Is Organic Really Worth It for Kids With Eczema? with Dr. Stephanie Seneff Transcript

(Transcripts are generated by AI and may contain errors)

Intro and Eczema Elimination Method

Hey team, before we dive in, if you're listening to this while making lunch or driving kids to practice or folding laundry or all of the above and you're carrying that low-grade constant stress of, oh my goodness, I'm doing every single thing right, why is my kid still struggling in this way?

I want you to know that you don't have to keep doing this alone. The eczema elimination method is open and it's designed for the parent who is done guessing.

It's not a quick fix. It's not a list of random tips. It's a full holistic system. It's a complete home management redesign because eczema doesn't live in one place.

It's connected to the gut and the immune system and the nervous system and the environment that your child is living in every single day in the school and the daycare environment that they're going to every single day and inside the method we rebuild the foundation so calm skin becomes sustainable not a lucky week that you're afraid to jinx so if you are ready to jump in or if you want to talk with me first on a free alignment call you can do both those things at eczemakids.com Okay, so today's episode, we talk a lot about food and gut health and immune resilience on this podcast, but there's this other layer underneath all of it that has become so normalized that most people feel helpless about it, and that's chemical exposures in the modern food system.

And glyphosate is one of the biggest, and if you've ever felt like It's everywhere, so what's the point? This conversation is definitely for you. Today I'm joined by Dr.

Stephanie Seneff. She's an MIT senior research scientist and the author of Toxic Legacy.

Why Glyphosate Matters

So she's going to help us understand what glyphosate actually is, why it matters, how it impacts the microbiome and the immune system, and most importantly, what normal parents can actually do to mitigate the effects of glyphosate without living in constant overwhelm or fear.

So let's get into it. Is your child struggling with itchy nights and endless flare-ups? I'm Andrea McHugh, mom of four and host of Eczema Kids. Here, you'll find natural solutions that actually work so you can heal your child's eczema without steroids, without the overwhelm, and finally see calm, healthy skin again.

Let's get into it. Hi, Dr. Stephanie. Welcome to the show. Thanks for having me. So on this podcast, we talk a lot about nutrition and gut health and immune function and the environments that our kids are growing up in.

But there's this other layer that sits in the background, and that's like the chemical exposures that have become normalized in our food system. And glyphosate is one of the big ones that people hear about.

And I'm really grateful to have you here to help us understand it better because it's so normalized that a common response is just like, well, there's not a lot we can do.

It's just is what it is. So before we dive into the science, I'd really love to start with you. People don't usually spend years researching something like environmental toxicity without a reason.

So what first drew you into studying glyphosate and environmental health? Well, it was really autism, I would say. I was very concerned in the mid-2000s, the first decade of this century, looking at the autism rates going up every

year and, oh yeah, we're just diagnosing it more, don't worry.

And I just didn't think so. I'm like, this is really strange because I didn't know about autism as a child. There was no autism anywhere, you know, never encountered it.

And I know it's different now. I mean, it's just like, you know, it's shocking now. Like, you know, what is it, 1 in 33? I mean, the numbers just keep going up and up.

It's a huge problem. And I am puzzled that the government doesn't think it's… The government has changed, actually. I have to say that the new government, you know, with R. F. K.

Jr., is making a difference and really believing that it is a problem that they need to figure out. And so they're doing a good job of trying to figure out the answer of what's causing this epidemic.

I personally believe glyphosate, which is the active ingredient in Roundup, which was the active ingredient in Roundup, I have to say, because Roundup has, they've taken it out of Roundup.

The one that you buy to kill the dandelions in your yard no longer has glyphosate. And they did that because they were worried about all the lawsuits that were for the non-Hodgkin's lymphoma.

So, I mean, I'm glad they got it out, but of course they replaced it with several different chemicals. that are also very toxic, thought to be more toxic than glyphosate, and so it's not like they solved the problem by taking it out, and that is very frustrating.

So yeah, it was autism, and I basically had a good point to change my career, and it has to do with AI, actually, because as the AI technology was maturing, I was coming to the realization that the kind of work I did would not be so valued in the future, and I needed to pivot to something else, so that was partly motivated by my desire to change fields because and you know it's now very true that computer scientists you know I was someone who wrote a lot of code and code writing has almost become obsolete at this point which is really quite interesting to see my children who are code writers are feeling the pain of you know do we still have a valuable skill or not so I think that's a very interesting topic as well which we won't talk about today but I pivoted so I started looking at environmental chemicals, trying to figure out what was causing the epidemic, went through a lot of different things and ruled them out, saw that there was a major problem with the gut.

So I understood autism was connected with gut dysbiosis from reading about autism. So I was looking for something that might cause gut dysbiosis. And I happened to be at a conference where Professor Don Huber gave a two-hour presentation on glyphosate.

I walked into the room not knowing the word glyphosate, and I walked out believing that I had found my answer. And I still believe that. I think glyphosate is number one.

I think it's the most important toxic chemical in the autism epidemic. We have many other chemicals that kids are exposed to today, so it's not the only one, but I think you can really single it out as the most important one.

What Glyphosate Is and How It Works

And that's because two things. One is that it's pervasive, and it's all over the food supply, much more so than any of the other herbicides. And two is we think it's safe.

And so the government doesn't bother to even test how much is in the food. We don't know, and it's all over the food. As we know from Zane Hunnicutt's work, she's done a lot of testing of different categories of foods.

She's the founder of Moms Across America. Good friend of mine. I want to make a shout out to her because she's so special. She's looked at military food recently and finding that it's even worse than the school lunches and the fast food restaurants.

She's done all of those. She's also done breast milk even, and she's done formula, all these different choices. She's good Girl Scout cookies. She's tested for glyphosate and all of those things.

Interesting. And she's found it. Also wine, she found it in all the California wines. Even the biodynamic wines had small amounts. So she's really made the world, I think, aware.

Increasingly, people are aware of her work, and she's really leading the way in showing that we do have a problem with glyphosate. There's too much of it in our food.

And the fact that they had to replace it with several chemicals in the Roundup shows you how potent it is. It kills everything that's a plant, except for those that have been engineered to resist it.

So it's not a trivial chemical. We think it's harmless to humans, and that's a huge mistake. Can you go into a little bit more about what it actually is, what the compound actually looks like and why it's such a widespread contaminant in our food supply?

Yeah, I mean, that's an interesting question. Glyphosate is actually a pretty small molecule, and it's a glycine molecule. Glycine is an amino acid. It's the smallest amino acid, and absolutely essential in many ways in our body.

Glyphosate is an amino acid analog of glycine, and that's really, I think, what makes it so toxic. It pretends to be glycine and messes up the whole glycine system, including, I believe, substituting for glycine in proteins.

And in my book, I have my book here, Toxic Legacy. how the weed killer glyphosate is destroying our health and the environment. I go into that a lot because that's almost the focus of my book is this idea that glyphosate can get into proteins by mistake during the process of making the protein from the DNA code.

And when you see the code for glycine, glyphosate fits very nicely into the pocket. And then it just puts glyphosate into the protein instead of glycine.

And it's very different from glycine because it has an extra what's called a methylphosphonate unit attached to its nitrogen atom. And so that really changes its behavior biophysically, biochemically so that it doesn't work the way that was intended for glycine to work at that spot.

And so many proteins have essential glycines at critical places, often at the reaction active site. that if you substitute glyphosate, you mess it up completely, you can't do its job anymore.

There's a lot of proteins like that. And I've been rummaging through the research literature finding those proteins. It's quite a fascinating puzzle to solve.

And I look for diseases that are going up exactly in step with glyphosate. I look for causal factors in those diseases, mutations of glycine residues associated with those diseases.

And then I can say, yes, that makes sense. Glyphosate is substituting for that glycine. So I can explain biophysically, really, how a glyphosate could be causing.

all these diseases that are going up dramatically. Thank you for that. So to say it a little more plainly, how does glyphosate disrupt the microbiome?

Yeah. Okay. I haven't talked about that yet, but that's critical and that I think is central to the problem with autism and also probably with eczema.

Certainly, I think it's also connected to eczema and all of these diseases that the kids are suffering from these days and conditions. So it's been shown experimentally actually that glyphosate suppresses critical microbes, bifidobacteria and lactobacillus in particular, and also recently acromancia.

And I want to bring that one up because that's an interesting one. I don't know if you know acromancia. I do, but I would love for you to talk about it.

Yeah, because it's only recently that I figured that one out. I was looking at acromansia and I was realizing that they were finding that it's a beneficial microbe and its presence is associated with protection from various diseases like diabetes.

And then I thought, I wonder if glyphosate suppresses acromansia. So then I go digging and there it is, a research paper showing exactly that glyphosate suppresses acromansia.

So I was like, of course, acromansia actually it releases a protein, I think it's a protein, a P9 molecule, it's called P9, and that molecule stimulates the release of GLP-1 in the gut.

Microbiome Disruption and Immune Effects

It's a hormone that the gut releases, GLP-1, and we've got a ton of people now on GLP-1 analogs, like Wegovi, trying to lose weight, and so this directly connects glyphosate to the weight problem that we have, and I've been looking for the reason why glyphosate is associated with obesity, you know?

because there's a very strong correlation between diabetes and obesity. When you look over time at the statistics on the United States population, I've looked at a whole bunch of diseases and obesity and diabetes are both going up dramatically exactly in step with the rise in use of glyphosate.

So I think those two are candidates and both of them are connected to GLP-1 because GLP-1 actually stimulates the release of insulin from the pancreas.

So it's connected to diabetes as well. Of course, GLP-1 originally was a drug for diabetes. So that makes a lot of sense to me, the acromancy of getting suppressed, the hormone not being released, the substitution of the drug for the hormone to solve the diabetes and obesity problem.

So I think it really kind of frightens me that so many people are going on GOP1 analogs. I worry about what kind of side effects they're going to end up with.

Yeah, I mean, here we do everything we can to naturally, you know, get over this disease and just reboot, like give these kids and the adults that are suffering from this disease, you know, give their bodies the capacity back to actually function as it was designed to do.

And, you know, a lot of the people listening are on steroids and, you know, a whole host of or have a really long antibiotic history, lots of ear infections and they're just more susceptible to infection from the start, from the get-go, because their immune system is dysregulated.

Could you talk a little bit more about that, how glyphosate impacts the immune system? Well, it's really interesting to me with the immune system. Immune system is extremely complicated and I've read a lot of papers on it and I can't say that I understand it.

The more you read, the more confused you get sometimes with the immune system. It's so complicated. But what I'm feeling as a general trend is that The immune system gets broken by the various chemicals we're exposed to, including glycozate, of course, and it can't fight off the microbes efficiently.

And it actually then sort of turns to attacking the host. So it switches over. There's these TREG cells that suppress immunity. But at the same time, you have an increase in autoimmunity.

And so you end up sort of with the immune system attacking self instead of other in a way, which is so bizarre. It gets broken in a very weird way from exposures to all these things that we're exposed to today.

And then it starts attacking self. And that's how you get things like eczema, asthma. You know, you get autoimmune diseases of various sorts. Like even autism is potentially an autoimmune disease.

Yeah, early on in my research, you know, you could see how autism and eczema are really on the same continuum. Yes, they're very strongly correlated. I've looked into that.

Kids with autism have an increased risk to eczema and kids with eczema have an increased risk to autism. They're correlated. So everyone knows it's bad, right?

And you know, like, for lack of a better word, right? Deleterious, to say the least. And it's everywhere. It's in our food and in the environment, in the water.

And now, like you said, they've substituted even harsher chemicals for what was glyphosate. What can we do as mere mortal parents just trying to protect our kids, protect our families?

What can we do? It's really frustrating. And I really appreciate people like Zan Honeycutt who are out there fighting politically. A lot of people can't stomach that.

I've been there. I've been very frustrated with my experience with the government, both the national government and the various states. I've tried to meet up with the legislators and had bad experience every single time.

It's really, really frustrating. They're so bought. At every level, I think they're being bought by the industry. There's a tremendous amount of lobbying going on, and the government is extremely resistant.

And even with R. F. K. Jr. in place, and he certainly hates glyphosate, and he's been on lawsuits against it, but he's not enough to try to get the government to recognize the need to get rid of it.

And right now, there's this wrong direction going on. I don't know if you know about what's going on with the individual states, as well as at the federal level, there, who's now bought Monsanto, so they're the owner of the glyphosate.

And they have been canvassing very hard to try to get the government to pass laws that would give a glyphosate, basically a get out of jail free card, which would not allow anyone to sue Monsanto if they think glyphosate caused their non-Hodgkin's lymphoma, to get rid of that.

Because the argument is, you know, the company's being killed by this. They've got a lot of lawsuits. They've spent already, I think, $11 billion. I think that's something like that.

And there's still a lot more lawsuits coming at them. And this all started with Dwayne Lee Johnson. I don't know if you remember that. Dwayne Lee Johnson was a groundskeeper, school groundskeeper in California.

And he developed Don Hutchinson Phoma. I think in his early 40s, he had young children. It was a very sad case, and a law firm took on his case, and he won a huge settlement by a jury trial.

And it was later reduced to a much lower level, but it opened the door. And then several lawsuits followed, and there were like three or four other ones that got big rewards and then got taken to higher courts and fought and everything.

But there's now like over 100,000 waiting in the wings for their turn in court, so it's like a completely Bayer doesn't know how to deal with this. That's why they took it out of the Roundup, actually, because they wanted to get rid of those lawsuits, and that you could no longer sue them for using Roundup on you in Dandelions.

It's interesting because the farmers, much harder for a farmer to win a lawsuit because they always argued some other chemical. They're exposed to so many chemicals that you can always blame the other guy with the farmers.

But a lot of the residential is only glyphosate that they're using, and so they have a chance to win in court. And so then the argument they use is that we can't live without glyphosate or we will starve.

So our food will become extremely expensive and we'll starve.

Food Sources and Organic Choices

And these kinds of arguments that glyphosate is an essential aspect of our agriculture. We can't afford not to have it. That's the argument they give.

And we've kind of boxed ourselves into a place where that's almost true because we've done all this GMO Roundup Ready crops that you can just pour the chemical all over the crop.

It doesn't die. That's a great boon for agriculture because that makes killing the weeds very simple and cheap. So if you have to start bringing people back to pull weeds by hand, that's going to get to be a lot more expensive and food prices are going to go up.

That's the argument that they use. We cannot afford not to have glyphosate to help us with our agriculture. so rough, so backwards. And I was extra excited to talk to you today because, you know, personally, I have a friend, he's in his 30s, have lymphoma.

And that was like one of his childhood jobs, the spring roundup. That's really sad. Right now, it's really sad. And he has two young kids and, you know, watching this firsthand and with somebody so, so young, it puts a lot of things in perspective and I honestly can't believe this is where we are.

But because it is so pervasive, I mean, is there anything that you can do, like any way that you can clean your food to just help it be better off and safer for your family?

Absolutely. I mean, the big one is to buy certified organic, and that's what I've been doing ever since 2012 when I first discovered glyphosate. We did a purge.

We threw away everything, even our spices, and we replaced them with organic versions in a sort of celebration. And then we've just been very, very strict about buying only certified organic when we shop at the grocery store.

And I believe it's improved our health, you know, and I think everybody should do that. I think if people stopped buying the toxic food, they'd stop producing it.

You know, it's really, we have a lot of power as consumers to redirect the way the farmers grow food. And if we just tell them, we're not going to buy your food, it sucks, you know, not buy it.

And of course, there's also the processed foods as well. And so there's both an emphasis on whole foods. So switching over to whole foods, switching over to certified organic foods, and then switching over to foods that are nutrient dense.

Basically, think of nutrient dense organic whole foods as a policy for when you put anything in your mouth, make sure it's in that category. And I think that's what we need to do.

We need to really change our diet. not just to go certified organic, but also to go whole foods. And of course, prebiotics, probiotics, you know, emphasize those things and emphasize foods that contain a lot of minerals and vitamins.

And I believe also animal-based foods. I know a lot of people think vegan is a good idea. I don't agree with that. one of the books I read early on said it's just negligent to raise your child, you know, vegetarian and they do they need the protein and they need the amino acids.

So we also buy organic like we do our very best and then There's people who say, well, it doesn't matter. There's glyphosate on organic food, too. What do you say to that?

There is, but it's generally less. And Canada did a good job of testing. U. S. has not bothered to test basically anything. I think one year, I think it was 2012, it might have been.

They tested 300 samples of soy and they found glyphosate, or it's AMPA, it's a product of its degradation. They found either glyphosate or AMPA in 95% of the samples of soy, the US government.

And that's the only time, as far as I know, that they ever even tested it. Whereas Canada, they got harassed by Tony Mitra, who's a friend of mine. He was a Canadian citizen, originally born in India.

And he tested them to test for glyphosate. And they finally did. And they tested over 8,000 food samples, a lot of food from Canada, but also imports from the US, from Mexico, from Europe.

And they found a consistent trend, which was the US and Canada had the highest levels pretty much across the board of glyphosate in the various foods.

And Mexico lined up more with Europe, which was interesting. So I sort of say, if you can find it organic, buy a Mexican-sourced product. Which is funny because we always think that Mexican food is not safe, right?

We kind of think you might get food poisoning or something if you ate something from Mexico. But they actually win significantly better on glyphosate than the US.

And then it's in surprising places like garbanzo beans and chickpeas. And I learned that from Tony Mitra. All the legumes are sprayed right before harvest.

And so is wheat. And I don't know if you were aware of the work from Florida. Florida, the government, has been releasing data they collected. on glyphosate in wheat-based products in breads.

And they found it in lots of different breads. And so I'm not surprised. And in fact, I think once I realized that wheat was being sprayed right before harvest, it suddenly dawned on me that that's the reason why we have an epidemic in celiac disease and gluten intolerance.

We have so many people that can't eat gluten. Gluten and casein, right? They're on this restricted diet. And gluten is hard to get rid of because it's hiding in so many different products that you buy.

And it's really frustrating for people who can't handle gluten. And I think I'm pretty confident that glyphosate is the primary cause of the gluten intolerance epidemic that we see today.

And I've actually written a paper on that topic. I will link to that for everyone who wants to read it because yes, I guarantee it's a very interesting read.

And it's just amazing all of these correlations that you've found and it's all from one source. I mean, if you will buy a thing of organic strawberries, does it help to spray them with like hypochloric acid to break down the glyphsid?

Does it help to soak them in baking soda? Does anything help? I'd say it's very hard to get rid of, because as I said, I believe it's getting integrated into the proteins, not just in us, but also in the foods we eat.

So you can't wash it off. It's embedded in the proteins that are in the food itself. You can't wash it off, and you can't get rid of it in any way, really.

One thing you can hope for is that you might have microbes in your gut that can break it down. And that's kind of interesting because there's acetobacteria.

So very few microbes can break it down. That's part of the problem is that it's very sturdy. And that's because it has this carbon-phosphorus bond. It has that, you know, methylphosphonate unit that has a carbon-phosphorus bond, which is very unusual in biology.

And a few of the microbes have the enzyme that can break that CP bond, but most of them don't. So there's only a few microbes that can break down glyphosate.

And one of them, by the way, is pseudomonas, pseudomonas aeruginosa. That's a bug that's been showing up in the hospitals and causing a lot of trouble, you know, nasty pseudomonas infections.

It's a pathogen, but it can break down glyphosate. And I suspect that that's giving it an edge in the gut. It's allowing it to survive because it can just break it down.

If you can break it down, you've got nutrients because it's got both phosphorus and nitrogen. So they're good sources of nutrients for a microbe that can break it down.

And that microbe also does a service to the host because it removes the glyphosate. So the pathogen is causing some very nasty symptoms, but it's removing the glyphosate.

But acetobacter is a common microbe in fermented food. And some of the strains of acetobacter can break it down. So if you're lucky enough to have a strain of acetobacter that can break down glyphosate in your gut, then I think you can be exposed to more of it and not get sick.

because bacteria would break it down for you. Interesting. Everyone's familiar with the Clean 15 and the Dirty Dozen. Are there any other food categories where just organic sourcing matters most?

Well, the Clean 15 is a lie, actually, because corn is one of the Clean 15. Corn is a GMO Roundup Ready product. They're not looking at glyphosate at all in making those lists.

They don't think glyphosate's a problem because it's harmless. It's not even considered when you make those lists of the Clean 15 and the Dirty Dozen.

What are they considering when they make those? The insecticides, the fungicides, and other herbicides. But glyphosate is considered safe.

Why Washing Won't Remove Glyphosate

That's really the big problem, I think, that the government doesn't acknowledge that glyphosate's a problem. Man, okay. Well, yeah. I mean, when we get corn, like, I just do not let that be.

Like, guys, this is just so important. You have to have organic corn and organic corn. Like, this is so critically important. Do not eat it if it's not organic.

It's like the one, I mean, I would say we don't eat soy, not purposefully. And I know there's a few others that go into that. I can tell you which ones are GMO, the Roundup Ready corn, soy, canola, sugar beets, alfalfa, that's the main ones that are GMO Roundup Ready crops.

And then you have the ones that are sprayed right before harvest, which actually end up with more residue because it's right before harvest. They're not GMO and they spray the glyphosate to kill the plant and that causes it to go to seed, it increases the yield, it gets a head start on next year's weeds.

It dries out the crop, so it's easier to clear it. They have a lot of reasons why they like to use glyphosate as a desiccant right before the harvest.

They do that on the wheat, the barley, so all the beers end up with glyphosate in them. And then the garbanzo

beans and the chickpeas and the lentils, all of those, those are getting really high levels.

According to Canada, that's what really surprised me. First of all, I was wondering why gluten intolerance, and then I realized they sprayed it right before harvest, because I knew that wheat wasn't an GMO crop.

But then once I realized they spray it before harvest, then I said, of course, that's got to be glyphosate. So it's just like, You can have an aha moment when you realize something like that.

And now it's showing up that the wheat-based products have high levels of glyphosate in them. And so it's not surprising, I think, that we have the gluten intolerance.

In fact, glyphosate kills off the lactobacillus, and the lactobacillus produce several enzymes that help the host to digest proteins that contain lots of proline.

And casein and gluten both contain a lot of proline. Choline is a difficult amino acid. It's a weird one, so it's harder to break it apart. You can't just use a regular enzyme that you can use to break apart all the other amino acids.

You have to break them and break the protein down into individual amino acids, and then you can use those to make new proteins. That's the process that goes on with protein.

When you can't break those bonds, then you end up with short peptide sequences coming from the weed, coming from the casein. that are allergenic. So your immune cells see that as a foreign protein.

And glyphosate induces a leaky gut barrier, so that protein escapes from the gut. That little peptide sequence that contains proline escapes from the gut, and then the immune cells react to it, and they produce the antibodies.

And then there are human proteins that have a similar sequence. And those antibodies are kind of nearsighted, they get confused, and they start attacking the human proteins.

And that's how you get things like gluten intolerance, just antibodies that are attacking proteins that resemble, have peptides that resemble the peptides that are in wheat, but didn't get digested because lactobacillus is being killed off by glyphosate.

Wow. Yep. Thanks for putting that together for us. So everyone listening who's just families trying their best to raise resilient, vibrant kids in this really complex, modern environment.

How do we balance awareness without completely going off the deep end with fear and overwhelm? I know. That's a hard thing actually, because it's so pervasive.

It can be in your water supply. I collected a sample of rain water at my office in Cambridge, Massachusetts. And I sent it off to Anthony Samsel, who was collecting samples of rains from various friends, you know.

And he tested it and found glycosate in the rain that I collected in Cambridge. So, you know, it's in the air. Yeah. It's in the water. It's in the food.

So like, you know, you can't live really. So don't breathe, you know. You can't do that. So you really are caught with, other than moving to some place like maybe Bhutan.

Bhutan doesn't use much glyphosate, so maybe you move there, but that's pretty drastic as far as getting rid of it. So you have to be really careful to try to avoid it as much as you can, but you can't get rid of it.

I've been eating certified organic and I had my urine tested and I had glyphosate in my urine. I was really pissed. You can't avoid it. So we just have to up our resiliency, right?

Yeah. I mean, that's part of eating healthy foods.

Sunlight, Grounding, and Vitamin D

And I also would recommend getting out in the sunlight. That's another thing that I feel bad about that we're so obsessed with putting sunscreen on, you know, slobbering our kids with sunscreen.

That's really bad because you don't allow them to get a natural tan. If you let the children play outside in the spring, they gradually build up a tan.

By the time they get to summer, their tan protects them from burning. and you don't need sunscreen. I really don't like sunscreen and I really like sun.

So I really try to get people to think about being outdoors. Especially maybe if you live near the sea, walk in the shallow sea, walk along the edge of the water, the water's edge in the water.

You get really good grounding because grounding is also an interesting way to get negative charge, which is going to help keep your blood healthy. So a very simple thing is to take a walk along the beach in the water as much as possible.

And just taking the walk, period, of course, because exercise is always good. And being outdoors and not wearing sunscreen and not even really getting obsessed with covering yourself to protect yourself from the sun.

The sun is healing. I believe it's a very important part of a healthy lifestyle is to get a lot of sun exposure. I agree. My son is at a nature preschool right now.

They're like, should we put sunscreen on him? And he's like, no, don't, please. Just, I agree. It just naturally, I mean, he's also just a little darker, olive skinned naturally.

So his tolerance is higher, but it's, yeah, being under illuminated is just as big a problem as being malnourished. Yeah. And you think about, you know, the plants, sunlight is essential for the plants.

You know, we know that if you take a plant away from the sunlight, it dies. And we're not that different from plants, you know. Animals are going to figure out, just in terms of biology, it makes sense that just like plants, animals would figure out how to use the sun as a resource because it's a great source of energy if you can use it.

And I think we use it actually, you know, I've talked about this and I've written about it. When we get sun exposure to the skin, the skin produces cholesterol sulfate and vitamin D sulfate.

Of course, it makes vitamin D, and vitamin D is an important reason to have sunlight exposure, because vitamin D deficiency is linked to autism. A lot of the autistic kids have low vitamin D.

You get the sun exposure, it makes the vitamin D, but it makes vitamin D sulfate, and it also makes cholesterol sulfate in the skin. And the cholesterol sulfate is delivered to the HDL cells that are roaming around the skin trying to collect up some cholesterol.

And then the HDL cells deliver it to the LDL cells. You know, LDL is the one that's the high cholesterol. You've got to get on a statin drug because your LDL is too high.

Well, if you can get cholesterol sulfate into the membranes of your LDL particles, then that protects them from glycation damage and oxidation damage.

So the lipid particles in your blood really like to have cholesterol sulfate in their membrane to protect them from these oxidizing and glycating agents.

So you can get all of that going by getting out in the sunlight. The skin will provide the cholesterol sulfate to the lipid particles, which will keep them healthy.

Then if they're healthy, they'll return to the liver. It's when they get oxidized and glycated that they end up ending up in the atherosclerosis. It's really interesting, the lipid particles, if they're healthy, the liver takes them back.

But if they're not healthy, they go into the arteries and cause clogged arteries. Interesting. Okay. Do you believe that a child, say in Massachusetts, because I know you're in Hawaii now, can get enough vitamin D?

Yeah, that's a good question because it is problematic in the winter. It's hard to get enough sunlight exposure. Obviously, you have to dress up, so you have to have everything covered.

So maybe just your face. I mean, probably your face can help to get you. You can get vitamin D in the winter, but much, much less. So I really advocate being outdoors a lot.

In the summertime, you can build up the vitamin D and it can survive through the winter because you can store it, you know? And of course, the cholesterol sulfate as well.

I don't know. Some people have suggested getting under sun lamps, you know, and I tend to resist anything that's not natural. But, you know, it might be that I don't know.

I have to be agnostic on that because I realize they can be problematic. Sure. But that would make sense. I have never heard it said that way that your body can store it, but of course it can because that's part of the natural circadian rhythm.

Of course, we're going to get less sunlight in the winter and it's freezing. You're not going to be out there without a shirt and just soaking in the rays.

Of course, our body has a mechanism for that. Thank you for sharing that. But it makes it important to get out a lot in the summertime in places where there is a cold winter to really work at getting more in the summer.

Years ago, one of my kids was in regular preschool. They do the little Mother's Day things and it's sent home. It's like, what does your mother say all the time?

She says, go outside. That's wonderful. It's hard. It's an effort. It really is. I found the best way to do that is actually just to go out there with them, which is hard because you have stuff to do.

Right. Yeah. Dr. Stephanie's telling us why, so that's helpful. When you do zoom out, and I know RFK is making some progress, but is there anything else that gives you a little bit of optimism as far as the trajectory of our children's health today?

I would definitely say RFK Jr. is a very optimistic thing to have happened. I'm so impressed. I was very excited when Trump actually said, I will support you.

I was very excited about that. I've been a Democrat all my life, you know, but I was very, very confused. I'm very confused politically because the Democrats have really disappointed me in recent years with the COVID, the way they dealt with COVID and everything.

And then I was also not at all sure about Trump. But once he embraced R. F. K. Jr., I was like, wow, because I was a total fan of R. F. K. and I was going to vote for him and everything in the whole political situation that happened recently.

And I'm just thrilled that Trump has really, he said I'm going to let him go wild and he meant it. He kept his promise and I'm very excited about that.

And R. F. K. Jr. is, of course, walking a tight wire. So he has to deal with all the opposition from all these people who have been trained from the mainstream to think a certain way.

So he's not totally free to do what he wants, but he's been making good progress. And I'm very excited. And even Florida, for example, Latipot, you know, he's on my side, so to speak.

So we've got some big people in Florida and DeSantis, and they're making a deal about things like toxic food and doing the measurements to show you that bread has glyphosate.

You know, those things are happening in Florida. The whole food pyramid has been turned upside down that now, you know, the meat's at the top. And the concept of saturated fat being good for you, which a lot of people don't think, but I have always felt saturated fat is good for you.

And so the food pyramid really fits my view of what food should be now, whereas before it was ridiculous, it was laughable. Dr. Stephanie, I just sincerely appreciate your time today.

And this has been incredibly insightful. And I really appreciate how you're translating complex science into something that families can really understand and contextualize.

And for everyone who wants to go deeper, I'll link Dr. Stephanie's book, Toxic Legacy, in the show notes. But where else can everyone find and follow you?

I do have a webpage, StephanieSeneff.net, and I post some of my interviews there as well and my papers.

Deuterium, Mitochondria, and Metabolism

I've written many papers. And I mentioned to you before we met about deuterium. I do want to bring that up because deuterium is a very interesting atom.

It's an isotope of hydrogen. So hydrogen is the smallest atom. It's the upper left corner of the periodic table. And it's by far the most common atom in our body, and it's involved in all the reactions.

And so hydrogen is extremely important in our body. And deuterium is an isotope. It has an extra neutron, which makes it twice as heavy as hydrogen. And that greatly changes its behavior relative to hydrogen biophysically and biochemically.

And so deuterium is a natural element. It's just like carbon-14. It's a natural element. It is present in very small amounts compared to hydrogen. But hydrogen is so common that it means that it's as much as five times as high as calcium in the blood, so it's not something that can be ignored.

And it turns out that deuterium is very damaging to the mitochondria, causing them to be inefficient at making ATP, which is the energy currency of the cells.

and causing them to spew out reactive oxygen, which can damage the DNA and cause cancer and things like that. So mitochondrial dysfunction is associated with many chronic diseases, and mitochondrial dysfunction is easily caused by too much deuterium in the mitochondria.

And then what turns out to be fascinating when you look at chemistry, biochemistry, you see how the whole system is geared towards keeping deuterium out of mitochondria.

It's a really fascinating topic. I'm just in love with it right now. I'm so thrilled. because I feel like all of a sudden a lot of things in metabolism are making a lot more sense if you take into account the fact that the cell is trying to keep deuterium out of mitochondria.

That's kind of a basic principle of metabolism. And the interesting thing is that the gut microbes enormously help the host in doing that. Microbes actually make molecular hydrogen gas from organic matter.

And that gas, I believe, is severely depleted in deuterium. There was a study on a marine microbe and the

hydrogen that it produced was 80% down. It had only 20% of the deuterium that's naturally found in nature.

So you can strip away the deuterium by making a gas. And that makes sense because deuterium's heavy. You think about it's going to stay in the liquid phase rather than escaping into the gas.

So you tend to preferentially lose hydrogen rather than deuterium into the gas. So you have these hydrogen gas molecules that are then used as reducing agents to make new nutrients.

And one of the things they make are short chain fatty acids. So butyrate is a short chain fatty acid that is really nirvana from heaven for the colonicides.

They love butyrate. and it's produced by the microbes, and it's produced by breaking down fiber, for example. So if you eat a lot of fiber, your cells can't digest, you know, the human digestive system can't break down fiber, but the microbes can, and they turn it into butyrate via this recycling through hydrogen, and the butyrate is low in deuterium.

So the colonocytes are getting a really good diet of low deuterium nutrients thanks to the microbes. And then the really interesting thing is that glyphosate suppresses dehydrogenases.

Dehydrogenases are crucial for making these low deuterium nutrients from hydrogen gas. You have to have dehydrogenases. There was a study on soil bacteria around the plant root.

They gave glyphosate to the plant, to the soil where the plant was growing. Then they looked at the soil bacteria collectively and looked at the expression of dehydrogenases.

What was the expression level of dehydrogenases across all the soil bacteria? They looked at that over time after they had injected glyphosate into the soil.

and they found that they kept on going down. The expression of dehydrogenases went down for three weeks after that glyphosate exposure. In other words, the glyphosate was suppressing the dehydrogenases.

And then there's other papers, there's one on E. coli that had like a dozen different dehydrogenases that were suppressed by glyphosate. Dehydrogenases are critical in the mitochondria themselves.

This likes three of them in the mitochondria. that are critical and that are suppressed by glyphosate in the E. coli, but also succinate dehydrogenases has been shown to be suppressed by glyphosate in other studies, not just in E.

coli. So it feels to me like, and I understand why it would suppress dehydrogenases because they have what I call a glyphosate susceptibility motif. They have a particular pattern in those dehydrogenases at the critical site where they do their reaction, where glycine can get substituted by glyphosate, three different glycines.

at that site could be substituted and that would ruin that enzyme. So I sort of have a complete explanation for how that could happen. And then I think glyphosate suppressing dehydrogenases is a critical aspect of its toxicity that leads to deuterium toxicity in the mitochondria because the microbes can't make these nutrients that the mitochondria depend on.

So it's quite interesting. I'm quite fascinated by all of this and I've been writing papers on deuterium lately. Kind of my main focus, deuterium and then of course trying to tie it into glyphosate.

Yeah, thank you for breaking that down for us. And I guess awareness is the first step. Yes, like the benefits of bringing this to light will eventually ideally lead to decisions that say that this will no longer be a part of our environment.

And I would say with the deuterium, one simple thing you can do is eat nutrients that are low in deuterium, and that gets into saturated fat produced by animals is low in deuterium.

And especially, for example, butter even has a lot of butyrate. So butter is a super good food. You should eat a lot of butter. I believe. Ghee is like a staple here for butyrate, you know, for that exact reason.

And what are the other foods that are helpful? Well, the seafood, you know, oysters and any of the shellfish are really super nutrients. They have a lot of minerals as well as healthy fats.

And cholesterol is actually an important nutrient. I believe people should eat cholesterol rather than not making their liver produce it. We've had this big war on cholesterol with the statin drugs, and I think that's a huge mistake as well.

Cholesterol is a very important nutrient, and cholesterol is probably a deuterium-depleted nutrient because it's made from acetate, which is one of those fatty acids, short-chain fatty acids.

So I believe cholesterol is a deuterium-depleted nutrient. And of course, it's found with saturated fats. So when you eat the saturated fats from the animals, you're eating cholesterol as well, and that's a good thing, not a bad thing.

And I noticed nuts as well. Yeah, nuts are good. Yes, absolutely. Yes. And I think even avocado coconut oil is low in deuterium. So there are some plants that also offer low deuterium.

Practical Takeaways for Families

In general fats, if they're made biologically, they're going to be low in deuterium. I mean, I can just again summarize everything that I've said, which is whole foods, organic, certified organic.

Let me ask you a question. I'll ask you a question. Okay. So Dr. Stephanie, oh my goodness, has this been incredibly insightful and you are really translating complex science into something that families can understand and conceptualize.

So thank you. But to sum it up, everyone that's listening, The rain is exploding and they just need some direction. Like, this is what you should focus on now.

Okay, so I would just say in terms of a healthy lifestyle, in my opinion, I mentioned sunlight. Get out in the sun as much as you can. Walk on the beach or walk on the grass, get grounded.

You know, that can help you out with negative charge. Then food-wise, whole foods, organic, certified organic foods, nutrient-dense foods, which certainly includes all the seafood.

especially the shellfish, and fish is also good. Foods that contain healthy fats, and for me, healthy fats include saturated fats, and saturated fats contain cholesterol, which is also good for you.

So you really want to get cholesterol from your diet instead of forcing your liver to make what you need. Cholesterol is very, very important in your health to keep healthy membranes on your cells.

And then fermented foods, and that's going to help with the microbiome. So I eat a lot of fermented foods and a lot of green vegetables. I actually really like all the cruciferous vegetables like cauliflower and broccoli and sauerkraut is great because those have sulfur and sulfur is an important dietary nutrient that we don't get enough of.

So the cruciferous vegetables and of course you also get sulfur from the animal-based foods, particularly cysteine, which is a very important amino acid.

And then glycine is another one you want to make sure you have plenty of glycine. That's the one that glyphosate messes up. And so bone broth, for example, contains a lot of glycine.

That's coming from collagen. Collagen has tons of glycine in it, which is why I think collagen is getting messed up by glyphosate. Another story for another day.

So let's see. So there are the fermented foods and then, of course, fiber. You eat a lot of foods that contain fiber, which the gut microbes can turn into short-chain fatty acids that are very healthy for the colonicides and beyond, actually.

For our listeners who want to go deeper, I'll link Dr. Stephanie's book, Toxic Legacy, in the show notes. And where is the best place for everyone to find and follow you?

I have a webpage called stephaniesetup.net. Great. So you can check that out. Perfect. I'll link all that. Dr. Stephanie, thank you again for being here.

Thank you. Wow, friends, this is heavy science, but it matters because awareness is the first step. And once you see the entire landscape more clearly, you can make better decisions without fear.

For anyone who wants to go deeper, I'm linking Dr. Seneff's book, Toxic Legacy, in the show notes. And if today's episode lit up a bunch of oh wow moments for you, that book will take you further.

And if you're listening to this thinking, Okay, I get it, but I need a plan. I need someone to help me turn this into real life stuff for my child and for my home.

That's exactly what we do inside the eczema elimination method. We don't manage chaos. We redesign the system, the food, the environment, the nervous system, the support, the routines.

and the order of operations, so you can stop guessing and start moving forward with clarity. You can apply or book an alignment call at xmakids.com. And one more thing, if this podcast has helped you in any way, would you take 60 seconds and leave a review on Apple Podcasts?

It genuinely helps more parents find the show. And if you screenshot your review and email it to me at support at eczemakids.com, we'll send you a 30% off code for the eczema shop as a sincere thank you.

I really appreciate your time. And I don't take it lightly that you chose to listen today. And if this episode reminded you of a friend who's trying to do all the right things and still stuck in a flare cycle, send it to her.

Okay, team, I will talk to you next week. Take care. Thank you for helping with my eczema. Love you. Thank you for listening today, friend. I know healing your child's skin isn't easy, but you're doing it one smart step at a time.

If this episode gave you a little hope or a better night's sleep, leave a quick review so more exhausted parents can find eczema kids and finally rest easy too.

Follow, share, and let's help more kids heal. Take care.