Wait a minute, we are feeding all our kids this stuff that has not been studied in humans and our kids have this exponential rise of disease," which is what I talk about in the book with my co-author, Dr. Adams, and we go into it really deep in the weeds, pun intended.

**07:39 DP:** This is a very long answer, but this is how it all evolved. I think most of it was serendipity and just on my part being in the right place at the right time and being willing to keep an open mind.

**07:54 DS:** Absolutely. It sounds like a lot of synchronicity in your life and here we are, right? 2018, and the rates of autism are on the rise. I think 1 in 59 children now have autism, and that has bumped up from I think 1 in 68 just a few years ago, and then chronic illness is on the rise in not only just our general population but in our kiddos as well. I know all of these coincidences, if you will, led to your book, "What's Making Our Children Sick?" So, share a little bit about the inspiration for this book, and really how you answer this question, What is Making Our Children Sick these days?

**08:40 DP:** So what had happened is that I was sitting on this mine field of information, and I was seeing patients all day. I was a full-time clinician. As

a full-time clinician these days, you're really in front of a computer screen all day, as horrible as that is. I just didn't have the impetus to come home and write a book. I wanted to write this book, I felt that I couldn't reach enough people in a clinical practice to say, "Hey guys, we've got a big problem on our hands." So my neighbor moved in, this was about five years ago. Dr. Adams Vincanne, and we were walking and, "Hey, what do you do, what do you do?" You know, chatting away, I had dogs, and we were hiking my dogs. She said she was an author, and she had studied Tibetan medicine, and she was a medical anthropologist. I was like, "So cool, she's brilliant." I thought, "Well, gee, Vincanne, I want to write a book too." And I told her about it, and she said, "I'll help you write that book." I said, "You will."

**09:41 DS:** God sent.

**09:41 DP:** Yes, that's what it was, it was like an angel jumping down on my back. So, we began, we enrolled a bunch of my patients, she interviewed 20 of my patients with me from my practice at the Institute for Health and Healing at the time, and she at first was extremely skeptical about what all this was going on. She didn't know anything about GMOs, she didn't believe about leaky gut dysbiosis, this link of this kind of poison food. I had to work hard to convince her, but she started hearing the stories one after the other after the other of my patients, and what it took to get them better. By the end of our inquiry, which, after interviewing everyone, took about a year, she was fully on board, and then we really tried to produce an academic book, but yet that's readable, based on science. We didn't want to be poo-pooed by the medical community, because she works with

medical students at UCSF. We really wanted to be able to get into doctor's offices, politicians, educators, so we really tried to produce this academic book, sharing how we got into this mess and offer solutions on how we get out.

**10:58 DS:** I think when you're on the front line as a clinician, you can't close your eyes to this. Our patients are our greatest teachers, and there was a lot of commonality of what you're seeing. I guess a lot of our audiences are very educated. What were you seeing in children from, let's say, the beginning of your career to now... What are the incidences of increased asthma, or eczema, or neurological disease? What were you starting to see more of in your patient population?

**11:33 DP:** Being a resident in New York, and I took care of very sick populations, and I was an acute care physician 20, 30 years ago. There was no such thing as neuro-cognitive disease. As a matter of fact, in our pediatric textbooks there was no sensory, auditory and any kind of processing, visual processing, nothing even in our books, until extremely recently. So, this neuro-cognitive dysfunction is one of my biggest areas of concern now, as functional docs, we all look at the gut, gut, gut. But if I start looking at this neurologic dysfunction, it is profoundly concerning. Autistic spectrum disorder or autism, what we called it back when I was a resident, was so uncommon that when a kid on the spectrum came into the office, the attending physician would bring us all in to see the kid, because it was so unusual. Now, as you said, we've got 1 in 34 boys, 1 of 58 kids. You're right, it's even changed in a year since we wrote the book, and it's state by

state. Some states, like New Jersey, have the highest rate, and I believe Alabama reported the lowest.

**12:41 DP:** I have to look at the statistics. We know how you can tweak stats, Christine, as we know. Yes, we've got to be careful there. ADHD wasn't rare when I was practicing back in the day, but now it's 10% of kids, and drug-prescribing was very uncommon 20, 30 years ago. We didn't prescribe these hyperactive medications, and now you'll have 10% of kids on them, particularly boys, who seem to be more affected. If you look at the Asthma statistics, it was about 1 in 16, 20 years ago, it's 1 in 8 white kids, 1 in 6 African-American kids, and Latino kids, it's all over the map, because Latino kids come from many countries, and they're kind of bunched together, whereas Puerto Rican children have 20% rate of asthma. Mexican-American kids would be anywhere from more like 1 to 8. So that's kind of on the map.

**13:40 DP:** What is so shocking is obesity. Rates of obesity have been rising steadily; We're now at 1 in 5 to 1 in 3 kids, again, it's state-dependent. And then we have all the sequelae of obesity: Metabolic syndrome, hypertension, cardiovascular disease, kids now have high blood pressure. It was so uncommon when I was a resident. We didn't even check blood pressures in the clinic, because it was unheard of to have a kid with hypertension. Obesity, I think it was 1% of the population back in 1960s. It's about 5-6% of children now that have type one diabetes, a horrible disease, especially for a kid. I can go on to the food issue. Oh my god, food allergies, the severe ones, the IGE-related food allergies are about 1 in 13 kids, but that does not include the food intolerances and the

food sensitivities, which are allergies in my opinion, although Western Medicine says they're not. I would say that's more like 40%. But in an area where you have a kid with a complex chronic disease or adults for that matter, in my previous practice, 95% of my kids came in for whatever disorder, whether asthma, eczema, and 95% of them had leaky gut and evidence of gut dysfunction.

**15:06 DP:** I can give you stats on mental health issues, dyssomnia, sleep disorders, eczema, etcetera, that all show these exponential increases, shocking and by definition, epidemic, because the CDC definition of epidemic is 1 in 100. These diseases are way more common. Unlike 30 years ago, when we were worrying about TB, we are now worrying about chemical-induced environmental toxins, toxicants and industrial food, which in itself is a poison.

**15:49 DS:** Absolutely, such great information that you provided just now. I was taught that when we see a rise in illness at this rate, we have to look at the environment. Genetics don't change that quickly. What is going on with our environment and our food supply?

**16:07 DP:** We've got significant change in environment. In 1996, the roll-out was for genetically modified food. We talk about food, because we're all eating at least three times a day. And in my case, often more, and I don't know anyone who eats 100% organic, Christine. If you eat organic, you'll not be eating GM food. So, these foods were rolled out so you could spray Roundup on them, because they're herbicide-tolerant--that is the only reason we brought out genetically modified food. They do not save the

world from hunger, they require more water, they do not have a genetic variations that improve their nutritional content-- golden rice and vitamin A has been a 20 somewhat year failure, which we wrote about, and we could talk about that. The amount of Roundup or glyphosate, which is the active ingredient of Roundup, that has had to be applied increases because of weed resistance. Approximately 75% of weeds in the US are now resistant to the most commonly applied herbicide, increasing amounts have to be applied. I think the last stat I saw for the US, said 1.8 billion kilos of glyphosate-based herbicides have been applied in the US, and over the past 10 years it's been this profound increase, not just on the herbicide-tolerant crops, which is just about everything kids eat, but they also use it off-label to dry outcrops as crop desiccants.

**17:34 DP:** So we're getting massive amounts of glyphosate, and we can go into why glyphosate and the other stuff and these chemical formulations are so toxic. Our food has been turned into a chemical, we're dousing it with herbicides, where in the past you could not spray a crop with an herbicide, because it would die. Now you can spray, and the crop doesn't die. So the toxic load is increased, and while they're increasing this toxic load of pesticides, there are no studies looking at the effect of this chemical soup. What happens when you're exposed to glyphosate, and aluminum, and pyrimidines, styrenes--pick your poison--air pollution, particulate matter from the fires here in California--we have no data on what happens as a result of this multiplicity of chemicals on sensitive individuals, such as pregnant women, children, etcetera, and animals like dogs and livestock. So if we don't even look at the rest of the chemical soup we're exposed to,

forget all the other chemicals, food is not the only one, but, boy, it's a big part of our exposure.

**18:51 DS:** Absolutely. Dr. Pizzorno is a naturopathic doctor and he wrote a book called "The Toxin Solution," and he always said one plus one doesn't equal two anymore. You just illustrated that. Where I sit, I've just been practicing eight years, but I see very sick people, and we're scratching our head, "Why are people so sick, these days?" I often tell my patients, "If it was one thing, you wouldn't be this sick." So we have to look at it from all angles. I think you are picking a very important topic to focus on, because obviously none of us can escape food, we have to eat all day, and food is supposed to nourish us, not poison us. So many of my audience, I feel, are very educated, but I don't want to overlook anything. Some people might be scratching their heads and saying, "Oh, genetically modified food? Well, I eat organic. I think I'm avoiding them." Tell us a little bit more why this is such an issue and how pervasive genetically modified foods are in our food system. What are common genetically modified foods and why may we be ingesting them, even if we don't know it?

**19:58 DP:** Indeed, you're correct. The genetically modified foods are pervasive, 94% of our corn is genetically modified. Similar numbers are true for soy, which is in just about everything, even in our packaged foods. Canola is almost completely genetically modified. Cotton is extremely modified, high-lows in the 90% range, maybe 96%, and it's a very heavily sprayed crop as well. Many pesticides go to the cotton field. In cotton we not only use the cotton seed oil, but we also use the cotton baby diapers, tampons, little dental pludgets that we put in your mouth after a hyper-

uremic wisdom tooth extraction. If you think about that, they're all contaminated with GM and pesticides. Alfalfa is genetically modified, and that is fed to our livestock. So you're getting it that way if you're not a vegetarian, you're going to eat it in your meat. Papayas from Hawaii are modified, and sugar from sugar beets. If you just look at corn, soy, and canola, along with sugar from sugar beets, these are like the three top foods in kids' diets, the number one diet that our kids are eating are sugar from sugary treats. Number two is pizza, and yes, if you can believe that, out of all these foods studied by the USDA, the only fruit and vegetable our kids are getting is french fries and apple juice.

**21:33 DP:** So they're getting all this genetically modified food, it's in everything. You can seek to avoid it. If you go to a restaurant, Asian cuisine, Japanese, Chinese, it's genetically modified. If you go to a Mexican restaurant, I love going eating out Mexican food, tacos. All modified. So eating out is a problem. Who doesn't want to just grab a quick taco, right? We get it. This is a problem, especially for our kids in school who are getting completely genetically modified, non-nutrient dense food, no nutrients in our food. That's been a big side project of mine. So those are the foods that are modified, the main ones, and there are a few more. What's coming out now is a recent introduction of the Arctic apple, and they're not labeling it, we have no labeling, we don't know, so people don't know it's modified. The innate potato, so it doesn't brown, "Simplot" they're called. And what I'm finding is popping up all over the US, I was in an airport recently, is the impossible burger. This is this millennial burger, it's touted to solving our problems, because it tastes like meat, but it's

vegetarian, so we're not going to be using animals. It's highly genetically modified. 46 new proteins not studied yet out of that thing.

**23:00 DP:** What industry is saying about it, is frankly, not true. It's not been cleared by the FDA, it's not been studied. We wrote a great article about that on our website, GMO science, so these are my concerns. People have no idea because the food is not labeled. We lost that in California, Oregon, Washington, and people have no idea what they're eating. This is why I have such a scream, I don't even say a cry anymore, that people must eat organic, particularly if you're dealing with a health challenge. I mean, everyone needs to eat organic. We have to support organic farming, we have to stop underwriting conventional farming and give that money to organic farmers, so they can make an income--support our farmer, eat farm-to-table. This is why, Christine. And so this is why I have to stand behind organic food. It's a huge part of my treatment plan. I don't overlook this conversation with my patients.

**23:55 DS:** Absolutely, and there's so many great points again that you just brought up. I just like to take a step back and ask, why is there even an objection to labeling? Why would somebody not want these foods to be labeled? What are the implications of that? They're obviously worried that people would make different choices if they have more awareness around this issue, right? And so I just think we've lost our mind sometimes. It's just the common sense, we've lost it. But I'm with you, we can only control what we can control, but even in patients who really try... I know some of my patients are very type A, and they eat perfectly, and we can start testing for glyphosate now, in the urine, we can look at it, and it's not a perfect test,

but it definitely gives us a snapshot. I have been surprised that many people who "eat perfectly" still have this body burden of glyphosate. What I'm getting at is what is glyphosate really doing to our body? I know Monsanto, or however we refer to them now, they like to say, "Oh, this doesn't stay in the body. It doesn't bio accumulate." But we know that it does have long lasting effects, and it does bio accumulate. What are some of your major concerns about this exposure to genetically modified foods in our bodies?

**25:31 DP:** Right. These are great questions. So, you don't eat a genetically modified food without this associated pesticide, which is a glyphosate-based herbicide. I'll talk about the toxicity of glyphosate, which is going to be really relevant for your listeners. But remember that they come in these formulations which are probably more toxic than just the glyphosate alone. For example, Roundup includes the surfactant POEA, which is a detergent that breaks down cell membranes and allows the glyphosate to enter the cells which makes it more toxic. This is indeed probably why we have so much mitochondrial disruption and mitochondrial toxicities' one-two punch about it, that we've known this since 1979. I have a good paper about that, 1990, 2018, I have papers showing the toxicity from these glyphosate-based herbicides on mitochondria, which is particularly relevant in our patients who have CFS, chronic fatigue syndrome and fibromyalgia. So, glyphosate, what does it do? It was patented as an antibiotic by Monsanto, and I've read the patent. The patent describes glyphosate as a "broad spectrum antibiotic". They touted it as an antibiotic that could heal everything from malaria to staff infections.

**26:47 DP:** What effect this has on the microbiome in humans, we really don't know. We're eating this stuff and no data. It just blows my mind. But what we do have is microbiome data on chickens. What we show from a study with a gal named Monica Krueger in Germany, is that it altered the microbiome in chickens, so that the beneficial bacteria, such as lactobacilli and bifidobacteria, were diminished, and it promoted the growth of more pathogenic bacteria like listerial species and salmonella. This has been reproduced in other animal species as well. How much it takes, we have no idea. I am sure there are some of us who could eat it and would be okay, and some of us just could have a little, and we're going to have profound effects. So, it's not clear how much we can tolerate. Glyphosate is also a metal chelator. Tthis is so important because it was first learned that it was an herbicide when they were using it as a chelator, and they found that when they were using it outside that it killed the weeds around where they were cleaning the metals. Tt binds cations, such as manganese, magnesium, calcium, zinc. We're finding significant deficiencies in these nutrients, particularly in kids, but also in livestock.

**28:08 DP:** What I suspect is happening, in this huge mitochondrial dysfunction we're having, is that it's binding manganese, which is causing perhaps some coupling or oxidative phosphorylation issues in the mitochondria. We need manganese for our mitos. But it's not just manganese, it's copper, and you need that for our thyroid functions, zinc for brain and immune function, you need the magnesium for every function. How many of our patients are magnesium-deficient? All. So, this chelating effect is profound. If you say, "Hey, Michelle, give me the human data." Again, don't have any, I'm extrapolating it from cows. So then what it also

does, it impairs our cytochrome P450 system, which is one of our major detoxification pathways in the liver. So the microbiome is affected, and that's the first line of defense in detoxification is our microbiome, and then the liver. Not only does it affect the cytochrome P450 system, it also has been shown by a beautiful paper from a researcher out of King's College, Dr. Michael Antoniou and his group, he's a genetic researcher and the head of Gene Expression in King's College in London, and he did in paper in 2017 in January, which showed that two parts per billion of Roundup, which is way lower than what we get, caused, not correlated, non-alcoholic fatty liver disease in rats.

**29:43 DS:** Wow.

**29:43 DP:** Now, we are having an epidemic of non-alcoholic fatty liver disease in humans, like one of four, according to the American Liver Foundation. We are also having non-alcoholic fatty liver disease and NASH, non-alcoholic steatohepatitis, which is the sequelae in obese children out of an Italian study done about a year and a half ago. No one, I can tell you, is looking at liver ultrasounds in children. I can tell you it's not done. Maybe not in adults either, and it's silent, and this can progress. So, as if that's not enough from this magic glyphosate, in 2015, in March, the World Health Organization listed glyphosate as a "Class 2A" carcinogen and a "Class 1" carcinogen in animals, 2A in humans because we don't have human data. What your listeners may be aware of, this is one of the pieces of information in a recent ruling about a month and a half ago of the Dwayne Johnson case here in San Francisco that awarded him, I believe, \$287 million. He was a chemical sprayer of Roundup on a school in

Benicia. He developed skin issues, and then went on to develop non-Hodgkin's lymphoma, which has been linked to Roundup, and he won that case. Last I heard, 8,000 cases are in the wings.

**31:09 DP:** They are maybe unloading 'Monsanto' because of this massive litigation that has been unleashed for these poor cancer victims. So okay, we got that. Then lastly, I introduce an idea that I've learned about through the work of Dr. Stephanie Seneff and Anthony Samsel, and some of their theories. This is that glyphosate, N-phosphonomethyl glycine, has a glycine piece in there, and glycine is a ubiquitous nonessential amino acid, maybe substituting for glycine in tissues that are glycine-dependent, like collagen. Now, this research hasn't been done, it's theoretical. But Dr. Samsel, who's a researcher, I believe in New Hampshire, found that he found glyphosate in tissue, in protein tissue, like nails and hair in different specimens. So, I'll be curious to see if that pans out.

**32:02 DP:** As a clinician, I have a kid in my office, and a grown-up. I see grown-ups too. And they are doughy. Their muscular tissue on physical exam, imagine, I still examine people, doesn't feel good. I'm like, "What the heck? What is with these folks?" And they're tired all the time. Is it the poisoning of the mitochondria? Is it myositis? Is it an inflammation, chronic inflammation, they all have it? Or is this potential glyphosate for glycine substitution and collagen and other areas? I don't know. Not enough data for me on that. I think about it, though. So, just to lay the land of this little molecule, of what it can do, that will give the listener a good sense of the toxicity of glyphosate.

**32:47 DS:** I know we're both big on looking at the body and the terrain. This idea of the environment in the body kinda dictates how people respond to pathogen. I've heard that as well from Dr. Seneff and Dr. Samsel, or Anthony Samsel, about the collagen breakdown because of the glycine substitution. I'm thinking that's probably why we see a lot more persistent Lyme disease and chronic infection, since Lyme probably can take hold even more in this toxic terrain because Lyme, as many of our listeners know, likes to break down collagen, and it lives in the joints and the connective tissue, these collagen rich environments that just don't have that resilience that they probably would if they were in a non-glyphosate body, right?

**33:38 DS:** It's just mindblowing. We were fortunate at Sophia Health Institute. I work with Dr. Klinghardt, as many people know, we caught on to this issue with glyphosate, and Dr. Seneff gave us a few private lectures while we were learning about this. It's just every patient that we test, not only with a lab test but also energetically, they have an exposure, and it's a real issue. So I'm so glad you walked through the science with us here. We've heard a lot about glyphosate. Are there any other herbicides or pesticides that you want to make us aware of today that we should also know about, and how they affect us?

**34:26 DP:** Yes. When we do eat a food now, there are on average around six pesticides that will be picked up. Some of them are banned in Europe, like chlorpyrifos, and that is a neurotoxin. Atrazine is commonly sprayed neurotoxin. Also, there are fungicides that are really toxic, like methyl bromide that is often sprayed on strawberries, and these other fungicides

that are also particularly toxic for us. This is chemical soup. So you really want to look out for the organophosphates. Those are a particularly toxic group of pesticides. Glyphosate is like an organophosphate but not quite like the others.

**35:14 DP:** I've read most of my work about organophosphates from the work of a UC Berkeley researcher named Dr. Brenda Eskenazi. Hats off to her, because she's been studying the effect of organophosphates on people, migrant farmers, their children, the Salinas Valley, I think for 19 years. Her data is extraordinary, which shows the effects of these chemicals causing things like ADHD on a severe type, poor birth outcomes with really low motor tone and how it affects pregnancy. How do you avoid all these chemicals? I know everyone knows about that EWG study that looked at umbilical cords, 10 umbilical cords. I think the average chemical burden was 286 chemicals found in umbilical cords. So this is the body burden that our children are born with. And these pesticides and the food just make it that much more toxic.

**36:16 DP:** What upped my level of concern is, I was at lecture and I saw some slides, and I learned about this through a colleague as well, that when mold, or mold plates that were put near WiFi, EMFs, and electromagnetic fields, they grew better. They seem to like WiFi. So, I'm thinking, "Oh. Oh, you've got to be kidding me." And I'll be honest, what other pathogens, like Lyme, might love a little WiFi juice? Might grow better, right? And then try to roll out this 5G. I personally can't take it on, but I sign every petition that comes my way about 5G. We don't know. Really? Are we going to introduce yet another thing? Here we are trying to

clean our food up, and we want to introduce another un-studied technology that we can't roll back once they roll it out.

**37:19 DS:** Absolutely. Dr. Klinghardt has been my mentor. He has been kinda screaming about EMF for a long time, and he does feel like part of why we see the increased virulence in some of these infections that we've evolved with is because of the increased in microwave exposure and parasites, mold, Lyme, all of these things. And I do see that. We don't have a study to prove that, but I do see that clinically. It is a huge concern, and as you're saying, you can't take it all on, but I think what we can do is increase awareness. We mentioned a little bit before we got on, it's interesting, here we both are clinicians and doctors, and we just want to help people, but we find when you know this work, you find your role as almost an activist as well, educating people, and trying to speak up. However we can vote to create change...

**38:19 DS:** I think it's a good omen that the courts did find Monsanto guilty. I think there's a huge opportunity for a paradigm shift here, but it's going to take all of us to keep shouting and screaming and speaking up, because this is not going to go away without that kind of effort.

**38:39 DP:** Christine, I couldn't agree more. Many of us who might be listening are practitioners and we have become activists. And when I think about doctor...it's from the Latin word 'docēre,' which means to teach. We are here to educate. And so, we have to digest, pun intended, complicated science. A lot of these scientific studies are not easy to understand. Genetics is not easy to understand. WiFi technology is not easy to

understand. Digest it for our patients, our friends, our clients, and then allow them to understand. We should be able to explain it simply. If we can't understand it simply ourselves, we've got an issue. So we need to take this material, digest it, and feed it to our patients. So it's like, "Here's the information, these are the changes you can make for yourself in your own families." That is what I consider my role, not as an activist or an advocate, but as an educator. Can I get the information and really understand and look at these these studies critically? Is this a good study? Statistics can be manipulated. Is this a good study? Should I be reporting on this study? What do I need to tell my patients?

**40:00 DS:** I think a lot of what the opposition wants to say is that none of this is science-based. But even with other debates around aluminum, and the things that we're up against, even WiFi and EMF, they study these things in Europe, and there is solid science to show that this is not just an unsubstantiated belief or a theory, that there is science to back this up. I think it's important for us not to minimize that... If you look in PubMed, you'd be surprised, there's a lot to support what we're sharing with people.

**40:39 DP:** I share with your audience too, and not to get into side conversations about EMFs, it's related, but I read a great book. And a shoutout to this doctor, I don't know him. Dr. Martin Blank, he's a PhD, he wrote a book called "Overpowered." He really discusses that in the beginning, before they rolled out these EMFs... And the reason why I bring it up is, this study was a suppression of data, very similar to the GMO story. We had data, and it was suppressed. We knew about EMF toxicity, but it was suppressed. And so, when you bring forward these ideas, people like

to label you as conspiracist or whatever. No, no, no. Suppression of data. There were carcinogenic studies, for example, on glycosides as early as the 80s. And the EPA, Marion Copley, I believe is her name, was screaming and shouting, saying, "Hey, this stuff is not good." But they rolled it out anyway, and so there was data. What I mentioned before about the mitochondria and glycosides, there was study I read from 1979. So, hello, that was a good study. So data gets suppressed. Misinformation gets propagated. They keep saying the same thing online, through these very beautiful PR tools that various companies have, and they're slick and they're sexy, and they have big pockets. And what we're fighting is this PR blitz of misinformation. There is science. So when people say, "We don't have science that GMOs are bad." Actually, we do.

**42:10 DS:** I think that's so important to keep coming back to, just so people feel equipped when they really take on these issues. I consider myself an optimist, even though we both work in this realm all day long. And so, I know that in spite of what we're all up against, we do have tools, we do have treatments and tools and therapies that can help us have more resilience and to recover from being sick in spite of our environment right now. I know that you have a lot of unique ways that you treat people. I would love to share what treatments you use and what things you want to educate the audience about on, that help to really support your body, not only avoiding exposure. What are some tools and tips to really decrease the effects of herbicides and pesticides in the environment?

**43:10 DP:** I can answer that because I'm full of optimism, because kids get better, people get back better. You can reverse disease.

**43:17 DS:** Yes.

**43:17 DP:** And this disease does not define you. There are epigenetics, and with nutrient-dense foods, nutrigenomics, you can alter your epigenes, which will alter your gene expression by your environment. So this idea that we can't reverse it, is false. And epigenetics affects your microbiome. We have good data. Just wrote a great paper in 2018. So let's be clear. That is a doable thing, and that's what we try to do with our patients, to help them become educated. Yes, please read the book, "What's Making Our Kids Sick." Don't suffer. Go to our website, become educated: [www.gmoscience.org](http://www.gmoscience.org). We spend a lot of time giving you the best science on those articles. So become educated. Organic food, can't say that enough. Filtered water, yes. Which filter? People ask me all the time...

**44:04 DS:** I get that question all the time too.

**44:05 DP:** All the time. I send them to EWG, Environmental Working Group. I said, "I have what I use, but you know what? Really do your homework and see what's best in your pocket book and with your finances." Okay. Take your shoes off at the door. Although, I can't seem to get the people in my house do that. Dust is the most toxic thing in your house.

**44:26 DS:** Oh, wow.

**44:26 DP:** I know.

**44:31 DS:** We have people take their shoes off when they come to Sophia. That's interesting. Dr. Klinghardt really made a point when we started the office. It does make the environment nicer, and we do a lot of things, but I haven't framed it in that way. Dust is one of the most toxic things that we bring into our home. That's a good point.

**44:49 DP:** And your baby is crawling on the floor. And you have a beautiful baby, off they go. And then the hand to mouth behavior, that's how children explore their world. Not to mention your poor pooch. The pooch is licking its paws. One out of 1.6 dogs now with cancer, with non-Hodgkin's lymphoma, you've got to wonder. Really, there's some simple things and people say, "How can I get you?" Well, you're not going to be able to get me. And there aren't that many integrated paediatricians, I am sorry to say.

**45:23 DS:** I know, and we still need them.

**45:25 DP:** We're growing. And so if you can't get to a naturopath, an acupuncturist, a pediatrician like myself, DO, then there are some home remedies you can do. To reverse or decrease glyphosate in addition to what I'd already mentioned, I say you can try apple cider vinegar. My dear friends, Howard Bleager, a farmer, and Don Hubert, in pathophysiology, recommend it, and so do I. Apple cider vinegar and Sauerkraut juice goes a long way to reverse glyphosate toxicity. People say, "And what else?" Well, there is a homeopathic product out of Australia, Séralini, who's a researcher on glyphosate and Roundup himself, and his group helped create this product called Digeodren, one of the worst names I can think of,

I'm sorry, Dr. Séralini. It's a homeopathic and I love it. I have some on my desk here, it has the homeopathic Torax stem in there. I think it's Burdock in there too, and one more remedy, and it works. I took it, even if you maybe have a little too much wine, it also works. So, I give people that. If people just can increase their green drinks, and put detoxing herbs in their green smoothies, kids will drink these if you put a little juice in there, like apple juice, pineapple juice, just a little, let's not go crazy with the juices or coconut milk.

**46:52 DP:** And cilantro, of course, is the best herb that I know to detox, plus parsley and cucumber. There's a lot of things you can add. The bitters are harder, like dandelion, but just a little bit of dandelion. So I say, "don't spray it, eat it." Dandelion, these are great. Now then there are remedies that I like from my various homeopathic companies, and I'm a big fan of German Biologic Medicine. For any practitioners out there, there's a detox kit I use, I love this bios product, they have a product called Adiclins. I know I'm talking to practitioners, just one second. Adiclins, those are for practitioners. You have to be a practitioner to get those, but there are great homeopathics to help you detox from this pesticide onslaught, so I say do that. And then you need to heal your intestinal permeability, your dysbiosis. I do recommend probiotics. Now we could spend, Christine, how many hours on probiotics?

**47:52 DS:** Too many, right?

**47:53 DP:** Six or seven? I love probiotics.

**47:57 DS:** I had Kiran Krishnan on the podcast, the MegaSpore creator. He did a great job explaining a lot.

**48:04 DP:** Kiran is an advisor on our website.

**48:08 DS:** Oh great!

**48:08 DP:** Science.

**48:08 DS:** He's so smart.

**48:08 DP:** I love him. He's so smart. These are the people who help us stay smart, Christine. We are not smart in a vacuum, we all help each other. My two favorite words in the world are coalition and collaboration, how we collaborate or help each other because we each know a little, and together we know more. I hear people say, "I eat all organic. I'm still sick." I say, "Well, that's the internal milia. You need to get rid of the external milia. Your cleaning products. Ladies, are you dying your hair, are you putting on tons of toxic make-up? Hello! Women use 20 products a day, the average American woman. So those products may not be clean, we have to look at all our environments, our terrain, like our soil, we clean that up. It's a journey. I don't tell people to do this cold turkey in 24 hours, it may take a month, six months, a year. Be patient with yourself, and please, mindfulness. Decreasing our stress. We're all stressed. Whatever you like to do, meditation, mindfulness walking, whatever your thing is, don't beat your husband, whatever else you can do to decrease your internal stress,

to balance your sympathetic and parasympathetic nervous systems, this is what we're trying to do.

**49:38 DP:** However you do that, do that as a daily practice. I should've put stress reduction up at the top of the list, right by organic food. This is what we can do, and you don't need a big budget to go take a walk or meditate. Hello? That's free, that's a free point right there. So that's what I tell my patients. That's our first visit.

**50:01 DS:** Absolutely, and I think I try to stress that in how I educate people. We have to live a lifestyle of detoxification. This is a marathon, not a sprint. A lot of people think, "Oh, I have this heavy mental load or I have this glyphosate load, I just get that down, I can return to my life," but we all are getting exposed constantly, so just supporting our livers and our kidneys and our skin or our lungs, and all these body systems, can help us tolerate and thrive in our environment. I think you picked a lot of really great tools. I'm a fan of the sauna and coffee enemas and lymph drainage support and all of that. We could talk all day about those things, but I think...

**50:45 DP:** Yes.

**50:46 DS:** This is really the key to our medicine--empowering people to live a lifestyle of detoxification, and once people get these habits into their routine, you feel better, right? You do more of these things because you feel better from them. I'm going to have to write some of those product

names down and rotate them into my protocols. I'm always interested in what people are using.

**51:16 DP:** Me too. And that's what we're really teaching, aren't we, is how do we modify our lifestyle. We're not trying to create a sea of neurotic people. No, no, stop. Stop, we're not trying to do that. We're incorporating these new changes, we're evolving, and hopefully we're doing it for ourselves and our family in a way that is supportive and not creating more stress for ourselves. We're beginning to evolve our lives, and we need to make these changes. And I tell people, the bottom line is, if you don't make some of these changes such as your diet, I could give you the best remedies in the world, I could be the most brilliant homeopath, but they won't hold. You will relapse. And so I tell people, "If you're not ready to make some changes, it's unlikely you're going to get better. So what are you willing to do?" And if people aren't willing to make those commitments, I say, "Come back."

**52:09 DP:** Come back when you are ready to make some change, and change is good, change does not have to be hard, change is good.

**52:20 DS:** Absolutely, it's like, how can people make these changes before they get really sick? I know that's hard human behavior to do that. But I feel like from the lens that we see, chronically ill people, if we can just take all of that knowledge base, and if people can just start before they fall ill, how much are they preventing. I know they are preventing illness down the line and also supporting having healthier children and all of that. So I think it's really important that none of us are immune to this, even if you're not

feeling this in your body, you can just start today with some of these things that we're talking about.

**53:05 DP:** Amen, I agree.

**53:08 DS:** We could talk all day Michelle, right?

**53:12 DP:** We're just warming up.

**53:13 DS:** Well, I know that we're coming up on our time, and I know that we could talk for hours, and I hope to do so. But where can people learn more about you and your work and your book 'What's Making Our Children Sick?'

**53:36 DP:** They can visit our website, [www.gmoscience.org](http://www.gmoscience.org) and I hope they enjoy that. The book can be bought on Chelsea Green's website, certainly on Amazon, and it's called 'What's Making Our Children Sick?' I have been touring a lot, I will be going to the Midwest, and I'm actually going to South Africa, whoa, excited.

**53:56 DS:** Oh wow, that's great.

**53:57 DP:** I'm very excited to work with the South African Society of Integrative Medicine on some of these topics, and that's just making our planet very connected. But I've been a little lax in creating my own website, it's been on my to-do list, so where people can find me and see where I'm

speaking and all that, that is in the works. I think that's the last thing I do is all that self-promotion stuff, Christine...

**54:28 DP:** It's on my to-do list. My goal is to get information out to families and be an advocate for all kids, I love children, and that's what I do, so I'm committed to that. That will be coming hopefully in a month.

**54:48 DS:** Well great, we know your work speaks for itself, and I know whenever you get your website done, that's going to be great. I hope that people pick up your book. I was really, really impressed when I looked at that and saw what you're covering, and you're really diving deep with the research and the practical tips and tools that we can use to make change. I think that we all want healthier children, they're our future. I'm so grateful that you spent the time to put this book together and for all the work that you're doing, and I really appreciate your time today, thank you so much.

**55:27 DP:** Christine, thank you, thank you for creating this wonderful podcast, and a special shoutout to my unbelievable co-author, who's brilliant and sassy and brought this big global view to the book--I'm a clinician in a clinical myopic viewpoint, and she brings this global perspective which allowed us to really expand the topic in a way that I found very exciting, in terms of the topic. I thank you for providing this forum for allowing people to get this information, get access information on difficult subjects, but in an approachable way. So thank you.

**56:05 DS:** Thank you, Michelle. Well, we'll have all of this information in the show notes and thank you so much for joining us.

**56:11 DP:** Oh, thank you and have a wonderful day.

**56:16 DS:** Thank you for listening to 'The Spectrum of Health' podcast, I'm Dr. Christine Schaffner, and I hope you enjoyed my conversation today with Dr. Michelle Perro. Please check out her book, 'What's Making Our Children Sick?' You can check out her website in the show notes as well, and I hope you enjoyed this podcast. If you are enjoying this content, please feel free to email us, let us know how the podcast is doing, and if you feel compelled to leave a review on iTunes, I'd g