

Intro: Bulletproof Radio. A state of high performance.

Dave: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is more of a troubling trend, maybe, than a fact, but it's related to today's interview. It's that 124 million boys and girls worldwide are in the highest weight range. Over the last 40 years the number kids and teens with obesity is just skyrocketed.

In 1975 were estimated about five or six million boys were obese. In 2016, it went to 50 million girls and 74 million boys according to a report published last year. The instance of childhood obesity has slowed or leveled off in high income countries. It's continuing to grow in other parts of the world, especially in Asia.

According to pediatricians, this is caused by globalization of bad diet and inactivity, lots of processed foods, and sugary drinks, and urbanization. These are big things that are happening. I'm calling this out, because I used to weight 300 pounds. I had arthritis when I was 14. And I was obese as a teenager, and actually, I kind of sucked.

I'm hoping that by listening to this show, you might learn a thing or two about what you can do to not be obese yourself, maybe help a kid in your neighborhood or in your family, or anywhere else, avoid that stuff because really, no one should have to do that.

And if you like the show, before we get going, take a second to go to bulletproof.com/itunes, which takes you right to the Apple page where you can leave a review that says that this show is worth your time, because I sure hope it is. I think it's worth my time anyway.

Today's guest is Dr. Michelle Perro. She's a 37 year veteran of pediatrics in acute care medicine and integrative medicine and she's been on the front line of caring for children. And over the past couple decades, she's seen the sharp decline in kids' health and a big increase in the environmental load our children are experiencing, so much that she wrote a book called, *What's Making our Children Sick*.

She's also the executive director of a non profit website that explores the links between genetically modified food and the pesticides that come with it and health. Today we're gonna talk about how her book presents a roadmap to help you as a parent, or maybe as a kid, a practitioner, health educator, just understand what's going on in the landscape so we can talk about microbiology of the gut, talk about scientific studies, about what glyphosate actually does to human beings as well as to our soil, and hear from someone on the front line of dealing with kids who get sick and don't get better without a lot of heavy work.

Dr. Perro, welcome to the show.

Michelle: Dave, thank you for having me. Delightful to be here.

Dave: You're a heavy weight doctor in that you do acute care, you do emergency stuff in pediatrics, which is one of the most challenging things to do. You've come at this from

the hard core Western medicine side. And here you are talking about genetically modified foods and functional medicine.

What the heck happened to get you off the mainstream wagon?

Michelle: I asked myself that every day, Dave. What happened to me happens to so many of us who have found ourselves in integrative or functional medicine. I prefer those terms, so alternative or complimentary. What first happened was my own son was not well, 24-25 years ago.

I had the serendipitous encounter, nothing brilliant on my part, to me a homeopath. And she lectured me how to fix Jesse, my son. And my son has given me permission to talk about him, by the way, he's in the book. Sorry Jay. And lo and behold, this stuff worked. I started putting my toe in the water of, "Whoa, what is this stuff?"

Dave: So you went straight to homeopathy as a western doctor?

Michelle: Yes. Because, it worked the second time and the third time, and I said, "Okay, you mean to tell me I can buy a seven dollar bottle of sugar pills and it's gonna cure my son's life threatening illness?"

I said, "I need to know more about this." And I started digging in deep into homeopathy. That word alone makes western docs quake in their boots.

Dave: Oh yeah.

Michelle: It's like ... And I never I thought of talking to you today when I started homeopathy, but I'm going to be honest, this is the transparent true life story.

So I started digging, and digging, and learning and educating myself and all of a sudden, I became a homeopath. I opened up my own urgent care, practicing western and homeopathic medicine, and other integrative stuff. And then, boom. I get hit with, "Hey Michelle, we're trying to stop this spray of this pesticide in Marin County and along the entire coast of California by a group of moms, and we need a pediatrician. Can you do it?"

And I thought, "Heck no." I'm a busy mom. You gotta be kidding me. I'm working, kids, soccer, crazy life. And as many women, I said, "Sure. Be happy to. Would love to do that for you." These gals, they did the heavy lifting, Dave. I just went along for the ride until one of those moms ... Oh, we stopped the spray by the way.

Dave: Nice.

Michelle: Yeah. You don't know how good that was. And so, one of those moms said, "Hey, what do you think about GMOs?" 2006 and I didn't have a thought about GMOs and I said, "Okay. Look into Jeffery SMith's book." She insists that I read it. As a pediatrician, you

have to appreciate when smart parents speak to you, you listen. That's what we're trained to do.

I listened, read the book. Learned about the work of Dr. Arpod Pusztai, and people on your show have talked about him in the past. And light bulbs were popping off in my head, because seeing his work, I made the connection of gut disturbances and these chronic diseases I was beginning to see in my practice for the past 15 or 20 years. That's the big story on how it all happened.

Dave: So these are new things, because you have enough of a timeline in your practice. Kids get sick in a certain way, and suddenly you saw over what period of time? Like over a five year swing where all of a sudden people are sick differently?

Michelle: Yes. People started getting sick differently. So, I'd say about 20 years ago, I've been doing acute pediatrics for 37 years. Kids would get sick, they'd get an ear infection, you give them whatever you need to give them or nothing and they get better. Well about 15 years ago I saw kids with ear infection, let's say an eight month old. Super common in children. And it would be their fifth ear infection.

A kid we've wrote about in the book, she had 20 antibiotic courses by the time she was two. Kids were developing acute onchronic diseases and evidence of chronic inflammation. They also had evidence of a lack of robust immune systems where they were unable to fight stuff. I started looking into gut health, started training myself in functional medicine, or integrative medicine and I in essence trained myself to be a naturopath, is what I did.

I love naturopathy. I started evaluating these kids and gut function and I was pretty horrified as to what I was finding.

Dave: What did you find?

Michelle: So glad you asked, Dave, 'cause I'll tell you. So, I found kids with two interesting things as a baseline. Now, in our kind of work functional medicine, integrative, we look at individuality. But, there are common denominators. I found evidence of intestinal permeability, leaky gut, especially in my patients with complex chronic disease.

I'd say 95 percent of them had evidence of elevated food antibodies, elevated zonulin, I could go into what all this means if you'd like. But, concommenently, I also found evidence of dysbiosis. I loved checking the microbiome. And I started saying, "Wait a minute, this is abnormal." I saw evidence of lack of beneficial bacteria, evidence of overgrowth of pathogenic bacteria, bad players, yeast out of control, not enough digestive enzymes, markers of inflammation, and kids who didn't feel well, by the way.

Clinically these tests, which are adjuncts, match the clinical picture.

Dave: So you just looked at what you were seeing, you saw a difference. This resonates a lot with me. I was on antibiotics pretty much every month for 15 years for chronic sinus

infections and strep throat. And the environment might have something to do with that, not just a lack of antibiotics. And man, I wish someone would've told me that when I was younger because that would've been a real life changing thing. And, I also sympathize with parents with, "My kid's sick. Their nose is exploding and I need something that works."

Antibiotics do work in the short term, but they set you up for more of a failure. A lot of newer doctors maybe haven't seen this change, kids have always been getting sick the way that they are now. But you saw this and you took action.

I want to go back to the homeopathy, because that's probably the most radioactive term. I will admit, I'm a computer scientist engineer. And I grew up in a house where only a crazy person would consider homeopathy because there's nothing in the water. Now, I've funded research at University of Washington about core water chemistry with Jared Polluck and I understand water's more complex than we thought.

Michelle: Mm-hmm (affirmative).

Dave: What shifted gears for me was the guy who finally figured out I had a fungal problem and toxic mold had been a big trigger for me was a John Hopkins EMT surgeon. And, he said, "Well, my patients don't get better, so what do I do?" Eventually he ended up as a homeopath as well and was practicing in Los Altos, California, a guy named Doctor Tim Guildford.

When I heard that a topped ranked surgeon like that, that's just looking for the solution would eventually end up even considering it and saying, "Look, I just see clinical results, I get rid of allergies. It just seems to work." I at least just spin in my disbelief to the point I say, "Alright, there's enough people I know who are not crazy, who are getting results, who use this modality, that I'm willing to say, I have no idea how it works but it appears that it works at least some of the time for some people more than placebo. It's all good."

How many barbs have you taken as a quote real doctor for being an early person talking about that?

Michelle: You know, I tend not to go into this because the amount of stone throwing that I've had to face over the decades has been pretty intense. And I'm a sensitive soul. I'm a pediatrician for pete's sake. Come on. My skin has grown in layers that I can't even begin to share with you because the level of disbelief, marginalization, and often outright hostility because I do this type of medicine, which is anti pharmaceutical, but, has been profound.

However, I have not wanted to gain the platform of homeopathy because of the amount of the hemans by western practitioners against homeopathy. So, I said, "Okay." And people, moms will often get on board. Dads, not to generalize, are often disbelieving, want to see live data. And I say, "Look. Here's what we'll do. You try it. Give it a whirl.

You do the experiment. Your n of one and you get back to me and you let me know how it works for you."

Now, I've gotta save Dave. Proof's in the pudding for me. I'm a New Yorker. I'm kind of like a practical gal. And I don't want to take up your time or spend your money with things that don't work. Okay?

Dave: Yeah.

Michelle: So, I've been doing homeopathy I'd say 20 years. I've been doing this chronic stuff for about say 15 years. The real chronically ill kids. And I'd say, of all the chronic kids I take care of, at some point the majority, like 90% have received some homeopathic treatment, and I have all kinds that I use. And I'd have to say, the majority of them have gotten better.

Occasionally I have a case of a kid, they're complicated, I've gotten it better, I can not claim 100 percent success rate, that is not truthful and not realistic. Majority have gotten better with homeopathy as one of the legs of my stool that I use. I now need more than homeopathy to get kids better as part of this emerging decline in kids' health.

Homeopathy's one stool, like my stool, nutraceuticals of various types, and herbals. And in the center of my stool, yoga, mind body, stress reduction, little kids, teaching them how to do pressure points for various emotions. Acupressure. Et cetera. So, all these various modalities I now include in the practice with kids as young as two and three years old.

Dave: That's all encompassing and it's remarkable, especially because you're a classically trained doctor who does acute care and things like that, but you're willing to use whatever tools are at your disposal.

Let's zoom in a bit on the gut. I used to think it was pretty normal just growing up this way where like, if I couldn't clear a room with my gas, I just wasn't doing very well that day. That was just a fact of life. And it's to the point where, I mean, I don't want to talk about how my farts smell here, but, let's just say it's not a problem for me anymore at all.

I've quantified my gut with a viome test. I'm advisor to the company and I have high diversity and high richness and my gut bacteria work better probably than they ever have in my life.

Michelle: Congratulations.

Dave: But man, it took, at this point I've spent a million dollars on microbiology, way more than I ever should have had to spend and frankly some of that's just seeing what's possible. But, it took a couple hundred thousand dollars to get better and it should've taken about, oh, maybe \$1,000 and some better food. It's not that big of a deal when

you're working with a practitioner that has the knowledge that's available today. 20 years ago it was exceptionally rare.

I'm sure that glyphosate was part of the problem. I know I'm sensitive to foods that have it. But, if a parent's listening to this now or let's say someone 30 years old who's maybe not a parent but is saying, "Well, I know my gut doesn't work that well and I don't have the energy I want to have at the end of the day."

How quickly do you go to the gut as a first place to look?

Michelle: I'd say like a zoom, Dave. It's a zoom to the gut. If the gut is not functioning well and if you're eating pesticides, GMO food, et cetera, et cetera, I could tell you your gut's not functioning well. If you have anything like chronic cellulitis, asthma, or mood disturbance, sleep disorder, reflux, irritable bowel syndrome, or eczema, et cetera, I can tell you, you have a problem with your gut.

If you're getting sick all the time with recurring infection, you have a problem with your gut. I zoom into the gut almost immediately and I change people's diets in the first visit while I'm awaiting lab data. If people don't change their diets, it's unlikely to almost they're not gonna get better. If they do bet better with whatever magic tools I have in my little bag of tricks like Felix, then those improvements are not going to be sustained, they will relapse.

So, people have to get on board and reducing their allostatic load of toxicity in order to get improvement. You have to decrease the toxic load because people's drains are filled. That's why I practice a form of medicine called German Biologic medicine. Because, in addition to low grade toxicity, you have to clear matrices around cells so people's drainage systems work better.

If they don't decrease the load internally, they're too toxic. Over toxicity and chronic low grade inflammation are two of the baseline issues that are happening.

Dave: My experience of the world is that most people who think they're well, doing pretty well, have some degree of these things going on. They've got some inflammation, but not enough that they really feel it enough to deal with it. They've got some toxins going on. Yeah, maybe their IQ could be five points higher, but you don't feel a five point swing in your IQ even if you can measure it if you go to the trouble of doing that.

What percentage of people listening to this show would you guess are probably dealing with these kind of issues to at least some degree?

Michelle: So, you're not gonna believe this number, and I'm gonna throw it out there, based on my clinical experience, I'd say 90 percent.

Dave: Yeah.

Michelle: I'd say there's a small percentage of the super organic, super yoga people, super who practice what we do here as a religiosity, and I don't wanna make people neurotic. That's not my goal.

Dave: Yeah.

Michelle: What the heck am I doing if I make crazy families? I've done nothing. But I have to say overwhelming majority have baseline, low grade illness and things they've gotten used to dealing with.

Dave: That's my experience as well. 90 percent is very accurate. So you see CEOs of companies walking around saying, "You know, I feel pretty good. I'm doing all these things."

You say, "Yeah, but is your mood stable? Can you remember all the things you want to remember? Do you still have energy at the end of the day. Do you have muffin top?" And things like that.

"Yeah, oh yeah. But those are just minor." And we just tend to excuse them away. And, the first step to performing better is you get rid of that stuff and then you can layer on other things that might be possible.

This is a conversation that isn't for just parents of say kids, or people who are chronically ill, this is a conversation for 90 percent of people listening. And the other 10 percent probably already know it, or they wouldn't be where they are now.

Michelle: Agreed.

Dave: What's the first thing that someone can do to move the needle, 'cause let's face it, most people we have commutes, we have families, we have jobs, we're probably not all gonna go live in yoga retreats and live on organic farms. By the way, I live on an organic farm, full disclosure.

So, what can we do as normal people in order to move the needle? What's the first step.

Michelle: Okay. Yes, I have a 20 year old daughter working in an organic farm, to the shock of her grandparents. "Farmer? You became a farmer?"

Okay. What do we do? For me, I say this, it's a no brainer for me, but it may not be a no brainer for everyone and I'm not trying to oversimplify this dialogue, but you have to eat organic food. And I go into in depth conversation with moms, with dads, I say dads in the equation. How do begin to shop organic, because we know that organic food is not subsidized and it's more expensive. Is it possible to stay in the same budget eating organic and I say, yes. I've done it.

I've converted a preschool to all organic and went under budget. So it is possible, Dave. I don't wanna hear, "Oh, we can't do it." Now, people live in food deserts, so it is way

difficult for some people. I appreciate that and I'm not trying to be an elitist marinite here because I've been accused of that.

So we have to be careful. I say it's possible. We have to get away from processed foods, period. Everyone's gotta cook. Little Susie and little Johnny can get in that kitchen. Simplistic, yes. Absolutely necessary, yes. And we have to use a filtered water system.

Dave: Mm-hmm (affirmative).

Michelle: If people can start there just doing those basics, then they're gonna start to feel better. And how do I know that? Kids in the book who I treated with homeopathic, supplements, herbals, my treatment patients, I had one family from the central valley where the dad had chronic renal failure. He only had 20 percent kidney function. His mom had it and his brother. And his nephrologist said, "It's some genetic thing that we don't know."

Got his kidney better with autism. All dad did was switch to organic. He was not my patient. Because, you know, I tell the family, everyone has to switch, not just the kid I'm treating. You can't give him kale salad and you're eating pepperoni pizza. No. Doesn't work. Dad switched. Nine months later goes to his nephrologist, he has 80 percent kidney function. And she said, "How did you do it?"

He said, "I went organic."

She said, "No way. Impossible."

Oh, yes way. Because, GMOs and their associated pesticides, Round Up, are kidney toxins. Doctor Pustey showed it, Doctor Serverlini showed it. Many researchers have shown it. So be clear, when you remove the toxic element, people get better. That data's remarkable. He got his kidney function back. Can you imagine?

I have lots of stories like that. Anecdotal.

Dave: I pay a lot of attention to that because I only have one kidney and I'm planning to live til at least 180 years old, so I'd kind of like to take care of it. So I remove kidney toxins from the things I do on a regular basis like, even some of the plant based toxins like oxalic acid and some of the mycotoxins and anything else that's gonna lower or damage kidneys. I like to steer clear of it.

And yeah, glyphosate is just bad news on many, many different levels. When it comes to going organic, I also hear that a lot. Not just, oh, it's expensive, but labor saving devices have set people, particularly women free. A lot of people don't know the incredible shift in society that happened as a result of baking powder. Because, it used to be that moms had to wake up at five in the morning to knead the bread so it could rise so they could feed the family.

When baking powder came out, it's like, "Oh my god, I get to sleep an extra hour." And then we got washing machines and the latest version of that is called restaurants. "I don't have to cook and do dishes. Oh my god, I'm going to go do it."

I just interviewed Kimbal Musk. He was looking to bring 1000 restaurants to the country that are farm to table, organic, high standard, the kind of place you could eat. Do you see that kind of a vision happening where we're gonna create a world where we can all go out to eat and still experience the benefits of organic and things like that? Or is that a pipe dream?

Michelle: Okay. Woo. Gosh. Woo. I'm doing deep breathing. So, you are so talking my language because the food movement began in the 60s, when moms were told, "Okay, you're going back to work. We are gonna be your new food." KFC did it. Mcdonalds did it. Initially, some of those foods weren't so bad by the way.

Dave: Oh yeah.

Michelle: And they got worse over time. So it was part of the cultural shift and all of a sudden, mom's life's a lot easier because in general, women are still doing the bulk of this work. Most of, in my practice, I take care of mostly women and their children. And that needs to shift.

But, Dave, let's put that thought just on the sidebar just for a second. So, I don't have my families eat out. I say, "You have to stop eating out. Eating out food is bad news. They use all the GMOs, and even when they're organic, are they truly organic? I don't know."

This idea of providing farm to table, all over it. Because, how nice is it for us all to occasionally eat out? So, what I say is, and I've done this in several families from my community. You all have kids who are gluten and dairy intolerant, you all eat organic, is it possible for you guys either to share a meal together once a week, and so you're not cooking mom and your kids can have a play date, and/or, drop off food to your neighbor and then you share.

What a concept, community sharing food, I've had families do this and it's successful. Now, to answer your question. Until these restaurants get on board and provide us this farm to table food, I say it's doable, I just don't want to see the upper one percent having access to this and the rest of the US is still eating Mcdonalds.

This is my concern about it that it becomes very one percenty and is this possible to bring it to the community? Now, here in Marin County and Sonoma, it's happening because Amy's, Amy's organic natural food has a drive thru in two locations in our area and it is packed crowded, it's organic, and kids are sucking it down. So it's doable.

Dave: You know, in Santa Monica, the Bulletproof Coffee shop has a full kitchen and we do Bulletproof compliant meals, vegetable based, organic, as local as we can make it, grass fed, wild caught, all that stuff, and there are a lot of things you get for 10 bucks on the

menu in Santa Monica, which is not a cheap neighborhood either, it's probably on par with Marin.

And, that's not a KFC and McDonalds level of affordable yet, but, part of the reason that I do the show is, when there's enough demand, when people start looking at junk food and saying, "Actually, that's not food. I don't eat rocks, I don't eat cactus, and I don't eat that," then the cost for organic properly made food that supports our biology will drop just because the supply will go up.

The number of acres of grassland that's in production to feed animals instead of soy lands sprayed with crap. It's changing and it's changing more rapidly than we can grow healthy soil, more rapidly than the food system can adapt, but the demand I think is there.

So, what I think both of us are asking people listening to do is to pay attention and to make those choices and a follow on question, that assuming people are gonna do that, there is still some diets out there that advocate a cheat day. Where they're saying, "Okay, you should eat really good for five days and then just go out and eat whatever you want." Tell me what that does, if you're, "I'm organic most of the time and then I just have pizza wrapped around a synthetic cheesecake."

Michelle:

So, okay. We're humans, we go to grandma's house, we have dates, we go to restaurants, we go to the beach, we're at family member's houses who don't practice our food beliefs, we don't want to be that person. "Oh no, he's coming to dinner."

I often follow the 80/20 rule. Can you eat well 80 percent of the time and 20 percent of the time you let your standards down? Now, it depends where you are in a treatment plan and how sick you are. Let's say you're a kid with just a little constipation, get you better, you have no other issues going on, you're all better. Yeah, that kid can do that. And I give mom and dad some tools to offset the GMOs, the glyphosate, the gluten pizza, whatever they're doing.

However, there are some people, some kids, some grownups, who can't. Those might be people with autoimmune disease, chronic Lyme disease and co-infections, cancers, and I say, "No, you can't do it. Don't do it. Because, the set back might be too much for them to rally back." It just depends where you are and I am hardcore with those folks. Unless they've been symptom free for a few years.

Now, I have cheats I use. I have homeopathic, herbal, and food cheats that I give people to use when they're gonna have that bad day. I have, let's say I might use NAC in high dose. I might use a homeopathic from Sevine Pharma to offset, which has homeopathic Taraxicum in it. Dandelion. Don't spray it, eat it.

I have a product from Supreme Nutrition that I like to offset glyphosate toxicity. I have a homeopathic product from Desbio, Atacleanse, when people I know are eating non organic. I have all these little things that people know how to use.

I say, "Oh, okay. You're going there. Just make sure you bring your blank with you. Take it before, during, and after the dose. You should do okay."

Dave: What do you think about activated charcoal? If I'm gonna eat something at a restaurant that's questionable, I always take that with food. Good idea, bad idea?

Michelle: I like activated charcoal. I don't push any particular brands here. I know you have your product line.

Dave: We do a charcoal too.

Michelle: You do a charcoal too? Thank you. I like to do what works and you keep educating me and I am open to getting people what works and as clean products as I possibly can. I'm very snobbish about what's in my supplements for my patients. "Where was this made from? GMO corn? No, thank you." I want to know where it came from.

Probiotics made by DOW. I don't think so. Et cetera, et cetera. I try to be as good as I can and your products, I am sure, are super clean no GMOs.

Dave: Well, thanks for that. Yeah. It is remarkably difficult sometimes when you're putting something together to actually get a manufacturer to tell you whether there's a GMO feedstock and we don't do that. We talked to the manufacturers and all this stuff, but it's like, "No, we're not putting something that was fed GMOs, because it's not in line with what we want. I don't want collagen from GMO fed cows." There's companies selling collagen from industrial fed chickens.

Michelle: Oo, No.

Dave: One of my big concerns, and I'd like to know if you share this, is that, glycine, the amino acid that's very prevalent in our collagen, our connective tissues, our fascia, the gly in glyphosate stands for glycine and it fits into collagen. So if you feed an animal corn, GMO corn and soy, it's going to get glyphosate in its collagen, then you make bone broth out of that.

This seems like an abstract way to concentrate it. Are you extra concerned about animals that concentrate glyphosate or is it more about the food that has it on it specifically?

Michelle: Oh dear. You must be sitting in my office Dave. Years ago, I did email Stephanie Seneff, and I know this is her big thing and she's the MIT researcher, as many of your listeners will know. And when I first-

Dave: Yeah, she's been on the show, yeah.

Michelle: She's been on the show. Okay. Well, when I first started looking at glyphosate, this was a million years ago, and I see it's N-phosonal methyl glycine. I'm like, "Yeah, wait a

minute. Glycine is, ubiquitous, non essential amino acid in kids' diets is very important for body function in children. Could there be some substitution going on?" She said yes.

Now, there's a lot of controversy. Yes, no, and I don't even want to get in that controversy. I say, "I'm going to practice something called the precautionary principle. If there's a possibility that this could be going on, I'm pulling it out til you give me more scientific data based on humans and not chickens and cows," where I get most of my data now, it's so frustrating. So what I say is, "I need glycine."

I used to prescribe glycine from a source until they could not tell me where that glycine came from. Now, I tell all my moms and dads, "You make your own bone broth made from your own chicken, turkey, beef," assuming your not vegetarian, "has to be organic, and make it yourself." I don't even trust the product glycine that I was having people buy years ago. I stopped that and switched to a glycine which is so beneficial for brain function and, for kids who have elevated toxicant levels from, let's say, plastics, coelebrates. Glycine can offset that when they have brain inflammation.

I'm a big fan of glycine in children and adults. It's non toxic and it's cheap. I've had to switch my own methodology based on practicing precautionary principle. So, I think there could be something there. Also, Dave, what I have found is people, adults and kids are doughy. When I palpate them on physical exam, yes, I still examine my patients.

Wow. What a concept. They are doughy. I'm like, "What the heck?" Now, people say, "Oh, everyone's in front of their, you know, device all day." Yeah, maybe true. They don't feel good to me. Because, glycine is one of the major amino acids in collagen, in your musculature.

So, I'm thinking, "Huh, could this be related?" I'm always asking the question, I don't have all the answers. And so I say, "Bone broth." And I make families make bone broth in everything they cook. In their rice. In their veggies. Put it in everything. That's what I have our parents do.

Dave: We always have a pot of it boiling in Santa Monica at the restaurant and I use bone broth at home, sometimes we make it and sometimes I just use lots of collagen protein, which yeah, it's from grass fed cows, I know 'cause we make it. It's a big source of glycine because it's also a less inflammatory amino acid than a lot of the other proteins that we eat.

And, my kids are ... they live at a level of health that I never experienced as a kid at all. They recover quickly from infections, and scratches, and just have energy in a way that seems unusual these days. And I like to think it's because we feed them very well most of the time and I had ... They had a conversation with a friend and basically did some food shaming about going to Mcdonalds.

And I'm like, "Look. People are gonna eat what they eat, kids. And people make their own choices and that's not cool. I'm gonna take you to Mcdonalds. And I'm internally

going, it's gonna hurt to feed the kids this." But I said, "You're gonna get a toy. You're gonna get to play. You're gonna get pie, and ice cream, and it's gonna be great."

And they both looked at me and they said, "Seriously?" And I said, "Yeah. It's gonna be fun. It'll taste good." And they said, "Daddy, we know how we feel when we eat food that's not good for us. We don't feel good. You can't make us go."

And they rebelled. I'm like, "Okay, either I succeeded as a dad, or maybe there'll be a huge backlash and that's all they're gonna eat when they're 15." But, that's one mindset. How do you deal with parents who don't have kids that effectively, brainwash maybe, or just well educated, when they're like, "I'm at a party. Everyone else is having Mc Nuggets. What do I do?"

How does that conversation go when you're talking with a mom? Like, "My daughter wants cake."

What do you say?

Michelle: Okay. So, you are right again. Now you're in my office. At work, you've gone from my personal office to my home office 'cause I've had this conversation. You don't want your kid to be that kid who comes with their vegan cupcakes, okay, and the rest of the kids are eating Safeway, all those cupcakes.

That's really hard too. Okay?

Dave: Mm-hmm (affirmative).

Michelle: I know that's hard. However, if I've got that kids who's a newly ... I'm treating a kid on the autistic spectrum and I am just starting and we are just starting to get this kid better, I say, you will be that mom who sends those vegan cupcakes and you're gonna call that mom or dad, I keep saying mom, that parent and say, "Listen, little Susie and Johnny are coming with their vegan cupcakes, please just put it out with the other kids' cupcakes. Don't really single them out. And if they do, just explain it to the other kids that he has a food allergy or something and that's what we're doing."

So, it depends. However, if your kid is for the most part like your children, healthy, and they're at a birthday party, I let them eat that stuff and offset it with my little homeopathics or whatever before and after the event. And I say, let's just offset your gut. Some kids rebalance themselves, they don't need anything.

What I don't know and I've asked myself this question many times, there was some of us who can tolerate more glyphosate more, GMOs than others. We're individuals. We have a more robust immunity constitution. Vital florals, chi, whatever, and we can tolerate more. Then there are others who don't have as robust of constitution.

So, depending on that kid, so I tell mom or dad, "What's your kid like? Is yours the kid that's gonna unravel after eating all that sugar or your kid, feel pretty good?" Let them

answer and then I deal with them. I say, "Okay, your kid's the one that unravels," I give them certain supplements or whatever I'm doing. "Your kid's okay," let them ride, just give them some more probiotics or sauerkraut use the next day or whatever you like to use.

So, I try to make it individualized, practical, non shaming, not marginalizing the child who's involved, or the parent for that matter, and not make it a big deal. For most kids now, in the world, particularly here in the US, there are so many kids with food allergies per classroom-

Dave: Oh yeah.

Michelle: It's not a thing. They said, "Oh yeah. She's gluten intolerant, he's got dairy sensitivity." It's so widespread, that kids are used to hearing about food discretions. So, this is to give you a flavoring of how I might approach this clinically.

Dave: Do you recommend like a vegan diet for autistic kids or other conditions and things like that? What's your take on, how do you know what diet to use where?

Michelle: So, prescribing diets, boy, if I could go back and learn more about nutrition, I would. I feel like I need to be a holistic nutritionist. And I may get the help of some of my colleagues if I can't do it. I try and do what I can and refer when I need it. However, kids on the spectrum, which is now one in 34 boys, one in 68 kids, is massive. So, they have some of the sickest guts I've ever seen clinically.

They have the worst gut profile. Their guts are not good and they have some of the most inflammation, the worst gluten and dairy sensitivities, the whole lot. So, for a lot of those kids I do food eliminations and I tend to lean toward paleo, or paleo like, or gaps diet by Natasha Campbell McBride, or something like that.

I tend to lean more paleo. If they are strict vegetarian and they say "There is no way we are letting our kid eat this," I supplement with additional proteins, protein powders and supplements. I do, depending on what I'm treating, based on lab data, if I get it back, I'll do a nutritional profile say from Genova, pediatric profile and see what I need to do based on lab data.

So, I tend to pull most kids with issues off gluten and dairy, occasionally soy. I lean toward paleo like and I can tailor it, gaps on occasion. I do decrease fish intake, no more than once a week, because of heavy metal toxicity, that's pretty clear to me. Even little fish like anchovies and things like that as well, 'cause they swim along the bottom and pick up a lot of the bottom stuff off our oceans.

And, then if I need more help, as I was saying, Dave, I refer to a holistic nutritionist or functional nutritionist to help me out, because some parents say, "I need more guidance," and I say, "Absolutely." I give them websites and refer them.

I kind of have a blend of what I do. But I'm a big fan of paleo. I've done keto for, I know you're a fan of keto, I love keto too for certain people.

Dave: Cyclical keto. If you're staying keto all the time your gut bacteria won't be happy. That's like core [crosstalk 00:38:07].

Michelle: No. No more than a month. I don't keep people on keto for more than a month and I have them come off of it because their own microbiome profile will change within three days on keto. And I'm like, "I'm not so sure if that's a great idea." Once we do what we're trying to do, if I have a cancer patient, that's different. Let's put cancer on the side, that's a whole other ball of wax.

Sugars and inflammation, et cetera. But, keto no more than a month. And all I'll do sometimes, intermittent fasting diet to jump start them or have them try not to eat for 14 or 17 hours. Last meal four PM and then try not to eat til morning. So, this just depends on the person and what they can do.

If someone says, "Yo. Dr. Carol, I can not fast from four PM to seven AM," I say, "Okay. That's not right for you. What can we do? How can we individualize it to work for you so I don't drive you crazy?"

Dave: What's the role of toxic mold in all of this?

Michelle: Oh dear. Toxic mold. Oh dear. Where do I begin? 20-30 years ago, nobody had toxic mold. All of a sudden, everybody has toxic mold. What happened? Did all of a sudden we all became mold sensitive?

So, I think, I have read Doctor Richie Shoemaker's stuff. I've really tried to understand the mold issue. Who really has mold issue? Mold testing is very difficult. And I'm not sure the very expensive urine test you can do for mold really reflects what's happening with you, by the way.

This is what I say about mold. If you have gut issues, immune impairment, chronic tip thorn infection, co-infections, yeast overgrowth for any particular reason, I worry about mold. If you have chronic sinusitis, and brain fog, I worry about mold. If you have a home that is positive mold, hello, I worry about mold.

Dave: Yeah.

Michelle: So, I am a firm believer, if we don't decrease the external milia, and have people lower their mold exposure, they're not gonna get better. I believe it's a thing know because of immune dysfunction and everything that's happened to our guts because your listeners know that 70 percent of immune function is from the gut. 80 percent. And this relationship to the microbiome, mold, mold toxin is linked.

Then I say, "This is why I think we have so many people now suffering from mold is because of chronic immune dysfunction from chronic gut dysfunction from a

combinations of GMOs, pesticides, and pick your poison plastics, solvents, air pollution, EMF exposure."

I focus on food in my line of work, but there are many factors, many, many, many factors that I will deal with with my patients over time. And so, that's why I think it's a problem. Mold is hard to treat. But there are therapies that work and I use combination therapies of homeopathy, antibiotics, whether pharmaceutical or herbal, sometimes I bring in the big guns, I have to. Various inhalational treatments, upping their oxidative glutathiones so they can ... I'll do inhaled glutathione, various types of glutathione and while clearing out their houses.

Dave: One of the interesting things about glyphosate is, in fact I have a couple studies, I think they're in the Bulletproof Diet, where they show when you spray glyphosate on soil that aspergillus, which makes most of the nasty mold toxins, increases it's toxin output by 100 times. Those same angry molds get in your dry wall. And I think we're just dealing with species that make a lot more toxin than they used to.

I know in my own path, figuring out that I grew up in a basement that had toxic molds, and I had frequent bruising, nose bleeds five to 10 times a day, asthma, eczema, all the stuff, those are all clear signs of mold exposure, that definitely effected my resilience as my body was growing, which wasn't a good thing.

I'm like, "If I could lose 100 pounds and have a brain that works like mine works now, coming from that far behind that most people aren't dealing with anywhere near that level of crap and I've had Lyme disease diagnosed in multiple ways and different doctors thought I had chronic fatigue or fibromyalgia, and all of those are manifestations of toxic burden, and you can get rid of the toxins and you can cause healing.

But yeah, mold is annoying and it's a systems problem in the environment that's tied to food too. You breath it, it's horrible for you. If you're eating something that's high in stuff that attacks your kidneys and you have a detox problem, you're dealing with something there too.

People say, what's the one cause? And I don't always have an answer for them and it doesn't sound like you do either. It sounds like you're looking at the system of everything in the body. You're focusing on food. Food first, food early on, and then taking next steps just based on clinical experience.

Is that kind of a good summary of how you think about it?

Michelle: Dave, excellent summary. And as a matter of fact, you've become a clinician in front of me, before my eyes. Indeed, I think that is indeed true. Glyphosate in chicken study, removed beneficial bacteria. Lactobacillus and bifido. Those beneficial bacteria keep your fungi in check. We all have fungi in our body, but it's in a balance.

They're all in a balance, by the way. When the beneficials that keep molds of various fungi in check diminish, and we have beneficial bacteria from our noses down to our

tush. Okay? There are various microbiomes in every part of our body. Our sinuses, our eyes, our oral cavity, our colon. We have fat communities of organisms. When you have an overgrowth of fungi, and they love to extend their hyphae and get into things, they can be very difficult to eradicate and they produce toxins, which we are also sensitive to.

Then what happens is, if your immune system can't handle it, like you're saying where you're constantly eating a glyphosate, which is an antibiotic, which does indeed change the soil, then we have this couple things go wrong. We have chronic inflammation. We have this mold overgrowth, of fungi overgrowth, as well as toxin happening. Then we have insufficient nutrients because even organic food is not nutrient rich enough.

So we don't have the nutrient levels we need to supply these systems, brain, immune system, neuroendocrine, hormonal, et cetera, and it creates this toxic soup. So, to remove those mold toxins, requires a multi prong approach in getting better. The last thing one must appreciate is that organisms are very clever and they work in these bio films. Okay? Like plaque. Plaque is a biofilm. If you have immune system impairment, like you did, unfortunately, and mold can do it too, then what happens is you have these little rafts and I have heard no one discuss this as brilliantly as Doctor Klinghardt.

Dave: Oh yeah.

Michelle: I've heard him speak on this and I'm going, "Oh my god. Thank you so much." And mold is often at the bottom of the raft. Now, you have bacteria, then you have viral particles, and you have to, as you're treating patients, people, disassemble these rafts and that is something not in western thinking, that not only do you treat the infection or it's toxin, you have to treat the bio films where they live so you can release them.

But, if you're releasing them, you have to give them some coverage to offset what you're releasing. You just can't release and say, "Okay, good luck. You have to give them some sort of antimicrobial coverage, whether it's pharmaceutical, herbal, or homeopathic."

Or, and/or, and/or, mind body. So you need to give them the tools as you would begin to treat them. So it's complex and this is hard to do on your own. You really need to be in the hands of an integrative practitioner who can help guide you and often I don't deal with the mold issue til the very end of treatment, but I have them decrease their external environment almost immediately in treatment.

Dave: It's funny you mentioned hyphae, the little roots that come out of mold when it starts to grow. And it turns out there is bacteria that will eat hyphae as they come out and I actually started a company that makes a probiotic you spray around the house so that if there are spores, and there is moisture, that the bacteria eats the mold as it tries to grow and keeps it from happening, which is something that I, I spray it at my house every couple weeks.

So, I like that. I feel good about that.

Michelle: Dude. I didn't know about that and that's freaking brilliant. I'm gonna tell you Dave. I didn't know about that product and when we're done with this, I'm going to get online, send me some links, I'm gonna look at that.

Dave: It's-

Michelle: I love that.

Dave: Okay. It's called Homebiotic. But it's one of those things, it's non ... you wouldn't think of that, right? The idea is, look, there's spores everywhere. We live on earth and the bacteria and the molds and the fungi, they own the earth. They have for billions of years and they'll be around if we're ever not around.

And, you gotta manage the environment instead of just spray pesticide on everything, because, it doesn't work to make a sale. It doesn't work to kill it because it just comes back more pissed off. But if you create the balance, whether it's in your gut, whether it's in your house, whether it's in your field on the farm, it seems like that's the way to have higher performing humans, kids who don't get sick, people without the neurological stuff that's going on, which is the next thing I want to ask you about.

Michelle: But, before we leave your product, because my brain is going, "Whoa, whoa, whoa, wait a minute," I'm very cautious about a lot of parents, for example, use humidifiers.

Dave: Oh god.

Michelle: Mm-hmm (affirmative). Right away I'm thinking, normally I have them clean it up with white vinegar, but what if they were able to spray a couple sprays of your product in the water, which I'm always worried about, I'll use like colloidal silver, I'll use white vinegar, because I'm worried about spewing mold spores from these little germ fest humidifiers or wherever else, particularly with kids who have chronic asthma who use these nebulizers.

I'm always like, "Oh, wait a second," making sure that everything is clean. So, you just spurred me to some very good thoughts. Thank you sir. Appreciate that.

Dave: Oh, you're so welcome. I remember as a kid, I was in this room, it was a fully finished, nice basement and it had been flooded from something before we even moved into the house. And my room had wood paneling. So behind the paneling was clearly moldy. And, because I had asthma we put a humidifier in there. And it was always worse with the humidifier 'cause I was actually making a humid environment.

And so, we tested the bacterial strain in rooms, not in rooms, but on dry wall with 32 degrees centigrades, so very warm with 98 percent humidity. And for two weeks there was no growth.

Michelle: Wow.

Dave: Whereas the control was 50 percent coverage, it was inoculated with toxic mold. But we never tested putting it in a humidifier. But it's an interesting idea. And, that idea thought, that wait, you mean making the place moist might be bad for me?

Yeah, it can, but it might also be good. It's how are we to know as human beings and parents and people who maybe aren't focused on our environment all the time because we wanted to write a book, or be a good parent, or go to work, and all these other things. There must be tools given, all the technology we have to make it easier to know what's going on and easier to control what's going on and that's the essence behind epigenetics, this study of how the environment affects our genetic expression.

And, the art and science of bio hacking, a field that I named, how do you change the environment around you so you have control? And, yeah, I didn't have a lot of that when I was young, so maybe that's why I like to do it. But, the idea is, whether you're sick or not, you still want to have that control and since you and I both think 90 percent of people out there who think they're doing pretty well have some degree of sick, but not enough, this is the human condition.

We have to do this at every level, but we don't have to do it individually. You go to experts and eventually the knowledge that you have is going to make it's way into the way we build buildings, into the way we run restaurants, and that is the world that is coming really rapidly. Way more rapidly than a lot of big industry food companies think right now.

It's inevitable because it's too easy for you and me and everyone else to communicate, the couple hundred thousand people who hear this, they might make small changes, but when you do this and you amplify it times the internet, sorry, the demand for crappy environments is going down. Which means, we have to build good ones.

I'm gonna get off my soap box. There's no question for you there. But I'm just kind of passionate about this.

Michelle: I appreciate your passion and we are like minded of this. And, I agree with you. It's called increasing consciousness. And what I tell families to do, humans to do, doesn't have to be someone with kids is do both. Use the humidifier, just an example, are they better or worse? Use without it.

Use, know your own family. Know yourself. Observe. I don't care of you. I provide guidelines. You take care of you and you observe. Here are my suggestions, it's different from your western practitioner, okay, fine. You observe. What do you notice? Here are the things to look for. I tell parents, I tell people, these things will get better or worse.

And I'll give you what they are. Make it simple, you're not physicians. And I say, here, these are the parameters you're gonna check. Are things better? Are these things worse? And then act accordingly.

You also, by doing it yourself somewhat, empower people that they can do this themselves and protect their body's innate ability to heal itself. That's what we're trying to resurrect, Dave, we're trying to get this body to heal itself, which it can do by giving it the right tools and removing the extraneous forces preventing it from healing.

Dave: When you started your career, and certainly when I was younger, it seemed like there was a mindset that said, if you're feeling really tired, you sort of feel like crap, it's probably 'cause you're not trying hard enough. Right? It's a willpower, it's a moral issue, it's 'cause you're lazy.

Maybe you're a little tired or something, but just kind of walk it off. And, I've evolved in my own mindset to think, "If you're feeling tired, or things just aren't working right, it's your fault. It's your fault not because of moral weakness or laziness, it's your fault because there's something you can do to change it and it didn't happen randomly."

And when I was young, it was something that happened to you, but it was out of your control and now it looks like with this huge set of new knowledge that we have, there's usually a reason and it might take you two years to find the reason, but if you give up and just assume it's an act of God or just bad luck, then you're selling yourself short.

Do you believe that for almost any of these things that there's a path out of it, or do you think there are some people who are just screwed?

Michelle: I believe for most of us, there's a path out of it and we just have to figure out what that root cause is, because we all have different root causes.

Dave: Mm-hmm (affirmative).

Michelle: This idea is, many of us don't feel well, I believe to be totally accurate. You know, this western mindset is, "Come on, pull yourself up from your boot straps. You're just being lazy." That may be true 40 years ago, not true anymore because people and children really don't feel well, and this is true.

I would say that the majority of people can heal. Absolutely. It takes knowledge, but chronic disease is not well addressed in traditional or western medicine. And they really need to do integrative health. And there aren't that many integrative practitioners for acute issues, western medicine is fabulous. You break your leg, you're hit by a car, you have a heart attack, oh my god, western medicine is unparalleled.

However, chronic issues, chronic migraines, chronic fatigue, chronic Lyme, chronic abdominal pain, chronic constipation, are not well addressed in traditional medicine and need this broader palate and people need to seek out integrative practitioners and there are many types. I believe most of us, the majority, have potential to get better somewhat. But, when I hear someone like you share your story, Dave, thank you for that, it's so profound.

You are one of the super sick people. It took you years and billions of dollars, well, not quite ...

Dave: Couple hundred yeah.

Michelle: Couple hundred to get better. Most of us are not quite there, fortunately.

Dave: Yeah.

Michelle: But you're an extreme and you got better. But it took everything you knew how to do.

Dave: And plus, how lucky was I? I made six million dollars when I was 26 years old and recognizing my brain was wrecked. In fact, I lost that money when I was 28, kind of sucked. But, along the way, what a gift, right?

Now I know what I know, but if I hadn't of had that, I would have been on disability. Just to be real with you. I bought disability insurance at 25-26 years old, 'cause the doctor said I was fine, so I could buy insurance, but, "Something's not right here." And no one should have to do that. There's no reason for that. It was just a lack of knowledge.

That's one of the reasons I'm on the mission I'm on. Every time a conversation like the one we're having now gets amplified, there will be 100s or thousands of people who maybe dodge a bullet like that. 'Cause it kind of sucked and no one should have to do that.

Michelle: And you know what's interesting about what you're saying, it reminds me of something that we wrote about in the book about the warrior moms. But, there's the traditional medicine in Canada, in the US, western medicine. My little fingers are waving in the air. But, there's also a whole universe of a parallel practice of, often driven by women who are seeking treatments for their children, running parallel to the western system, looking at ozone, looking at these integrative tools, going to holistic practitioners and whether their kids have ADHD, or autistic spectrum, or you name it, they're out there and they are taking charge.

And, I can think of so many moms. There's a mom in this movie that Jeffery Smith and Amy Heart just did called Secret Ingredients, and it will be released soon. The mom Kathleen Diciara, in that movie, healed her own children and then became a holistic nutritionist.

But moms like Kathleen, like so many, are saying, "You know what? What you're telling me is not resonating. You're not getting to the root cause. You're only giving me bandaids, pills for ill medicine, I don't want it. I'm gonna seek integrative alternative, complimentary, whatever, treatments and they're out there."

So, we, as western practitioners, which I still kind of call myself in theory, must open our minds, Google for pete's sake, some of these things. It doesn't take rocket science here.

Look to people like you who have businesses providing these supplements which is what people want and they work. So, we have to expand.

I'm hoping the book will do that. I'm hoping whatever will do it, is to get the western mindset off the pharmaceutical controlled death grip it has on our training of young docs into looking at these other mindsets, because that's what it's gonna take. There is a death grip by industry on our education, on our institutions of education, it's another pet peeve of mine and something I'm very passionate about.

Dave: My wife is a medical doctor from the Carol Linskey Institute and has similar things to say. She was horrified, especially when she came to the US and said, "You mean this class was paid for by a drug company, like conflict of interest?"

It's not the same everywhere, but it's getting worse everywhere. Do you believe the pharmaceuticals are always bad?

Michelle: No. Gosh no. So many amazing drugs.

Dave: Thank you for that.

Michelle: Many, are you kidding? You know, from whether you need a vasodilator, and bronchodilator, you need an antibiotic, they can be amazing. I have a prescription pad on my desk, and if I have have great drug to fix your urinary tract infection or to give you to help you with your insulin for your sugar control, hell, I'm gonna use it.

So, I never throw the baby out with the bathwater. And I love western medicine. I did it for decades in the emergency room providing that very treatment. So, there's an absolute need.

Dave: Okay. That's an important point. I freaking love pharmaceuticals. And someone's gonna take that and make that their ringtone now, but, here's the deal. If you use them all the time, use them without knowing what the side effects are, it's bad, but there are a caudry of people, some who listen to the show, who are, "I never use a pharmaceutical. I never would."

It's like, "No. It's okay to use any technology available to solve your problem as long as the rewards outweigh the risks and the downside." And it's just that we've tipped the needle so far that we're willing to throw the drugs at the problem without looking at the cause of the problem and we don't look at the side effects of the drug.

If you have a balanced view, which is what you get from functional medicine, from the kind of work that you practice, you end up with a rich palate of very powerful tools to control the state of your body. You can turn of inflammation maybe in a way that you weren't gonna get just from your diet. And maybe you only did it for a week, but it was enough to get you over the hump.

Those things are precious gifts and it's awesome to be able to look at both sides of it without being so dogmatic that you always throw a drug at it or you never would. I'm happy that you are able to talk about that.

Michelle: Dave, absolutely. And the pragmatic approach to medicine, one of the kids, the gal in the book we talked about, she had chronic Lyme disease and everything else. And at some point in our treatment, she got two antibiotics, and they were life saving for her. Most of my, let's say, my Lyme patients will get antibiotics at some point. Often pharmaceutical antibiotics. And, I say, "Thank you universe for providing those. And, can we possibly be open, as practitioners to the varied palate?"

Dave: Yep.

Michelle: We need a wide and broad palate to treat our present children and their parents.

Dave: Well, I have one more question for you, Michelle, or Doctor Perro [crosstalk 01:00:11].

Michelle: Michelle. Yes, no it's Michelle, please.

Dave: If someone came to you tomorrow, you didn't know their clinical history, and they said, "I'm a normal human being and I want to perform better at everything I do in my life." What would your top three pieces of advice be for them?

Michelle: Okay. A normal human. Just wants to feel better. See those sometimes on occasion. There are a couple, like two out there. I say, this is what I say. "Eat organic as best you can, and add a water filter the best you can. Do the best you can. And non processed food." You know, that's one.

Number two I say, "Live with humor and find joy in your life." So whatever it is you're doing, come from a place of joy. And also that means giving back to ... The best joy I have is when I give back. And it's so selfish because I get more than I've actually given. So, I'd say, "Can you do that?"

And three, "Can you possibly find ways for that human to decrease your stress level?" We all have increased stress. No doubt in 2018, with the way our lives are set up, I don't know many people who don't have stress. Poor, rich, black, white, it's almost universal. And I say, "Can you find a way to decrease your own stress level, whether you dance, whether you hike, whether it's yoga, I prefer a physical outlet if possible, meditation included, but whatever it takes for you, doesn't have to ... You don't have to sit on a mountain top chanting. What would it look like for you?"

And find ways, and what I'm really trying to do is balance the parasympathetic and sympathetic nervous systems to be in harmony. If that's all they ask me, I say, "Can you find those three things?" And those things don't cost much and anybody can do them. And you can do them at home.

Dave: Beautiful. Now, bonus question, normally I end this show with that question, but you talked about water filters three times. I've got my opinions on them. What is your most highly recommended form of water filtration?

Michelle: Oh dear. Dave, these are complicated questions because my favorite one is often expensive and uses a lot of water which is reverse osmosis. And I don't feel comfortable recommending, especially here in the state of California, which is so drought prone, a system that uses more water. I can't in good conscious recommend that, and it's so expensive to install.

So, what I tell most folks is, "Use some kind of carbon based filter either on your fridge or on your faucet, replaceable. Remember to replace it. Can you possibly use that." And I, believe it or not, I stick to that as a baseline for most people without bankrupting them is to say a carbon based filter.

I really try to get the halogens out of there like fluorine and chlorine, et cetera. I try to get the heavy metals out of there so we don't have another Flint, Michigan, which is part of the whole US is Flint. I don't know what's happening in Canada. And so as a baseline.

From there, if they can afford a bit more in the budget, I say, I might send them to EWG, Environmental Working Group, that has a great paper on water filter systems. And I say, "Buy within your budget."

Dave: Yeah, paying attention to budget matters a lot and I encourage people to put a whole house carbon block filter on, which if you do it yourself is gonna run about \$300. And then everything in the house gets cleaned, which is cool, including your shower and all of that. You can add a sediment filter and a virus filter and all sorts of cool things like that. That doesn't take extra water like reverse osmosis does.

If you're gonna drink it, you might have a little bit of reverse osmosis if you can afford to install one under your sink, you're looking at 800 bucks to do that, which is not a small amount of water, but it's cheaper than bottled water or time, and it's also cleaner.

Michelle: And no bottled water. No plastic. Zero plastic. It's breaking down, it's in the ocean, in these little nano particles of plastics. They are awful for us and I say, when you take water off your sink, you have a filter that you use or carbon based filter, I love your idea of a carbon block filter, by the way, love that.

Then bring your bottle or your stainless steel with you. I travel with mine wherever I go.

Dave: Beautiful. Thank you for being on Bulletproof Radio. People can find out more about your work on gmoscience.org. That's the URL?

Michelle: That is. www.gmoscience.org. We have a great group bringing this information on GMOs and pesticides to folks with a health focus. That is our mission.

Dave: Beautiful. Dr. Michelle Perro, thanks again for being on the show.

Michelle: Dave Asprey, my pleasure.

Dave: If you liked today's episode, you know what to do. Head on over to bulletproof.com/itunes and leave a review so someone else can figure out that this show is worth their time or go over to gmoscience.org and learn a few things about what use of this kind of pesticide or herbicide, whatever you want to call glyphosate is doing to you, or heavy metals. Or any of these other things we talked about.

Bottom line is, you have a lot more control over how you perform, how you feel, how long you're gonna live, how you're gonna look, than you probably thought you did. But you're not gonna get what you want by changing just one thing. You change the system that you live in, you change the system of your body, and it's kind of amazing what's possible.

(silence)