

Sawbones 407: Food Dye and Behavior

Published March 29, 2022

[Listen here on themcelroy.family](#)

Clint: *Sawbones* is a show about medical history, and nothing the hosts say should be taken as medical advice or opinion. It's for fun. Can't you just have fun for an hour and not try to diagnose your mystery boil? We think you've earned it. Just sit back, relax, and enjoy a moment of distraction from that weird growth. You're worth it.

[theme music plays]

Justin: Hello everybody, and welcome to *Sawbones*: a marital tour of misguided medicine. I am not the birthday boy. My name is Justin McElroy.

Sydnee: I'm Sydnee McElroy, and I *am* the birthday boy?

Justin: No. Well, hon, no. I mean, you— wha— you— your— it's your birthday. I mean, that's the— it's your birthday.

Sydnee: Right. It's my birthday. I can podcast if I want to.

Justin: Or if you don't want to, 'cause the podcast train's gotta run regardless.

Sydnee: Right, that's true. I— well, I love to, Justin. I love to share this information.

Justin: I know you do.

Sydnee: And entertain people.

Justin: I know.

Sydnee: With the medical mishaps of yore.

Justin: [wheezes loudly]

Sydnee: Or now.

Justin: Or now.

Sydnee: Or now! Or whenever.

Justin: As the case may be.

Sydnee: No, this is a very special episode because, well, one, we are recording on my birthday, which is—

Justin: Which is, I mean, I don't get more special than that!

Sydnee: Well, it's the most... special day of the year, I think. We can all agree on that. Uh, but also because of who suggested this topic.

Justin: Yes. Our friend Vanessa.

Sydnee: Yes, our dear friend Vanessa sent an email via Lynn to Justin about the— some supposed concerns about cereal.

Justin: Yes.

Sydnee: She had received the email. She didn't have the concerns.

Justin: No. She had a— she got an email about concerns about cereal.

Sydnee: She received an email about concerns about different additives that can be in cereal. This was forwarded to Justin, forwarded to me, like, "Hey, what do you think, Sydnee?"

And I said, "You know what?" We have never talked about... mainly food dyes. Preservatives too, but the idea that artificial food dyes have some effect on behavior. And that seems like a big, um— like a big miss for us. Like, why haven't we talked about it yet? That's a big... plot hole. [laughs quietly]

Justin: Yeah. I don't think it's a— I mean, not— I mean, we don't have a cogent narrative to the *Sawbones* podcast, but...

Sydnee: I think— I like to think of it as a narrative. It's the story of... bad medicine.

Justin: Yeah, for sure.

Sydnee: Not "Bad Medicine" like the song.

Justin: No. Uh, that would've been a killer, killer intro.

Sydnee: [laughs]

Justin: If I had thought about it and had the money to license... what is that, Rat?

Sydnee: I don't— I don't know.

Justin: The song "Bad Medicine." Is it Rat, is it Poison?

Sydnee: I'm not sure.

Justin: Okay.

Sydnee: Uh—

Justin: It's Bon Jovi. That's me. On me.

Sydnee: Oh!

Justin: I'm sorry.

Sydnee: Love Bon Jovi.

Justin: Love Bon Jovi. Could've gotten Jon on the phone no problem, but I really like—

Sydnee: Really? Wait, can you get Jon Bon Jovi on the phone? 'Cause if you can, why are we recording a podcast?

Justin: I can Bon Jon Jovi on the phone.

Sydnee: [laughs]

Justin: That is— that is a good friend of his. What is the deal with food dyes, 'cause you and I have bandied about— I'm going to say this without knowing how all this will shake out— we have long bandied about the... the thought that—

Sydnee: Red food dye.

Justin: —red food dye makes our daughter Charlie, uh...

Sydnee: Hyper.

Justin: In— incorrigible.

Sydnee: Yes. Like, more— more active. Harder to get to bed.

Justin: Yes.

Sydnee: Yes. Um, we have done that. And, uh, you've probably heard that for a long time, that there are certain food dyes that if you feed a child, they will become, um, basically poorly behaved, right? Like, you can't control their behavior at that point. They won't go to bed. Um, they might, like, be physically more active. Um, and, like, to the extent that, like, my mom believed this. I remember my mom wouldn't let me eat red things. She was firmly convinced that things with artificial— not— not red things, but—

Justin: Apples. Cherries.

Sydnee: [laughs] Artificial red food dye— Red No. 40, right? Like, that's the one that gets the most— I think now that's the one that's associated with the most play. But, like, the general idea that artificial food dyes are doing something to all of our brains, but mainly child brains, to make our behavior different. Um, we even fell into this. We briefly avoided red things based on this idea that when Charlie would eat something red, it was harder for us to get her down at night, right? Like a red popsicle, or something that had red food dye in it, which could be something purple, too, by the way.

Justin: Yes.

Sydnee: Or blue. Or, like, like, lots of things.

Justin: Yeah.

Sydnee: You know. They're not all red. Food dyes, like, the color wheel— think about it. [laughs quietly] Anyway... um, now I will admit to you that deep in my heart, I knew this couldn't be right. Because why was I never taught anything about this? Why would no one have ever mentioned it even, like, as a side note? By the way, the— like, in medical school. These artificial dyes do some— on my pediatrics rotation. Why had no one ever said anything like this to me? Why did I know of no evidence? Why would this be true, and it be a secret?

Justin: That's a great question.

Sydnee: That's not really [laughs] how things work, especially when it comes to behavior in kids, because it's one of the number one things that parent come and will ask you about, I know as a family doctor, about their kids' behavior. And so if I had something easy, like "I know that these artificial food dyes are the problem," oof. Man, that would be a huge relief, right? Here's a concrete thing you can do.

Um, so it's alluring. It's alluring to think that.

Justin: Yeah.

Sydnee: Like, if I just cut these out, my kid'll go to bed at night.

Justin: You are desperate as a parent to— any, like, quick fix. Any easy thing that you can do I think is extremely appealing.

Sydnee: And we've talked about this, Justin and I, privately a lot before. There are so many times as a parent where you have this moment where you think, "It can't be this hard." [laughs quietly]

Justin: Yes. "This can't— this can't be right."

Sydnee: "It can't be this hard." [laughs]

Justin: It can't be right. This cannot be how it goes.

Sydnee: Uh, now, where did this idea come from? Well, the first concern over an artificial food dye was actually expressed a very long time ago, um, 1940's. And it was over a yellow dye called tartrazine. Now, are you familiar with tartrazine?

Justin: Not at all.

Sydnee: Okay. Tartrazine is the dye that is in Mountain Dew.

Justin: Okay. Is that Yellow No. 5?

Sydnee: I'm not sure what number it is. It's yellow. It is a yellow food dye. Um, do you remember the concern about tartrazine in the 1990's when it comes to Mountain Dew? Do you remember anything about a food dye?

Justin: Is it— is it that it would reduce your sperm count?

Sydnee: It— okay, not exactly, but close, yes. The idea that it somehow would shrink testicles or make someone's penis smaller, or in some way affect...

Justin: I mean, if we're talking about legend...

Sydnee: ... genitalia, fertility, sperm count.

Justin: If we're talking about playground legend...

Sydnee: Size.

Justin: ... all of these could have been true, right? Like, all of these different ideas.

Sydnee: Well, this was— in the 1990's there was a very intense but brief moment where everyone got really scared about Mountain Dew. Not that scared, because I can tell you from here in West Virginia, everybody was still drinking Mountain Dew.

Justin: Still loved it.

Sydnee: Yeah. To this day, Justin, you'll fall for Mountain Dew every time.

Justin: Some— okay, don't make me sound like— like some sort of bad— bad person.

Sydnee: No! I'm just saying, like—

Justin: [simultaneously] Some of us just enjoy a Mountain Dew!

Sydnee: —people love Mountain Dew! People love Mountain Dew. I love Dr. Pepper. That's my thing.

Justin: First time I ever got drunk was on Mountain Dew: Code Red and vodka.

Sydnee: I have no comment.

Justin: That was not a good night. That went bad for me.

Sydnee: Um, what was interesting is that tartrazine did seem to elicit an allergic reaction more commonly than other dyes. And by "more commonly," I still mean it's incredibly uncommon. But just on the scale of what is more likely to be an allergen, tartrazine was slightly more likely than the other food dyes. It was noted, again, as far back as the 1940's, that it could trigger hives in patients, especially if you were allergic to aspirin or that class of medicine, salicylates, salicylic acid is aspirin, that kind of family.

If you're allergic to that, there was a slightly higher chance that you would be allergic to tartrazine as well. Cross-reactivity. Um, and it was even suggested that it worsened asthma symptoms if you ate or drank something with tartrazine in it, although this was never supported by a lot of evidence. There was concern over this. Um, but this early research was important because it would go on to inspire a Dr. Benjamin Feingold.

And I really think— I mean, there are a lot of people who talked about the ideas of food dyes and allergies, and food dyes and behavior and stuff. But a lot of what we think about today, in a lot of sort of our... I would say misconceptions, stem from Dr. Feingold's work.

Justin: Okay.

Sydnee: So, originally from Pittsburgh, Dr. Feingold studied in Germany, Austria, he studied at Northwestern for a while. He finally landed in Los Angeles in 1932, where he worked at several different hospitals. Um, he was interested in some ongoing research at the time on allergies, especially food allergies. That was kind of— even though he had done some work in, like, pathology and general pediatrics, allergies was where he kind of, you know, landed.

Um, and he started working in that field in 1945. By 1952 he was chief of the Department of Allergies for Kaiser Foundation Hospital and Permanente Medical Group.

Um, and he established all of the departments of allergy for Northern California.

Justin: Wow.

Sydnee: So this was really his domain, right? Dr. Feingold was—

Justin: Aller— allergy expert.

Sydnee: Yes. The allergy guy. And this is what he would do for his entire career. This research, and his work in allergies, especially in pediatric allergies, would become his legacy. This was his whole life and his legacy.

He was initially concerned about the abilities of these food dyes, like tartrazine, to trigger an allergic response, which is different than what we're talking about, right?

Justin: Right.

Sydnee: We're not— the idea that something can be an allergen is in no way controversial.

Justin: Right.

Sydnee: Anything could be an allergen, right? Like, that's the thought. Like— well, not anything. But a lot of things can be allergens.

Justin: Okay, for the purposes of nomenclature, though, if we're saying that our kid... has this adverse reaction to red food dye, aren't we talking about an allergic reaction?

Sydnee: Well, for the purposes of an allergic reaction, what we're really—

Justin: Does it involve histamines? Like—

Sydnee: Well, not— not— I mean, yes, but no. An allergic reaction is your body treating a substance that isn't dangerous, or an invader, or harmful in any way, as if it is. So it's an inappropriate reaction.

Justin: So it can't just be any adverse reaction.

Sydnee: No.

Justin: There's— it's an immune reaction.

Sydnee: That's actually a really important distinction, because there are times where people will have some sort of reaction to a medication. Um, it made 'em nauseous. And that's not an allergic reaction. But if they list that as an allergy, it may prevent us from using a medicine that's really important for that patient. So it is— it is actually really important. It's something we don't do often enough, to distinguish between, okay, you had an adverse reaction to this medicine, but it wasn't an allergy, and something that's a true allergy, which means I just can't give this to you, because your body thinks it's harmful and it's not, but your body got confused, and here we are.

Justin: Makes sense.

Sydnee: Okay. So, he thought that the allergic reactions triggered by food dyes— initially he thought, well, they can manifest in a variety of ways that are pretty typical for allergies. So, like, hives. Or eczema, or asthma. These are all closely related to allergic reactions. These are all things that we understand are sort of a family of reactions in the body, the skin, the immune system, that kind of thing.

Justin: Okay.

Sydnee: The easiest way to see if these additives were causing problems— so if you have a child who comes in and they have eczema, and you think it's tartrazine, for instance, you tell the parents to avoid it, right? Like, that's the easiest way to address that problem.

Justin: No more Mountain Dew for your three-year-old.

Sydnee: Just look on the package. If it has this in it, don't let the kid eat it.

Justin: Easy.

Sydnee: Again, just eliminate them. Um, he also had some other concerns. So, as we mentioned, there was some evidence that tartrazine and salicylates had some cross-reactivity. So he began to throw that in there too. Like, also, you know, if your kid's allergic to food dyes, they may also be allergic to aspirin and other medications in that family, salicylates, so avoid that too. Okay. Not a huge deal.

Justin: Salicylates have salicylic acid, is that right?

Sydnee: Yes. In addition, there were a few preservatives that he began to be concerned about, okay? So there are a few different things in food, um, and I'll go into these, but the three that Dr. Feingold had concerns about are BHA, which is butylated hydroxyanisole, BHT, butylated hydroxytoluene, and TBHQ, tertiary butylhydroquinone.

Justin: Okay.

Sydnee: Hydroquinone. Got that?

Justin: Got it.

Sydnee: You don't need to— we're just gonna call 'em BHA, BHT, and TBHQ. They're preservatives. What do they do? Well, BHA and BHT are both stabilizers and antioxidants. They've been used in food for a very long time. They have been studied extensively, like all preservatives, for toxicity and health impacts. Um, BHA, there was one study where it was found to cause, in very high doses, some tumors in hamsters. But it was never found to be a carcinogen in humans or rats, which I guess hamsters are very not like humans. [laughs quietly]

Justin: I mean, I— hon, yeah. For sure!

Sydnee: Well, a stu—[laughs] well, a study in rats—

Justin: Can we drill down on that for a second? Is it the size, the cognitive abilities, the hair?

Sydnee: It has something to do with the GI tract.

Justin: No, it has to do with a lot of things, hon! It's a hamster! They're very different from humans!

Sydnee: [laughs] It has to do with the way they break down substances. Uh, hamsters. are way more different than humans than rats are in that ex— in that— I mean, you would think, like, well, if it caused tumors in hamsters it's bad, right? No, if it caused tumors in rats we're more concerned. If it doesn't cause tumors in rats, we're less concerned.

Justin: Okay.

Sydnee: For humans.

Justin: Okay.

Sydnee: This is science. Um, anyway, BHA in the amounts that we eat, there's no evidence that there's dangerous, similarly with BHT. It's never been shown to do anything bad. Uh, TBHQ is a phenol preservative. It's mainly used in things like vegetable oil or animal fats, um, and it's never been shown to harm us.

All of things are similar. You've— you've all heard that sort of idea of aspartame.

Justin: Yeah!

Sydnee: We talked about this.

Justin: Yeah, yeah, yeah.

Sydnee: Where, like, if you fed rats nothing but massive amounts of aspartame for days and days and days, weeks and weeks, months and months on end, you could maybe harm them. But in the amounts any human is actually ingesting, they're not harmful.

Justin: Right.

Sydnee: Like, it was similar with these substances. We can't find a way they're hurting people, is the idea. So they're— they are commonly used as food preservatives, is my point.

Justin: I mean, the problem with it is that... it's gross. Like, the pink packet especially? Oh, God.

Sydnee: Yes. Sweet and Low?

Justin: I mean, I was trying to— in case they ever wanted to come on as a sponsor, I was trying to not, like, directly attack them, but yes.

Sydnee: Honey, I— listen. I don't understand Sweet and Low, but my mom loves it.

Justin: There's a generation that's wild about it!

Sydnee: There's a generation that loves Sweet and Low. Same generation that made Diet Rite a thing.

Justin: I mean, Equal's not great either, but whew, Sweet and Low. Oh, God. If I go to, like, the— the, um, like, Sonic or something and I'm getting a sweet tea and I'm like, "I'm gonna need some— some yellow."

And they're like— I get to the window and they're like, "We only got pink."

I'm like, "Keep your tea. I can't have anything to do with this. Please keep your tea." That's just about me.

Sydnee: Well, I— I understand. I can't eat the pink.

Justin: Ugh.

Sydnee: That's why I grew stevia in the backyard.

Justin: Yes.

Sydnee: Those sweet leaves.

Justin: Those sweet, sweet leaves.

Sydnee: He— okay. So, he— he advised eliminating all that stuff. He also went ahead and said, you know, as long as we're at it, artificial flavors, like artificial vanilla or strawberry, artificial sweeteners, again, what we've just been discussing,

aspartame or sucralose or whatever— um, stevia was actually okay. But all these other artificial sweeteners: bad.

So, with all this concern, and some information, he started prescribing an elimination diet for patients that presented with allergies or asthma or any of these skin conditions, okay? So you'd bring your kid in and say, "My kid has eczema."

And he would say, "Here's what I want you to do. Don't have any food dyes. Don't have any food preservatives. Don't have any artificial flavors. Don't have any artificial sweeteners, and avoid all salicylates."

Justin: Mm.

Sydnee: This was a tall order, especially at the time. I mean, we're talking about, like, by the time we're getting into this it's the 1970's.

Justin: Oh, so yeah, we're very deep into messing with food in lots of interesting ways.

Sydnee: A lot of prepackaged, you know, food. Like, a lot of food, processed foods. The idea of just eating natural foods is becoming harder and harder. And this rebounds, right? Like, I feel like we're coming back around where it's easier.

Justin: Yeah, I think that's more of a push, yeah.

Sydnee: But, like, it was very much out of fashion. So anyway, he prescribes these really difficult diets and says, "This will clear up your kids' skin allergies," whatever.

He felt like it was beneficial. He felt like half of these kids were improving. But then he noticed another positive effect. And I'm gonna tell you what that was...

Justin: Oh!

Sydnee: ... r—[laughs quietly] right after we go to the billing department.

Justin: I'm on the edge of my seat over here! Let's go.

[ad break]

[music plays]

Biz: Hi, I'm Biz, host of *One Bad Mother*. Whether you're a parent, or just know kids exist in the world, join us each week as we honestly share what it's like to be a parent.

Speaker Two: I signed my stepson up for a camp that is actually in another state. I feel really stupid, and I don't think we're gonna get the money back!

Speaker Three: And then he found out that the car manual is a book about cars! So now he's reading our car manual.

Speaker Four: [stammering] [frustrated groan].

Biz: So join us each week as we judge less, laugh more, and remind you that you are doing a great job. Download *One Bad Mother* on Maximumfun.org, and yes, there will be swears.

[music and ad end]

[music plays]

Tre'vell: Hey there, beautiful people! I'm Tre'vell Anderson.

Jarrett: And I'm Jarrett Hill. We are the hosts of *FANTI*, the show where we have complex and complicado conversations about the grey areas in our lives; the things that we really, really love sometimes, but also have some problematic feelings about.

Tre'vell: Yes. We get into it all! You wanna know our thoughts about Nicki Minaj and all her foolishness? We got you. You wanna know our thoughts about gentrification? Perhaps some positive, question mark?

Jarrett: Uh-oh.

Tre'vell: Aspects of gentrification? We get into that too. Every single Thursday, you can check us out at Maximumfun.org. Listen, you know you want it honey, so come on and get it!

Jarrett: [laughs]

Tre'vell: Period.

[music and ad end]

Justin: Okay. So this doctor told parents they can't let their kids have anything fun.

Sydnee: Yes.

Justin: And he noticed another effect.

Sydnee: So, after cutting out all of these different substances, he also began to get these anecdotal reports from parents that the kids' behavior had improved, that the kids were, like, following rules better, were easier to, you know, instruct in school, were easier to get to bed at night. Just generally, like, our kids have been behaving better since we took everything... fun [laughs] out of their diets. Since we took all the colors and flavors out of their diet. [laughs]

Justin: It feels like—

Sydnee: That's not— that's a bad thing to say. You know me—

Justin: No it's not!

Sydnee: No, well, I love fruits and vegetables. I'm all about eating fruits and vegetables all the time, so I'm not saying all the color and fun. But for a kid...

Justin: Yeah. Fruit by the Foot, Gushers. I mean, you're losing all of it.

Sydnee: I mean, it was— and I'm not saying that these foods... and we'll get into that. Like, do they naturally have some sort of benefit above other things? No.

Justin: Did you see— but did you see Trix when they had natural colors? It was so sad.

Sydnee: It was. It was.

Justin: It was so sad.

Sydnee: Muted. I would say muted.

Justin: It looked like— yeah, it was— it was really, really depressing.

Sydnee: So he began to theorize that there was something in all these substances that he had parents eliminate, something in there is affecting behavior.

Justin: There's so many confounders, though. Like, there— in this— such a— you described what a wide swath of foods and drinks it is, right? Like, it seemed like there could be a lot of different factors.

Sydnee: We're gonna get into— it's bigger than you think.

Justin: Ooh!

Sydnee: So, with this discovery, the Feingold diet became incredibly fashionable. Now, when I was researching this show, I found mention of the Feingold diet, and I feel like there's gonna be a generation of people— especially, like, I feel like if we mention this to our parents, they would immediately know what we're talking about. Because this was an incredibly popular idea. Like, when it captured the i— like, the imagination of parents, they latched onto it very strongly.

Um, because the idea was that it was useful for all manner of behavioral issues, you know? You didn't have to have a child who was actually diagnosed with ADHD— at the time, we honestly wouldn't have called it ADHD. We would've just said something sort of general, like "Your child is hyperactive." Right?

So it was good for anything like that. It was prescribed for dyslexia, for autism, all manner of behavioral issues. Whatever your kid was doing that was bothering you, the Feingold diet may be helpful.

And, you know, the idea is, like, if you're cutting out things that your kid doesn't need anyway— I mean, when you focus on, like, the artificial dyes and flavors, well, it kind of fits in with this idea. Like, is that what we should be doing anyway? Am I— it plays on parental guilt. Like, am I a bad parent for giving my kid this stuff anyway?

Justin: 'Cause, like, let's be honest. The thing that's unsaid is, like, a lot of it's playing into sugar. Right?

Sydnee: Yes.

Justin: I mean, it's like, a lot— er, or more specifically, like, refined sugars, like, that you would—

Sydnee: To an extent, yeah.

Justin: —you know.

Sydnee: Well, and also this general idea. I think, like, as a parent I can tell you, I feel guilty when I am feeding my child something that I didn't prepare or you didn't prepare, like, that wasn't... cooked. I know it's not bad.

Justin: Do you count putting the Gushers into the lunchbox as preparation?

Sydnee: I feel guilty about that. And I know it's— I know that, like... a healthy diet can look a lot of different ways. I know that logically, but there's a lot of guilt on parents to not use prepackaged, processed foods, but to only use, you know, whole fruits and vegetables and things. And that's, like, I mean, fit that into modern parenting, and our busy lifestyles, and budgets. The budget is the other part of this. If you can afford that, that's a luxury.

But, um, but it played on all those ideas. And so basically you cut out all the things we mentioned. So this already eliminates pretty much everything processed, prepackaged, especially back in the 70's. Imagine trying to shop this way before this sort of, like, Whole Foods revolution that would eventually happen.

Now, add all the things that contain salicylates. Because the thing is, I said salicylic acid like aspirin, and there's some other meds. But there are foods that naturally contain salicylates. I mean things that grow out of the Earth and have salicylic acid in them. So this is where the diet got really difficult. Let me give you a sampling of foods you couldn't eat strictly on the Feingold diet.

Justin: Okay.

Sydnee: Apples.

Justin: Wow.

Sydnee: Apricots. Berries, cherries, currants, grapes, nectarines, oranges, peaches, plums, prunes, raisins, tangerines, tomatoes, alfalfa sprouts—

Justin: Oh my God.

Sydnee: —broccoli, chicory, cucumbers, eggplant, endives, okra, peppers, pickles, radishes, squash, sweet potatoes, [inhales deeply] spinach, watercress, zucchini, almonds, chestnuts, *other nuts and seeds*—[laughs quietly] uh, no cereals, unless free of preservatives and coloring, which would probably have been tough at the time.

Justin: Yeah.

Sydnee: You know? Uh, no processed crackers, no allspice, anise seeds, cayenne, cinnamon, cloves, curry, cumin, dill, ginger, mustard, oregano, pimento, rosemary, tarragon, thyme, turmeric, coffee, tea, diet soda, fruit juice, jams, jellies, mint flavoring, chewing gum, and any foods with [inhales deeply] coloring and flavoring.

Justin: That is miserable.

Sydnee: Yes.

Justin: I mean, I can't imagine!

Sydnee: Imagine trying to feed a kid. You've eliminated the Kids' Cuisines. I don't even know if they had Kids' Cuisine in 1970. I know that in the 90's I very much wanted a Kids' Cuisine or a Hot Pocket.

Um, you're eliminating the Totino's, of course. But you're also eliminating all of this.

Justin: Like, apples.

Sydnee: Apples.

Justin: Do the fruits that have naturally occurring salicylic acid have a pain relief component? Or is that not...

Sydnee: What was eventually found— and, like, this diet has been edited a lot since then. Many of these foods contain it in such incredibly small amounts that they could not possibly be bioactive.

Justin: Okay.

Sydnee: So no, they wouldn't have a pain relief effect, but they also couldn't affect you adversely, either. So eventually the diet would be modified to remove some of these things. Um, but this is the original sort of idea. These are salicylate containing foods, and then everything else.

Um, initially there would also be a conversation between Dr. Feingold and the patient and parents about the idea of gluten or milk protein needing to be eliminated. Now, he at least would say, "I actually want you to have testing for allergies to these things before I eliminate them," 'cause you imagine if you also, in addition to all that, eliminate dairy and gluten...

Justin: What is there— what is there left?

Sydnee: I think meat.

Justin: Celery.

Sydnee: Yeah. Meat and celery.

Justin: [wheezes] Delicious! Yeah.

Sydnee: Especially for a kid.

Justin: Some water and bouillon, you got a stew goin'.

Sydnee: And then again, you put all the other factors of like, it's a kid and, like, they go to school and, like, people are working, and you gotta do this on a budget, and so all these other things. Um, but he did say, like, visit— like, let's do an allergy test before we actually do that. Like, you might not need to eliminate that.

Um, what can you eat? I do have a list of some things that are acceptable. Like, bananas are still on there, watermelon, grapefruit, honeydew, kiwi, pears, pineapple. So there's still some fruits. You can still eat all manner of beans. Um...
[laughs quietly]

Justin: [laughs quietly] What a relief.

Sydnee: And lentils. Potatoes, except sweet potatoes, are still there. Corn. Like you said, celery. My favorite, cauliflower, is still on there. There are still some food. But, I mean, it's a hard diet to stick to.

Justin: Yeah, that sounds very restrictive.

Sydnee: And you can have stevia, so there's that. [laughs quietly] Um, in the first phase of the diet you eliminate all this. Everything.

Justin: Wow.

Sydnee: Okay? And the idea is that your symptoms will go away. So whether it's allergy or behavioral, it goes away, because you've eliminated the trigger.

In the second phase, you can pick one of those salicylate containing foods one at a time and try to add it back. So, like, the behaviors are better. I'll let you eat apples for a week and see how things go.

Justin: Okay.

Sydnee: If the behaviors do not return, you can keep eating that salicylate. If the behaviors return, you eliminate it again, start over, try something else.

Justin: Okay.

Sydnee: Does that make sense?

Justin: Yes. Sounds a little subjective, but... yes.

Sydnee: Now, artificial colors, sweeteners, flavors, preser— that's gone forever. That stuff is gone your entire life. You never eat those things. Um, so Feingold started telling parents to try it. He presented and published his findings throughout the 70's. He felt it was very effective. Like I said, like, over 50% of children responded positively to his diet. Um, he said that if you're going to get good results from it, some things that are essential: one, you have to adhere to the diet perfectly. If you fudge it once, it won't work. Um, two, the entire family must participate.

Justin: [loudly] Why?! I don't wanna do it just because kid's mean!

Sydnee: It's buy-in. The idea is that you can't have those foods in the house, so the whole family—

Justin: But I want 'em, Sydnee! Why are you doing this to me?

Sydnee: This is the way he said to do it. The whole family has to be in on it—

Justin: [simultaneously] Why are you listening to this guy?!

Sydnee: —for it to be successful. Well, I'm not, but a lot of parents did.

Justin: Sorry, I just got so worked up.

Sydnee: Um, and then again—

Justin: I just bought a huge package of Fruit by the Foot so it was like, what am I gonna do with these?

Sydnee: And again, it's for life. All these things for life. Um, and you will find that a lot of parents did claim to notice, like, subjective, anecdotal differences. Like, I— these are not things that were necessarily measured, but there were a lot of parents who provided testimonials that this was working. That they noticed a difference for their kids. Um—

Justin: I mean, you have to tell yourself that if you're doing something so incredibly painful and difficult, right?

Sydnee: Mm-hmm. However, this was evaluated by other scientists. I mean, this is a radical thing. If it worked, that's one thing. But if it doesn't work... you know, that's a lot to put parents through. So if you're— especially if you're a doctor, if I'm— I can tell you, if I'm gonna tell a parent to put their family through this, I better know...

Justin: For sure, yeah, 100%.

Sydnee: ... that it can work. Um, so a, uh— a two-week long conference was arranged in January of 1975 in Glen Cove, Long Island. And the Nutrition

Foundation attendees created what they called the National Advisory Committee, and at it they published a report saying that there are no controlled studies that have demonstrated that hyperkinesis— so, hyperactivity, probably what we would call now ADHD—

Justin: [simultaneously] Is that an outdated term?

Sydnee: Yeah. Well, hyperkinesis can— it's not a diagnosis. Um, well, it's like a symptom.

Justin: Got it.

Sydnee: Um, is related to the ingestion of food additives. So they had no reason think— like, "Look. I know what you're seeing, but we don't have any evidence that that— this is correlation. It's not causation."

Um, in subsequent studies, because this has been studied multiple times, even when a difference is noted in behavior when food additives are eliminated, even when there is, like, a measurable difference in behavior, it's typically only the parents who notice it.

Justin: Hmm.

Sydnee: They can't validate these same behavioral changes from, like, outside observers or teachers.

Justin: That's tricky, though, 'cause who's gonna— they're also the best judge, though. That's really tricky.

Sydnee: But it's hard, because teachers would not know a difference, but the parents swore there was a difference. Um, the results were often inconsistent, inconclusive. Some kids' behavior seemed to worsen. I mean, probably 'cause they were just mad. [laughs quietly] That they couldn't have their Fruit by the Foot. Um, other kids did seem to get better.

The studies that showed more of a difference were ones that weren't properly blinded.

Justin: Hmm.

Sydnee: So all of the adult observers knew that the diet—

Justin: That's concerning, yeah.

Sydnee: Because if you really— if you are really concerned about your child's behavior, and you know that they're on this new diet, and you really want it to work, you're going to be more likely to think that it works.

Justin: Of course, yeah.

Sydnee: And that— no shame on these parents, you know. It's just the reality.

Justin: Yes.

Sydnee: And at the time, again, a lot of these kids were probably not being properly diagnosed with anything if they did have it. Like, if they did have ADHD, there probably wasn't a doctor diagnosing them with that, or trying to treat them for that, so parents probably felt pretty desperate, you know? Um, the ones that were properly blinded were pretty inconsistent.

Uh, there was one example— if you ever hear this as, like, somebody trying to argue this is real, they're probably gonna cite this study. It's a 2007 British study which was called the Southampton Study. Um, and in it, three to eight-year-olds were given two kinds of drinks that contained a mix of dyes. Afterwards, parents reported increased hyperactivity in the kids that got the dyes, but teachers and, again, anybody else, couldn't tell a difference. Um, and because the dyes were mixed together, it was really hard to tell what was the problem. Um, but there was a difference shown in this study, and there was also some sort of age-related difference.

So, part of the argument from proponents of this idea is that it's just that we're testing the wrong ages for this. Like, you're only sensitive to it at a certain age, and so we're missing that age.

Justin: Okay.

Sydnee: Like, we need to test younger kids.

Justin: Yeah, that makes sense.

Sydnee: Um, a meta-analysis of all these studies that was published in 2004 was pretty inconclusive. It basically said, in kids who have already been diagnosed with ADHD, they may be more sensitive to food dyes.

Justin: Okay.

Sydnee: We don't know. More study is indicated. But that was the best that they could say. So in kids who have already been diagnosed, maybe they're a little more sensitive to these substances for some reason.

Um, so where does that leave us now?

Justin: I don't know.

Sydnee: Obviously all of these things are still in our food in the US, and many other countries. There are some countries where specific things have been removed or are, like, warnings put on packages and things like that. Mainly out of concern, but not so much out of, like I said, an overabundance of evidence that there's any harm.

Um, they're widely accepted as safe. They're unlikely to change behavior. Um, but there are still many parents who... will say, "Oh, my kid wouldn't go to bed tonight 'cause I gave 'em a red ring pop," you know?

Justin: Yeah...

Sydnee: Um, we were— we were two of those parents for a while.

Justin: Yeah! Don't give Charlie red stuff, it makes her wild.

Sydnee: And the other thing that's hard about it is that when you're just talking about food dyes— which I think is the part that has, like, sustained the longest, right? Like, I never heard "Eliminate apples 'cause they have salicylates," but I did hear to eliminate food dyes.

Justin: For sure, yeah.

Sydnee: And I think the reason that that continues to get so much play is, it's not like our kids need food dyes. [laughs quietly] We don't need food— nobody

needs artificial colors in their food, so it seems like low hanging fruit, right? Like, well, why don't we just remove 'em? We don't need 'em.

Justin: It's also— it also, I think, appeals to the naturalistic fallacy, where I think in everybody's mind, or at least most thinking people, there's, like, every once in a while you get this pang of, like, "I should just be eating carrots. Like, I should just be eating carrots that I grew myself, and strawberries, and hunt squirrels or something." I don't know, like, a— a pure— like, there's so much in the food that there's a part of you that feels like, "This can't be right. This—" You know what I mean? Like, whenever you see the commercials for like, "Look at this ingredient list!"

It's like, that doesn't really— I mean, who knows what that... [wheezes]

Sydnee: Well, and I mean, to some extent, like, that fear is not completely unfounded. Because as we've talked about on the show before, there was a long time where we put, I mean, lots of whack stuff in food, right? Like, your food wasn't safe. The stuff that they were putting in your food wasn't— you couldn't be sure that it was okay for your body. In fact, sometimes it very much wasn't.

Justin: Yeah.

Sydnee: Um, that was prior to the FDA and, you know, all of the regulation that has come into play since then. But I think there's still this concern, like, hmm. We know, we know that if there's enough money in something it gets hard to stop it, even if it's proven dangerous. And so, I mean, I think it's always fair to question. Um, and then look to the science to see what the answer is.

Um, right now we don't have science that says these things are linked to behavior, really. At least nothing solid. Um, I think the most important thing is, if you have concerns about your kid's behavior, if you're worried that they're not able to pay attention in school, that they're not able to, like, stay in their seat, whatever, you should take them to their doctor, discuss these concerns, and make sure they're properly diagnosed.

Because the big problem with a lot of this is probably these kids really did need help, and maybe medication, for some underlying condition that wasn't being diagnosed.

Justin: But then you find the— the artificial dyes and it's like, well, that's the silver bullet. That's the thing that I need to fix this. So you don't look for the deeper stuff.

Sydnee: Exactly. 'Cause I think there's a reluctance. Like, wouldn't it be easier if we could just take something out of the diet than take medicine? Well, that might be nice, but sometimes we need medicine, and thank goodness we have medicines that are effective and safe, um, in those cases. So I— I would say if you want to eliminate, um, especially food dyes from your kids' diet, you're not gonna harm them. If you can afford that and you have the— the willingness and the time to do that, you're not gonna harm them.

Justin: But it may very well be pointless.

Sydnee: It may very well be pointless.

Justin: [laughs]

Sydnee: And again, if you are concerned about your child's behavior, please take them and get them properly diagnosed. Do not, um, avoid appropriate medical care in pursuit of something like this.

Justin: Yes.

Sydnee: I think that's the biggest risk.

Justin: Uh, thank you so much for listening to our podcast. We hope you have enjoyed yourself, um, because we've certainly had a good time being here with you. Our theme song is performed by the The Taxpayers. We use that as our intro and outro, uh, and we very much appreciate them letting us do that.

If you head to mcelroymerch.com, we got a new web store. There's Sydnee's classic bumper sticker, "I'm Not Afraid of My Clown Husband—" no, sorry, "Not *Ashamed* of My Clown Husband." She is also not afraid.

Sydnee: [simultaneously] I'm not afraid of you. [laughs]

Justin: [holding back laughter] In any way, shape, or form! That was created by Jacob Bailey, and it's a bumper sticker, and it's very funny. And proceeds from

that go to Huntington Children's Museum! So that's cool. And, uh, that, I would say, Syd, is gonna do it for us. Until next time, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

Justin: And, as always, don't drill a hole in your head.

[theme music plays]

Maximumfun.org.

Comedy and Culture.

Artist Owned.

Audience Supported.