

Redefining Health & Wellness

#44

Featured this episode: Shohreh Davoodi & Erin AKA Food Science Babe

Shohreh Davoodi: This is episode number 44 of the Redefining Health & Wellness podcast, and today I am chatting with Erin, also known as Food Science Babe. If you've ever fallen down the rabbit hole of 'clean eating,' our conversation will help you put facts over fear. Erin has a degree in chemical engineering and has been working in the food industry for over 10 years. In late 2018, she started an Instagram account for the purpose of addressing the misinformation she was seeing online about food.

In this episode Erin dispels myths about conventional versus organic produce, GMOs, pesticides, and more. To access the show notes and a full transcript of this episode, head to shohrehdavoodi.com/44. That's shohrehdavoodi.com/44.

This episode is part of the Health & Wellness Changemakers series, sponsored by Superfit Hero. The series runs from episode number 37 to episode number 48 if you want to catch them all. The goal of this series is to highlight people making waves in the health and wellness industry and taking it in a new direction. I am so grateful to be collaborating with the body-positive brand, Superfit Hero, to introduce you to these changemakers.

Superfit Hero is an inclusive activewear brand with sizes that range from XS to 5XL, and their goal is to provide clothing for ultimate confidence, no matter your size or sport. All of their clothing is also ethically made in Los Angeles, California. To get 15% off your first order, you can use the special series discount code, which is CHANGEMAKER, when you check out at www.superfithero.com. And stay tuned for the Superfit Hero Wellness Tip of the Week later in this episode.

And now it's time to do some myth busting with Erin.

[Music plays]

Hey y'all! Welcome to the Redefining Health & Wellness podcast. I'm your host, Shohreh Davoodi. I'm a certified intuitive eating counselor and a certified personal trainer. I help people improve their relationships with exercise, food, and their bodies so they can ditch diet culture for good and do what feels right for them.

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Through this podcast I want to give you the tools to redefine what health and wellness mean to you by exposing myths and misconceptions, delving into all the areas of health that often get ignored, and reminding you that health and wellness are not moral obligations. Are you ready? Let's fuck some shit up.

Hi Erin! I'm so excited to have you on the podcast today. Thank you for making time for this.

Erin: Yeah, thanks for having me.

Shohreh: Absolutely! As someone who very much fell down the "clean eating" rabbit hole back in the clean eating heyday and then followed that up with getting wrapped up in some of the healthism of the vegan community, your Instagram account is such a breath of fresh air and an anxiety reliever for still some of those deep-seated fears that have nestled their way into my brain from those years of my life. And so I'm really excited to dig into all of that.

But first, I just want to hear a little bit more about you, and how you became a food scientist, and what that actually means—'cause I'm sure a lot of people don't know—and why you made the Food Science Babe account.

Erin: Yeah, so I actually went to college for chemical engineering. So I wasn't really planning on getting into food, it just kinda happened. So after college, I ended up at a large, conventional ingredient company in an engineering role. And I was at a large corn milling plant, kind of in the middle of nowhere in Iowa, and I really started getting interested in the research and development side of the food industry more than the engineering side that I was in.

And so they were starting up a R&D pilot plant for their snacks lab. So I applied for the role, wasn't really sure I was going to get it since I was an engineer and they were looking more for a food scientist, but I ended up getting it. So I basically set up a pilot plant, and then worked with a lot of research chefs and food scientists. So they would create the products on the bench top, and then I would basically take it and scale it up to our pilot

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plant that we had. And then I would also take it to large-scale manufacturing.

So I ended up getting to do a lot of development work in that role as well. So I worked alongside all the food scientists. I was there for almost five years, so learning how to develop products, learning how to scale them up once they're developed on the bench top.

And interestingly enough, when I worked at that company, I was also more of an organic food consumer at the time. I didn't really know the science behind organic and GMO, and I started eating organic kind of when it first came out. I think it was when I was in high school. My dad would go to the natural food store and buy organic food, and I just assumed it was healthier. And so I just continued to sort of eat that way, thinking, "Hey, this might not be healthier, but I can afford it, so why not?"

So then I ended up leaving that company. I actually wanted to work for a more natural and organic company that aligned with my values at the time. And so, I started working for a much smaller...they weren't necessarily organic; they were natural, ready-to-eat popcorn. All their products were non-GMO verified, and then they did end up, when I was there, getting a few organic products as well.

So it was really interesting in that role. I was the one that had to certify the products non-GMO and organic. And so, in doing that, I learned more about it., and sort of learned how arbitrary those labels are. And how, really, these decisions are marketing decisions.

So all the meetings that I would be in to decide whether we wanted to get something non-GMO verified, it basically was like, "Hey, who's our target market? Who are we trying to target with these products, and will they pay more for these labels?" So just in sort of learning more about it that way, I was kind of like, "Wow, this really doesn't seem like it's healthier. It just sort of seems like a marketing thing."

So I just looked into it more on my own and started actually looking into the research of it and realizing, wow, this is really just marketing. This isn't healthier. This isn't better for the environment. So then, fast forward a few years, I was seeing on social media so many accounts that were just

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perpetuating all this false information about organic, and non-GMO, and all these things. And I didn't really see anybody out there specifically talking about the science behind food and what's actually based on the evidence. So I just sort of was like, "Hey, I'm gonna start a page. I don't really know if anybody is going to care about it." And it kind of took off from there.

Shohreh: Yeah, you probably never expected that you'd have the thousands upon thousands of followers that you do now [laughs].

Erin: No, not at all. I was just like, oh, I have some free time, like I'm just gonna try this. [laughter] And all of a sudden it kind of took off, and I was like, oh my gosh, I don't know what I got myself into, but it's great that people are interested [laughs].

Shohreh: Well, I'm so glad you did, because I think so often the average consumer just doesn't know how to read the science, doesn't know or understand really where to look for the right information, and so, it can really help to have an account like yours that breaks things down into ways that people can understand, while also saying, "Here are the citations if you want to go look this up further."

Erin: Yeah, exactly. That's the difficult thing. Even as a scientist I...every single research paper I look at, sometimes I even need help interpreting it. So it's difficult. You can't really just assume that everybody knows how to interpret the data. I think it's important to be posting things that are based on evidence, and at the same time, just trying to get people more aware of just red flags, I guess, to look for.

You know, if somebody is saying something and you ask them for evidence and they can't provide it, or they just provide some random blog or some random article and it's not a study, I think just things like that are important for most consumers to understand. You don't necessarily have to understand how to interpret every single research paper, but just the red flags you can look out for when you're looking at stuff on social media.

Shohreh: For sure. And, you know, today we're gonna do something that I know you're passionate about, which is dive into some of the biggest clean eating, food, and health myths, and just blow that shit up with facts and science so people don't have to be afraid of this stuff anymore. But before

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jumping into those, I wanted to ask for your thoughts on why you think these food rules and this dogma are able to take hold so well in our culture in the first place?

Erin:

I think it comes from a place where consumers, obviously they're trying to eat what's best for them, and so, I think once any little amount of misinformation is put out there, people just hang onto it. And then they end up sharing it and they end up perpetuating it.

But a lot of this misinformation is coming from organizations with an agenda. So, things like the "Dirty Dozen," those things are coming from the Environmental Working Group, the EWG, who is funded by the organic industry.

So a lot of people think of the organic industry as this small, like "Oh, we wanna do the right thing" sort of industry. And like, it's not. It's a huge industry. They're just trying to make money too. And ever since the USDA certified organic label came out, it costs more to produce organic foods, and so obviously they have to charge more. And they have to create a market for it. You know, why are people going to pay more for it? They're only going to pay more for it if they think that it's superior in some way.

So, a lot of this misinformation really has started from the fact that these labels even exist. Like the non-GMO label. The Non-GMO Project is very biased. They're also funded by people that want to get the non-GMO label on their products, and they have to create consumer demand for that label. So they do that by creating fear around products that don't have those labels. And those fears just aren't based on evidence at all.

That's kind of where the misinformation started, and then from there, consumers hold onto it, it kind of becomes a part of their belief system. I mean, I know it did for me. I kept hearing all of these things about how organic was better for the environment, and GMOs aren't good for you. And without really looking into it, I just believed it. And it kind of became a part of my belief system.

And once that happens, it's really tough to change people's minds. Or they'll defend it, whether they really know if it's correct or not. So yeah. I think it's just difficult once it becomes part of somebody's belief system

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and they have spent a lot of time telling other people to eat this way, and then all of a sudden they're presented with information that, based on evidence, that shows them otherwise. And they get really defensive. So it's difficult to change that mindset.

Shohreh: Yeah, because there's absolutely this sense of righteousness that comes with eating according to specific rules—like the rules of clean eating, or the rules of the Paleo diet, or whatever diet it might be—where food starts to become a moral thing for you. And you start to put people in a hierarchy of like, oh, the good, smart, intelligent people are eating this way, and like, everybody else is an idiot and they don't care about their health, and whatever else. Which, of course, isn't true, and food is not a moral issue.

But when you internalize that it is, you're exactly right—then people hold onto those beliefs with a death grip, because if you try to tell them, like, “Hey, this is actually inaccurate,” what you're really saying to them is that, “I'm wrong. I'm bad,” instead of that this thing that I thought or belief that I had was bad.

Erin: Yeah, that's so true. I don't know if it necessarily has gotten worse since social media, but you have people with large followings, they believe a certain diet or a certain way of eating and they just keep perpetuating misinformation, and then people just really cling onto that and think they know what, they're like, “Oh, this person really knows what they're talking about”, when they really don't. So you have a lot of people that really don't understand the science that are able to have big voices now where that never was the case before. So yeah, I think it probably has gotten worse as far as social media goes as well.

Shohreh: I think it definitely has too, and it actually always makes me laugh because I know people will accuse you of having an agenda and ask like, you know, “Well, who's paying you to post this stuff?” And I love how you always tell them, “Actually, I work for companies that benefit from the very things that I'm speaking out against.”

Erin: Yeah. And that just goes along with, my information is going against so many people's beliefs, they get defensive about it, and they just assume like, I *have* to be making money off of this information because, like, they

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just can't believe that it could be true. And what's interesting is all the people that they follow and believe are the ones that are selling books, and supplements, and guides on diet, and all that kind of stuff, and I'm literally selling nothing. I don't profit off of this at all.

So yeah, it's really interesting. People think I work for Monsanto, or [laughter] they don't think I'm like just one person, they think I'm a large organization, like, putting out this information. But yeah, it just comes back to people just getting defensive about their beliefs.

Shohreh: Yeah, it definitely does. Okay, so why don't we do some myth busting here? I say let's first start talking about labels on foods, 'cause that's such a big topic lately. And maybe we can just start with thinking about which ones actually mean something and which ones are essentially just marketing buzz words that are trying to get you to feel a certain way.

Erin: Yeah, so we can start with the organic one, and that actually I would say is both. So it means something, but it's also a marketing label.

So the organic label does mean something. The farmers have to abide by certain practices as far as not using synthetic pesticides—they can use naturally derived pesticides. They can't use GMOs. There are certain regulations behind that organic label. The thing that gets confusing is that those regulations don't translate into the food being healthier or better for the environment. That's where the marketing part comes in.

So they use that label to sort of convey a healthy halo, and a lot of people think that that label means that the food is healthier, which is not the case. One of the things that people always say is, "Well, they can't use synthetic pesticides, so it must be healthier," and that couldn't be further from the truth, because they're basically using the appeal of the nature fallacy to market this label. A lot of people believe that if it's natural, it's better for you and it's better for the environment. But whether a chemical is natural or synthetic doesn't tell you anything about its safety.

So, the fact that they can't use synthetic pesticides, that in some cases farmers would be able to use at a lesser amount or would be less toxic to the environment, and they're not allowed to use them based on these

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regulations. So, in reality, these regulations sort of prohibit farmers from using more environmentally friendly practices.

Same thing goes with GMOs. So organic can't use GMOs, and a lot of people think that that's a positive thing, but in reality, they're a net positive for the environment and they also are just as safe and just as nutritious as their non-GMO counterparts. So a lot of these regulations sound really good to the consumer and they are based on something real, but at the same time, it's used in a way to market it as though it's healthier when it's really not.

So yeah, that's the organic label. I would say the second biggest one would be the non-GMO label, and I would say that one is purely marketing. The non-GMO label essentially just means that the product is not created with any crops that are GMO.

GMO is not necessarily a scientific term; it's sort of a term that the Non-GMO Project made up, because in reality, all of our food today has been genetically modified to some extent. I mean, nothing that we eat today looks like it looked thousands of years ago. So, whether that's through traditional cross-breeding or something called mutagenesis, you know, all of our crops have been modified to some extent.

So, what they did is they realized that consumers were afraid of our more modern genetic modification techniques where you precisely insert a gene into something and it creates a trait that you want it to create. Once that started happening and consumers were sort of like, "Uh, I don't know if this is okay," they essentially capitalized off of that fear, and they created the term "GMO" to specifically mean only that type of genetic modification. And so that label means that nothing can be used that has been created using that genetic modification technique.

However, what's interesting is that our more modern ways of modifying crops are so much more precise, so much more efficient than cross-breeding. When you cross-breed something, it doesn't necessarily do what you want it to do right away. So it takes a lot more time. There are a lot more unintended consequences.

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So really, these more modern ways of modifying crops, you don't get as many unintended consequences and they're way more efficient. However, they're so much more highly regulated. It takes something like 13 years and \$130 million to bring a GMO crop to market, which is just insane! And these other modification techniques really don't have much as far as regulations go before they can bring them to market.

So, it's just interesting that it's really very arbitrary, when you understand how crops are modified. And in terms of health and safety, to the consumer, it means nothing. So that label is just purely marketing. They've sort of capitalized off of fears of GMOs, and they created a label to make money off of it. And not only does it make them money, they keep perpetuating these fears of GMOs, which are actually a good thing for the environment. So that label is just purely marketing.

Shohreh: And the non-GMO label, isn't one of the issues with it too is that it's being slapped on products that never would have had something with GMOs in it in the first place?

Erin: Yeah, yeah, that's a good point to bring up too. So, I mean you'll see the non-GMO label on things like orange juice. There are no GMO oranges. So a consumer might look at that, and then they see another carton of orange juice next to it without the non-GMO label, and they'll pick up the one with the non-GMO label thinking that it's healthier. When in reality, there aren't even GMO oranges out there.

I mean, I've seen it on salt. Salt doesn't even have genes [laughter]. I've seen it on bottles of water. I mean, it's just ridiculous! So they'll put it on anything as long as the company is willing to pay them for it, they'll let them use it on anything. So it's just super arbitrary. It really doesn't mean anything.

The USDA actually just launched the bioengineered label this year. So that one is much more based on science, and it's meant to educate consumers more than scare them. I haven't actually seen the label on anything, but I've seen, sometimes if you look at the back of food now it'll say, "Made with bioengineered ingredients," or I can't remember exactly what the

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statement is, but it'll say something like that. And their definition is much more based on science than the Non-GMO Project's definition.

So let's just take sugar for example. So sugar made from GMO sugar beets would not be allowed to have the non-GMO label because it comes from GMO sugar beets. However, sugar is so refined that there isn't any genetic material left in it. So, again, it's arbitrary. I mean, saying non-GMO on it when it doesn't have any genes really doesn't make any sense. The bioengineered label would not be required to be on that bag of sugar because there aren't genes in it. You know, it's very refined.

So yeah, I mean, if you see the non-GMO label, I wouldn't even pay attention to it because it really doesn't mean anything.

Shohreh: Yeah, I think so many of these words, like GMOs, and honestly, even conventional produce at this point have taken on this like mythical status of being less nutritious, cancer-causing, like, terrible for the environment. Now they're just associated with these things that we don't actually have any evidence to back that up. Even though, of course, there are companies, like you said, who it's in their best interest who are trying to say, "Oh yes, we have studies that show these things are cancer-causing, there are no nutrients." Like, that's such a big thing with the organic stuff too where they say "Oh, if it was grown in conventional standards, then there's no nutrients in it," and I'm just like, I don't think this is true.

Erin: [Laughs] Yeah, I mean, if there weren't any nutrients in the soil, nothing would grow. It doesn't make any sense. [laughs]

Shohreh: Is there any reason for a consumer to purchase organic over conventional or non-GMO over GMO?

Erin: No, I mean I tell people, if you go to the store and you're looking at the produce and the organic strawberries look better, you know, they look more ripe and the conventional ones just don't look as good, I would say go ahead and buy the organic if you wanna pay more for it. If there's a local organic farm that you have been to and you just really like it.

I mean, I would never tell somebody don't buy organic. I guess the whole thing is just don't buy organic because you're afraid of conventional. There

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are certain products in my kitchen right now that have the organic stamp on them, but I didn't buy them because they are organic. I just happened to like that product, and they got organic certified. I would say, don't specifically buy products because of those labels, but if it's something that you like and it happens to have the label, I wouldn't say, "Oh, don't buy it."

Yeah, I think it's just making sure you're not making those decisions based off of fear and not buying something with a non-GMO label because you're afraid that the one without it is unhealthy or unsafe, because they're not. Conventional and GMO are not any less nutritious, and they're not any less safe.

So, yeah, I think the big message is just don't buy these things out of fear, and it's really hard because that's what the marketing does. It makes you fear pesticides and conventional. I mean, none of those fears are warranted, they're not based on evidence.

Shohreh: Absolutely. I mean, there were years where every time I went to the grocery store I'd have to pull up the Dirty Dozen list because I needed to check which I was buying organic and which I wasn't, and I still see so many people doing that even though we know that that list doesn't mean anything at all.

Erin: Oh yeah, that was one of the things, too, when I was buying organic, I was like, "Well, I'm not gonna buy everything because it's expensive, but I'm at least gonna buy the Dirty Dozen organic."

Pretty much everything that EWG puts out is somewhat based on evidence, but they tend to manipulate the evidence to fit their narrative. So the USDA, they test produce every year and they come out with their data. Basically, it's put out to show how safe our produce is from a pesticide residue standpoint. They do this testing every year, every year it's consistently 99% of what they tested is below the EPA set tolerance level. So this data is put out there to show us how incredibly safe our food is from a pesticide residue perspective.

They take that data, and they essentially manipulate it. Instead of taking into account the concentration of the pesticides on everything, they literally just take the number of pesticides on something. So let's pretend

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strawberries, the USDA detected five different pesticide residues, and let's say blueberries has four. They would say strawberries are at the top of the list because there are more different pesticides detected on it.

They don't at all take into account the fact that the pesticides were detected at extremely low levels, thousands of times below the EPA set tolerance levels. So, really, it doesn't matter the number of pesticides on there if they're all at super low amounts, which they are. So they essentially manipulate the data in that way to create this list, and the biggest thing is they don't at all even mention the fact that organic uses pesticides too. So organic foods have similar levels of pesticide residues, and they don't mention that at all.

So they just totally manipulate this data that is put out there to show us how safe our food is, and they scare consumers over conventional foods, and it's just ridiculous. Because all it does is it makes a lot of consumers eat less produce, and everyone should be eating more produce. And so, it really has a negative effect if a consumer is afraid, and they go to the store and they can't afford as much organic produce as they would if they bought conventional, they'll just end up buying less, and that's so much worse for your health than buying as much produce as you can.

I mean, they do put a disclaimer in there saying, "If you can't afford organic, it's good to eat your fruits and veggies either way," but just the whole fact that they put this list out there is really manipulative. And it's just false.

Shohreh: Welcome to our Superfit Hero Wellness Tip of the Week featuring trainers and coaches from Superfit Hero's Body Positive Fitness Finder. Let's listen to what wisdom is being shared with us today.

Jamie Carbaugh: Hi, I'm Jamie Carbaugh, owner and operator of Fitragamuffin. I teach community classes in Spokane, Washington, and instruct personal training sessions online. My wellness tip of the day has to do with something that I feel oftentimes gets left out of normal health or fit tips, but it's something that I believe is at the core of overall wellness, and that is, community. Finding, starting, or being part of a community and feeling like you belong somewhere has multiple positive effects to our overall mental health.

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Maybe you start a book club. Maybe you become the local stock collector in your neighborhood for the nearest homeless shelter, host a clothing swap, start an annual chili cook-off, or search volunteer opportunities in your neighborhood centered around something you care deeply about.

There's so many clubs and groups to join, and feeling like your presence matters and is being missed when you don't show up sends such a powerful message to our soul. That's one thing I love about teaching my community group fitness classes. Over time, friendships are built, and community is formed through them.

So go out there and join something interesting! And if you can't find it, start it.

Shohreh: I hope you enjoyed this week's wellness tip. You can find out more information about the dozens of amazing trainers and coaches included in Superfit Hero's Body Positive Fitness Finder at www.superfithero.com. And don't forget to use the series code CHANGEMAKER for 15% off your first purchase. And now, let's get back to the show.

This is a good time, too, to talk about this difference between "whole foods" and "processed" or refined foods, since we are talking about fruits and vegetables. 'Cause this is terminology that we see a lot, this idea that oh, anything that is "processed" is "evil" and has, again, no nutrients, no reason to eat it.

I mean, I can tell you for myself, personally, back when I did the whole clean eating thing, for years I wouldn't eat white rice, or white pasta, or white potatoes, because I was convinced in my mind that those foods were the nutritional equivalent of cake, which is ridiculous!

Erin: Yeah [laughs].

Shohreh: But, that's like, a real fear that I had that I think some people still have. So, talk to me about processed foods versus whole foods and these terms in general.

Erin: Yeah, so I think a lot of people kind of present it as a false dichotomy. You know, it's like oh, you either have to eat all whole foods, or if that's not

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how you're eating, then your diet is horrible because you must be eating all processed foods. It's like, there's a happy medium!

So first of all, when people say "processed foods" it just sort of annoys me as a food scientist, because pretty much everything we buy is processed to some extent. I mean, the baby carrots at the store are processed. The bagged lettuce is cut and put into a bag, those are processes. Cooking is a process, canning is a process.

And a lot of these processes actually make food safer. Preservatives make food safer. A lot of the processes allow foods to be shelf stable for longer, which reduces food waste. So, a lot of these processes that people use as just a negative term, they help to reduce food waste, they help food to be safer. Less foodborne illnesses—pasteurization is a huge one that has allowed for a lot less foodborne illnesses.

So when people say "processed," it's really arbitrary to me. It's like, well, what do you mean by processed? Just because you process something doesn't automatically make it horrible for you. Obviously, if you're comparing a salad and a donut, I feel like there's just this, like, false dichotomy. It's like, you can eat salad, and you can eat a donut, and you can have an overall healthy diet.

I think it's just, again, people that are really into their beliefs like, "No, everything I have to eat has to be whole foods, or it's just horrible for me." Which isn't true. I mean, you can have processed foods, whatever you consider to be processed foods, as a part of an overall healthy diet.

So when people demonize processed foods, I guess it just really doesn't make sense to me?

Shohreh:

Right, and it's also kind of fucked up too, because obviously not everybody has the same access to foods. Not everybody has the same income levels and ability to have different foods in their lives. So, this idea of wellness culture, that there's this certain amount of foods and they're the only good ones, the only healthy ones, and everyone has to eat them, and anybody who doesn't is a jerk who doesn't care about their health, is really fucked up. And it can be really ableist, and really classist, and all kinds of other things.

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Erin: Oh yeah! People will fearmonger over even like frozen and canned vegetables, and it's like, if the only way that you can afford or the only thing that you have access to is frozen or canned, there's no reason why anybody should be afraid to eat that because they can't afford fresh, or they just don't prefer it, or they don't have access to it. It can be harmful, and people feel like they're being judged.

If that's the only thing you have access to, I mean, you shouldn't feel bad about eating it. You see something on social media that says, "Oh my gosh, canned food is toxic," and all of a sudden you're like, "Oh my gosh, am I poisoning myself? Am I poisoning my kids?"

So, yeah, I think just all this misinformation out there, it's not just annoying because it's false, it can be really harmful too.

Shohreh: Yeah, and everyone's circumstances are different, and health means different things to different people. Like, I know one of the biggest things that you're against, and that I am too is just the rampant food shaming, and it's something that you rightfully call out on your page all the time. Why does that feel personal for you, and why do you think that just needs to frigging stop?

Erin: So, there was one specific one that really annoyed me, and it was those Gerber little puff things that are, a lot of times, when a baby is transitioning from pureed foods to solid foods, you'll give them, like, cheerios, or puffs, or something like that. Obviously those are considered processed, so a lot of people are fearmongering and saying, like, "Oh, you shouldn't be feeding your kids these processed foods."

As far as, you know, in my situation, my daughter had a stroke before she was born. She has cerebral palsy, so she had a really hard time transitioning from purees to solid foods, and these puffs were one of the things that really allowed her to gain her skills as far as chewing, as far as picking food up, and being able to feed herself.

And so, a lot of times people don't take into consideration just different things like that. And if I didn't know better, and I were to have seen that post of this person saying that "These things are horrible, they're filled with sugar, kids shouldn't be having it," if I didn't know any better, I could have

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felt really guilty about my choice to give my daughter that. When in reality, it's not horrible for them. It's not like that was 100% of her diet, she was getting a lot of other foods. I don't necessarily take it personally as far as, "Oh, that hurt me" or "I feel bullied," because I don't, because I know better.

But I can see how if I didn't know better, how that could be really harmful. And I've gotten messages from people saying like, "Thank you, I felt for the longest time I was poisoning my child by not buying organic or by feeding them Cheerios," or, you know, just things like that. And it's like, you should not feel guilty about feeding your child these foods. There's no reason why you should feel bad about it, and there's no reason why somebody should be judging you for those choices either.

Shohreh: Well, Erin, you know, I mean there's *chemicals* in there, so [laughter] you've gotta watch out for those evil chemicals.

Erin: [Laughs] Yeah.

Shohreh: And I love how you talk about this on your page too, this idea that like, "Hey y'all, everything is chemicals!"

Erin: Right.

Shohreh: Like why are we so afraid of chemicals [laughs]?

Erin: Right, that's like the, I mean, the most basic concept ever. I mean, and that's one of the huge red flags, if you see somebody just blanket saying like, "Oh, you should avoid chemicals," it's like, that does—what? [Laughter] Literally everything is chemicals, so you can't just avoid chemicals. That makes no sense.

Shohreh: And I feel like one of the ways that's translated is into this idea that, you know, don't buy foods that have unpronounceable ingredients, and don't buy foods that have more than five ingredients. Like a lot of that Michael Pollan nonsense.

Erin: Oh yeah, yeah, and like Food Babe perpetuates a lot of that. And, I mean, I know what they're talking about when they say "avoid chemicals." They're talking about, like you said, things I can't pronounce, things that aren't

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natural. But, I mean, some of the most toxic things that we know of are natural. Botulinum toxin is the most toxic substance we know, and it's all natural.

So just because something is natural doesn't mean that it can't be incredibly harmful. Or, "Oh, if you can't pronounce it, don't eat it," I mean, that makes no sense either. Just because you can't pronounce it doesn't mean that it's bad [laughs]. It's like, hey, if you can't pronounce it, learn about it.

Shohreh:

Right, because one of the things that people don't seem to think about is that the dosage matters, like, when we're talking about anything. And I swear people act like the FDA and these other government agencies are like trying to poison all of us with food or something like that. It's like they don't understand that, like, food gets tested, and it goes through these rigorous processes, and you can't legally put in things that are going to kill you. That's just not allowed!

Erin:

Yeah, and I think that is a huge disconnect. I mean, as a food scientist, I have to know the regulations. I have to abide by the regulations. We can't just put whatever we want at whatever amount we want into products. There are lots of regulations, lots of testing that gets done before a food additive can be approved. Pesticides have to go through different testing by FDA, EPA, USDA. So they're going through testing before being approved.

Somebody can't just come up with a new ingredient and say, "Hey, I'm gonna put this in food." There are approval processes for all of these things, and like you said, the dose makes the poison.

I think that's one thing that consumers have a hard time sort of wrapping their heads around, especially when it comes to pesticides. I get a lot of people saying, "Well, no level of pesticide can be good for you." And I know it's so counterintuitive, but the dose makes the poison applies to everything. So when we're talking about these pesticide residues, there's a really good website that's called safefruitsandveggies.com that you can go to. And you can click on "strawberries," and you can see how many servings of strawberries somebody would have to eat every day for the

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pesticide residues to have some sort of effect. And literally, the actual food is more toxic than the pesticide residues because you'd have to eat like a deadly amount of strawberries every day.

So, I mean, the dose makes the poison applies to the food. It also applies to the pesticide residues on the food. So yes, there are safe levels of pesticide residues. I mean, anything can be toxic at a given amount. You can drink a toxic amount of water.

So to just say that, "Well, pesticides shouldn't be on our food at all," doesn't make sense from that perspective, and then also, one thing that really put it in perspective for me was a study that was done that showed that 99.99% of the pesticides we ingest are produced by the plants themselves.

So, obviously plants out in nature, they produce their own defense mechanisms, which are pesticides. And we consume these pesticides at much higher amounts than the pesticides that are being applied by farmers. Yet, we don't even think about those ones. We're definitely not scared of those ones. Because we understand that they're not harmful in the small doses that we consume them in. But for some reason, the pesticides that the farmers put on there, we're just super concerned about.

And I don't know. I think it just comes down to understanding toxicology. You just hear about the pesticides that farmers are putting on, and it sounds scary. And you hear a lot of misinformation about, "Oh, they're just dousing things in pesticides," and it's just not true. I mean, they're on there at parts per billion levels, which is really small.

So I think it just gets blown out of proportion by the people that are profiting off of the misinformation.

Shohreh:

Yeah, and I definitely empathize with people who are getting wrapped into this. One, because that was me, right? But two, because I think being in the capitalist society that we are in, people just kind of assume that companies are in this for profit, even if that means harming people.

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And so it's really easy to believe things like, "Oh, food scientists are, like, manipulative, evil geniuses who are trying to make foods so tasty that it's all we want to eat, and we get addicted to it," right?

Erin: [Laughs] Yeah. We're eating from the same food supply as everybody else, so there's no reason why we would try to make something that's toxic or be putting ingredients in that aren't safe. It just doesn't make any sense

And yeah, I get that a lot too as a food scientist, like, "Oh, so you make food addictive." And it's like, wait a second. Do you ever go to a good restaurant and you're mad at the chef because they made the food really good and you ended up eating more than you would have at home? Obviously we're trying to make it taste good. It needs to sell. [laughs]

But yeah, I mean, when you make a dish at home are you trying to make it not taste good so people don't eat it? You don't ever hear about chefs at restaurants being manipulative and trying to make their food too delicious. [laughter] So I don't get why food scientists are like, "Oh you're so evil by making that taste good!" [laughs] Like, okay. That makes no sense.

The food we make has to sell; it doesn't mean that it's unsafe. So yeah, I just think that's kind of comical.

Shohreh: And, of course, the foods that people are worried about when it comes in a package, you know, like MSG, or sugar, or whatever, all those same ingredients are being put into foods in restaurants too, you just don't have the label in front of you, so you can't assess it, you know what I mean?

Erin: Exactly [laughter], yeah. I mean, like the people that look at a packaged food with more than five ingredients and tell you not to buy a packaged food with more than five ingredients, I guarantee you the dishes you're making at home or getting at a restaurant have more than five ingredients, and it doesn't mean they're not safe to eat. So it's just, like you said, oh, it's there and we can see it, so we're afraid of it for some reason. I don't know [laughs].

Shohreh: Yeah, for sure. Is there anything else that we haven't talked about that you want consumers to walk away knowing after this conversation?

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- Erin:** I think just reiterating to not be afraid of your food and your food choices and making purchases based on facts rather than fears. I think that's the biggest message that I want people to take away from this.
- Shohreh:** And I always tell people too, whatever the concept is, is being thrown at you in a bite-sized, clickable headline, you probably need to do a little bit more research, right? Like I feel like it's so often now that we're trying to get clicks, so you put out this headline that's like, "drinking wine will make you live to a hundred." [Laughter] It's like, if anything is making a claim that is that black and white, probably not true, and you probably need to do a little bit more research.
- Erin:** Yeah, like there are so many articles lately, or even, yeah, like, you'll see a headline, you'll click on the article, and then I always just go right to where the study is actually linked and I don't even read the article. And I go to the study, and I would say nine times out of 10 when you see headlines like that, the study [laughs] doesn't say anything that was in the headline. It's like, where did this come from? This study you linked has nothing to do with this, or it doesn't say that at all.
- So yeah, it's just crazy. I mean, so many people now just read a headline and then they share it, and they know that's exactly what people do. So it's like, "Oh, as long as our headline is something people are going to share, it doesn't matter what the information is because nobody clicks on it anyways." [laughs]
- Shohreh:** Mhmm. Yeah, that's definitely one of the biggest drivers of misinformation, I think.
- Erin:** Yeah, definitely.
- Shohreh:** Alright, for our final question, how do you define health and wellness for yourself at this moment in your life?
- Erin:** Like you, I had a lot of rules about food. I had certain foods that I just deemed were bad, and I would never eat them. And over the last, I would say, probably five years or so, I've really gotten rid of that. And the more I've just allowed myself to eat if I want to have something that I would have deemed bad in the past, I don't ever not let myself eat it.

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I always say, like, I probably have a healthier diet now that I allow myself to eat these foods than before when I had all these arbitrary food rules and assigning morality to foods, which I don't do anymore, and I try to call it out as much as I see it. I mean, food doesn't have any moral value. Food isn't bad or good, it doesn't make you a bad or good person.

So, I think just getting rid of that mentality, and then obviously understanding the science behind the organic, and non-GMO, and all of those things so I'm not purchasing things based off of those labels and based off of fear.

I think just not allowing the food shaming and the food bullying and all that kind of stuff. It can be difficult when you see it all the time, like, "Oh, am I making the right decisions?" But I think just understanding how to spot it, and understanding, like, that's not right if somebody is saying something is bad for you or if somebody is fearmongering over something. So I think just trying to not really care about that kind of stuff.

Shohreh: And something that often gets overlooked is the fact that when you let go of those rules, that also improves your mental health, which is a huge part of health and well-being, because you're no longer having to deal with this internalized guilt and shame over every choice that you're making.

Erin: Oh yeah, I would 100% agree. When I had my daughter, well, before having her, I was planning on buying all my fresh produce and making all of her pureed foods, and then after she had a stroke and we were in and out of the hospital, and it was just like, all of that just went out the window. And it was like, we were just hoping she'd be able to eat on her own.

And so I think that really put a lot of it into perspective for me, too. Like, there are so many more things that are worth worrying about than worrying about your food choices. And especially if it's like worrying about organic versus not organic, the stress that that creates can be so much worse than just not worrying about it at all. So yeah, I agree.

Shohreh: Amen to that! Well, thank you so much for being here, Erin. This was a fantastic conversation. Tell me about your Instagram and your Patreon, because I want to make sure people go and follow you and get all this great information.

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Erin:

Yeah, so I have Instagram and Facebook, it's Food Science Babe. And then I'm on Twitter, @foodscibabe, and then my Patreon, Food Science Babe. And if you become a member on there, you get access to my Facebook group. And I haven't really had a lot of time to devote to that group, but I'm planning on being more involved with the people that are contributing to my Patreon, and I'm trying to figure out what I'm going to do with that.

Like I said, I don't get paid for any of this, so it takes up a lot of my time. And if you value my information, I appreciate anybody that can contribute any amount to that.

Shohreh:

Awesome. I will link to all of that. Everyone, go follow Erin, you will be so glad that you did, and put some of these fears to rest.

And that's our show for today. I appreciate you listening to and supporting the Redefining Health & Wellness podcast. If you enjoyed this episode, it would mean so much to me if you would subscribe and leave a review with your podcast provider of choice. It will really help other people who might benefit from the podcast to find it more easily.

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