



**Transcript:** Transcript #438 How to Determine Your Optimal Diet with Genetics and 5 Key Factors with Dr. Sam Shay

**Dr. Wendy Myers:** Hello, everyone. I'm Dr. Wendy Myers. Welcome to the Myers Detox Podcast. You can find my work on [myersdetox.com](http://myersdetox.com) and download a bunch of free eGuides if you want to join my newsletter that we email pretty frequently and give you all the latest cutting-edge information and tools about health and detoxification. So thanks for tuning in today. We have a really good show. We have Dr. Sam Shay. He's always so interesting. This is such a good show. Really funny because he is a stand-up comedian. We talk about how to determine your ideal diet through genetics and Dr. Sam Shay's five-tier, five-layer, five different factors to determine your optimal diet. So he's developed this framework. It has five different steps on it, five different layers to help you really think about what is the best diet for you.

**Dr. Wendy Myers:** So, we go over all of those based on genetics. It's based on how your diet impacts the planet and your personal preference. We go into if it's a therapeutic diet for you. Just a lot of different things that help you make distinctions in determining your ideal diet, and there's a lot to it. So we talk about the paleo diet, the keto diet, a high-carbohydrate diet, the vegan diet, the vegetarian diet, and a lot of different concepts, histamines, and food sensitivities. There are a lot of really good distinctions that you're going to make on today's show. It's really, really good.

**Dr. Wendy Myers:** I know, you guys listening, you're concerned about detoxification, how heavy metals may affect your digestion, immune system, overreactions to foods, and food sensitivities. So, I created a Heavy Metals Quiz that you can take at [heavymetalsquiz.com](http://heavymetalsquiz.com). It takes just a couple of minutes. You get your results, and you get a free video series all about how to detox your body, how long does it take, and a lot of videos that answer your frequently asked questions about detoxing your body. So check it out, [heavymetalsquiz.com](http://heavymetalsquiz.com).

**Dr. Wendy Myers:** So, our guest today is Dr. Sam Shay. He is a doctor of chiropractic, and he helps busy, health-conscious entrepreneurs and mompreneurs attain and sustain high performance so they can create more freedom for themselves and for others. He has dedicated his life to helping others through functional medicine and functional genomics or genetics. So Dr. Shay has walked his own health journey from being chronically unwell from age 6 to 18, including severe fatigue, anxiety, digestive problems, pain, severe insomnia, and poor nutrition, and so he's dedicated his life to natural medicine to get himself and others well, which led him to functional medicine and functional testing.

**Dr. Wendy Myers:** So, Dr. Shay has recently authored a new book on genetics where you can learn about the different types of genetics-based weight gain, how to future-proof your brain, food triggers, how to genetically determine your optimal carb tolerance, vitamin D absorption, and immunity support. So, you can get your free copy and learn more about Dr. Shay and his work at [drsamshay.com/genetics](https://drsamshay.com/genetics). Dr. Shay, thanks so much for coming on the show.

**Dr. Sam Shay:** Oh, it's great to be back. I really enjoyed our conversation last time.

**Dr. Wendy Myers:** Yeah. So, tell us a little bit about how you got into health, a little bit about your story?

**Dr. Sam Shay:** Sure. So like many people in this space, I got started because of my own health issues. So, mine started quite young, specifically when I was six years old, and my parents had a nuclear divorce, to which me and my sisters were caught in the blast radius. It triggered a 12-year period where I had severe crippling insomnia. I had an eating disorder. I was a sugar addict. I was also a video game and screen addict. Chronic pain from sitting all day at school and in front of the TV, but also chronic pain, unfortunately, from a lot of violence in school, which perpetuated insomnia, anxiety, and depression. It was very emotionally raw and felt a very unsafe place to be. It perpetuated itself, and I just got sicker and sicker in this nonstandard Western pathology format.

**Dr. Sam Shay:** So, both my parents were medical doctors and didn't really see that having severe constipation for three to five days. They saw it as normal. My diet was not good. My lunches were spaghettiOs. It wasn't a great environment for me to grow. In fact, the insomnia was so bad that it stunted my growth. I should be based on my father's type, my hand size and shoe size should be about 5'11, and I'm barely 5'6. Then also, they get more bullying and violence because I was highly stressed. I would walk around. They called me a kangaroo because I would walk with what I know now is flexor dominance.

**Dr. Sam Shay:** I would walk so stressed out. My arms were bent, and of course, going through neurology training, "I was oh, I flexor dominant. Oh, that's what that was about." And when I was a teenager, I decided to take control of my health through natural means because Western means and the unending push for psychiatric meds weren't helping. And so I started with a book called Dr. Jensen's Guide to

Better Bowel Care when I was 16, maybe even 17. I still have that book dog-teared and sticky-noted and all the rest. Because my bowels were causing me so much distress and embarrassment, and I found a mentor who was a venture consultant at the time, just in the form of kinesiology, to help me understand my thoughts, I actually have some say over how my thoughts affect my body, and I didn't know that. A very long journey from there, but I went to college focused on premed and a holistic health program in the evenings and weekends.

**Dr. Sam Shay:**

Basically, I wanted to be a naturopath. And then, when I graduated, I realized that I would have broader scope and flexibility if I wanted to become a chiropractor because I basically do the same things as naturopaths code at the time in the early 2000s. And so I went to chiropractic school, but basically was a natural path disguised as a chiropractor, as I was studying just constantly taking, I don't know, I counted on an average two to three-weekend seminars a month for the entire duration of my graduate school and just plowing through neurology, nutrition, physiology, anatomy, adjusting, functional medicine, et cetera and really got having into neurology. And the functional neurology seemed to really be a great fit. And if you have to know just all the different fields to understand neurology, pathology, nutrition, biochemistry, biomechanics, physiology, microbiology, et cetera. And then went further.

**Dr. Sam Shay:**

When I practiced in New Zealand for eight years, I got an acupuncture degree and then got very heavy into functional medicine. Didn't want to turn back from New Zealand to the states, studied with Dr. Kish of the Case Institute, certified with IFM, and then got very heavy into genetics. The whole time I was continuing to repair myself from all of this harrowing 12 year period, and then working with people ranging from those that were chronically unwell to people who just want to maintain where they're at, to aspire, health aspirants, what we would call the biohacker/longevity/life extension/. I just call them health aspirins, people who don't know who want to be optimal instead of just getting out of something that's dragging them down or just merely maintained.

**Dr. Sam Shay:**

And through that, my primary focus is landed on using testing, just using testing to figure out what's going on, figure out where the biochemical pathways have been broken, figure out the genetics, where the underlying predispositions that people have been missed, and just demystifying and making the complicated labs, very practical to implement so that people can now make changes based on data, as opposed to charisma personality, shiny new supplements whatever the latest goji Berry juice you're being told to square up your nose or whatever, just go based on data. The goji juice may be great, may be fantastic, but not everyone needs the nasal and inflated goji juice, you know?

**Dr. Wendy Myers:**

Yeah.

**Dr. Sam Shay:**

My passion is to help moms, entrepreneurs, and momtrepreneurs if you combine the two. And the reason why is that I grew up with a very stressed out

mompreneur. She was a single mom. Jonathan, my father, paid child support but was effectively absentee, but he did pay his share, and she was a stressed-out single mom. And she, by her admission, made some decisions on my behalf that were not the best for my health and wellbeing, no full disclosure. She and I have a great relationship now. Took a number of years to reconcile, but she openly acknowledged that she had a lot of physical pain and she was not eating well. She was not sleeping well. She was not in her best state. And it affected how she made decisions on behalf of her family in an ideal way. And so, instead of me shaking my tiny fist about how unfair that was, I pay it forward to some future version of myself by helping moms because you help mom, you help the family as a general role.

**Dr. Sam Shay:**

And I also want to help entrepreneurs because if you help entrepreneurs, you help society because they're the vanguard of all the major changes to help improve our lives on balance. So, those are the two people that I really wish to help. One of the unique ways that I can help is by demystifying this concept of diet, which is everyone's got five opinions that change week to week, day to day, whatever it may be. But I think I've landed on a system to really help individualize diet based on all the different major factors, including genetics, metabolic markers, personal preference, one's ability to access, and logistical realities of the food. And also one's wider concerns around Earth's politics, environment, and so on.

**Dr. Wendy Myers:**

I think it's a really important conversation because nutrition is so confusing. It was actually the very first podcast that I did and the Myers Detox Podcast because, I mean, so many people begin their health journey by working on their diet and choosing their diet. And I just got my hands on the China Study, which was one of the first diet books that I read, and I became vegetarian based on that. And actually, back in the '90s, I had the Pritikin diet. My dad and I were doing the Pritikin diet, which is the no fat diet, which is crazy. And there are still Pritikin meals in the freezer section. But, it's so confusing to know what to eat. And so tell us a little bit more about your framework and your concept around a more advanced and scientific approach to choosing the diet that's best for oneself.

**Dr. Sam Shay:**

Sure. To give some context around the framework, I want to add why diet. I don't want this to be just another. Here's my idea about a diet-type thing. So I'll give a very stark example of why this is important for people? Because I say, it's going to add knowing your ideal. That's going to add five extra years to your life. It's going to add 50,000 extra dollars to your income. And it's going to also add 15 quality minutes a day. And here's why, my father who, I mean, I don't know if you yourself, or know of people that have dealt with family members that are aging and spiraling down in terms of neurodegeneration. My father is currently spiraling with dementia. This is the same man who has two doctorates, wrote two books, and has the MacArthur Genius award, yet today cannot remember what day it is or why he's walked upstairs or downstairs.

**Dr. Sam Shay:** And another term for neurodegeneration like Alzheimer's and dementia is type three diabetes, type three. So it sounds food related to me just by the way it's been named, and the type three diabetes wasn't named by us holistic chiropractors, naturopaths, et cetera. That's a western science term. So even right there, there's an admission that there's a nutritional component to all of this and the five healthy, extra years of life. If we can dial in the diet, then we can stab off whatever diet-related neurodegeneration, whatever that contributes to can stave that portion off of it. And then the saving of money, right now in 2021, the ARP calculated the average cost for memory care in the United States is \$83,222 a year.

**Dr. Wendy Myers:** Per person?

**Dr. Sam Shay:** Per person.

**Dr. Wendy Myers:** Per person. Wow.

**Dr. Sam Shay:** So, when I say \$50,000, I'm quite literal if neurodegeneration is on the docket there. And that's also not including that some people make decisions when they're hangry, that they're hangry-

**Dr. Wendy Myers:** They're turning toward their training crypto when they're hangry.

**Dr. Sam Shay:** Yeah. I think there's more than hanger going on right now. On the day we're recording this. So, people make bad decisions when their diet is incongruent. And suppose they are able to eat a diet that's congruent with all these different factors. In that case, they can make better decisions, make better business decisions, and not waste money on unnecessary diets or even just comfort foods. And if you stack that up year to year, decade to decade, that adds up quite a lot. Plus, it'll prevent any other degenerative issues caused by an incongruent diet. So people can then earn more because they won't be making bad decisions based on hanger, foggy brains. Then there are the 50 minutes now. There are, I mean, how many times a day I'd ask the audience? How many times a day do you get up and interrupt the task or project because you are foraging. You take two minutes to go forward to forage in the fridge, just in case the fridge rearranges itself from when you last looked at it two hours ago.

**Dr. Wendy Myers:** Yeah. You're looking for food that's not in there.

**Dr. Sam Shay:** Yeah. Just double checking because maybe it's like Schrodinger's cat. It's like Shrodering a chocolate bar. Is the chocolate bar there, or is it not?

**Dr. Wendy Myers:** Yeah. You know what's in there, you've already memorized it.

**Dr. Sam Shay:** Right.

**Dr. Wendy Myers:** You're just hoping maybe there's something else that's tasty and crunchy.

**Dr. Sam Shay:** So, it's a physics joke on Schrodinger's cat for those of you who missed the reference. So it's a cat there or not, that's nerdy physics humor, forget it. So, there's foraging. If you take two minutes to forage now, according to interruption science, that is a thing. In interruption science, it takes, on average, 23 minutes and 15 seconds to recalibrate fully back to full focus, whatever task project you were on.

**Dr. Sam Shay:** So when I say 50 minutes a day, I'm being literal. If people forage at least two times a day, two minutes each plus the 23 minutes and 15 seconds to recalibrate, that's two 25-minute blocks or 50 minutes a day of low-quality time. So, if you know your ideal diet, you can return back 50 full minutes of quality time to your day. And if people are not concerned about neurodegeneration, you're not worried about it, or your parents are all past that, and there's no risk and whatever's fine. Maybe finances aren't a concern for some people listening. But, the 50 minutes, I think everyone can appreciate the benefit of that. So those are the meaningful reasons why to really look at the ideal diet in a structured, detailed, thorough way.

**Dr. Wendy Myers:** Yes.

**Dr. Sam Shay:** So what I can do is I can share my screen because I have a visual of the five layers. So I'll just do this. So here are the five layers. The foundation is genetics. Now genetics is the platform for our optimal health and peak performance. I'll give you a couple examples. Are you genetically keto? Are you genetically paleo, are you genetically Mediterranean, or are you genetically high carb? There are four different foundations. So if someone is keto, genetically, but they're eating the Mediterranean, which was my story. Then they're, even though all the data says, "Oh, the Mediterranean's great. It's the best. It's amazing." Yeah. That's a bell curve.

**Dr. Wendy Myers:** It's amazing because it includes bread.

**Dr. Sam Shay:** Yeah. But what's interesting is that the bread in Europe is not the same bread.

**Dr. Wendy Myers:** No, definitely not.

**Dr. Sam Shay:** And I'm sure you've had the experience of clients who have wheat gluten-based products in the states, Australia or New Zealand, or Canada. They have these weird gut-ish reactions when they go to Italy and have heirloom bread. The gut issues are a fraction. If anything, from what it was eating in the Western hemisphere in Australia and New Zealand. Has that been in your experience?

**Dr. Wendy Myers:** That has been my personal experience for sure.

**Dr. Sam Shay:** Okay.

**Dr. Wendy Myers:** About just eating two croissants a day, whenever I'm there.

**Dr. Sam Shay:** Yeah. Well, when in Rome literally. So, the reason for our audience, the reason why that is it actually came about because of a post world war II fear of starvation. So, what happened in world war II is the intentions of this totally legitimate. And I think the intentions were good. There are just unforeseen consequences. So world war II, the world was in this hangover from world war II; we didn't want to risk starvation. So, there was a huge push to create past resistant wheat because wheat crops could lose half of their harvest to insects.

**Dr. Sam Shay:** So a Nobel prize was given in 1951 to an Australian gentleman who figured out dwarf wheat, which was very pest resistant. What was the innate insecticide within this wheat, in this meat strain, lectins, high lentic content. So the same things that prevented insects from eating the wheat are now the bugaboos in the wheat that we eat today in America, Canada, Australia, and New Zealand that now hurt our guts.

**Dr. Sam Shay:** And this is where Dr. Gundry's work comes in, et cetera, to talk about the evils of lectins. Yes, lectins are damaging, and so is starving. And there are all things trade-offs. And it is also not to justify Roundup, but just to give a bit of a balance that the very first Patent on Roundup was actually not to kill weeds, but it was a desiccant because when you cut these Kansas size states' worth of wheat, you're going to lose a ton of the harvest to rot so that most of the Roundup is sprayed to desiccate or dry out the wheat. So it doesn't rot or mold now, again, not justifying the toxicity of the product or the amount they've used or all the damage that's been caused. And the lawsuits that successfully went through California, I think it was this year or last year, they finally won against the carcinogenic nature of Roundup.

**Dr. Sam Shay:** This is not to minimize that. But the reality is that starvation, no one cares about quality of food when you're starving.

**Dr. Wendy Myers:** Yeah.

**Dr. Sam Shay:** Nobody, and again, it's criticism. I have plenty of criticisms of the vegan movement. I have plenty of criticisms of the paleo movement that people can only really exist when you have the paleo because we're surrounded by a society that lives off of grains and dairy. That's the dirty little secret of the paleo movement that all this infrastructure and all this society that's allowing all of us to have all the paleo stuff we have around us unless you're in specific parts of countries where you can legitimately grow everything in a biodynamic form, it's all self-sustained. All the rest of it. Most of society runs on grains and dairy. So I'm hesitant to demonize grains and dairy. All right. Even though I personally don't do well on grains and dairy.

**Dr. Wendy Myers:** Yeah. But some people do. I mean, some people do fine with lectins.

**Dr. Sam Shay:** Absolutely.

**Dr. Wendy Myers:** And some people do fine with dairy, and that's what makes it confusing. You read Dr. Gundry's book, or you read The China Study. They all make super convincing arguments for that diet.

**Dr. Sam Shay:** Yeah. And even the China study doesn't seem like Ferris put out a really damning blog critiquing the China study, which was put together by a Ph.D. student who worked with Dr. Campbell. Did he work with Dr. Campbell? No, he was a vegan who tried to further prove or. You can look up Tim Ferris, China study, and you'll read this Ph.D., just take it apart line by line. And you're right. Just on the bigger picture, diet is confusing. And I can explain through this model all those different variables that we're all taking into account. So with genetics, we have the genetic foundation: are people keto, Mediterranean, high carb, or paleo? That's one layer. That's the carb tolerance. Then what we have is a layer, then within the genetics also there's your genetic relationship to gluten, and there's your risk for celiac, your genetic relationship to lactose.

**Dr. Sam Shay:** Are you able to handle dairy? So the genetics layer, we've got paleo, keto, Mediterranean high carb. That's the first, most important way to figure out your carb tolerance is? Now the significance of that is enormous. Because if you're eating every meal of every day and you're eating in incorrectly for the amount of carbs you can genetically tolerate, that is the massive epigenetic influence on the whole rest of your day. So, for example, I happen to be a low-carb tolerance person. I was eating a perfect Portlandia, Mediterranean diet. I knew the names of my farmers, and their chickens. The quinoa was picked by left-handed monks on the last harvest moon. All of us soaked the grain and sprouted all the stuff. And I was still having really embarrassing gut problems. Gut problems that would kill flies melt paint. Yeah, so many yoga rooms. Anyway, when I was teaching diet international at that point. So you talk about having imposter syndrome, where I'm up there, lecturing about diet, and I'm farting on stage. So what happens-

**Dr. Wendy Myers:** What are you supposed to part with, though? I mean, if you eat fiber and beans and things like that, you're supposed to think that your micros are eating that.

**Dr. Sam Shay:** Yeah. When you see flies go, there is a limit. But when the walls start groaning and the paint is melting. But within one week, when I got my genetics of my carb tolerance back within one week, I realized I had the second lowest carb tolerance possible within one week of changing my diet. One week, my digestive problems from 20 plus years went away.

**Dr. Wendy Myers:** Mm-hmm.

**Dr. Sam Shay:** More importantly, my energy started to stabilize because here's what happens if I'm a low-carb person, but I'm eating many carbs beyond my capacity. What happens is that I have a high, fast metabolism, meaning that food burns through me very quickly. So if I have higher carbs, but lower protein in fat as a ratio, then I'm going to have quick energy. But what's also going to happen is that I'm going

to be tired and grumpy or hungry about two hours later. Now the flip side of that is that if I am a higher carb person and I have a higher fat and protein diet, that's incongruent with my genetics, what's going to happen is that I'm going to feel full, but I'm going to be tired and lethargic and kind of blah.

**Dr. Sam Shay:** So, suppose you're not dialed in. What happens is that you're either going to be hungry and agitated two hours later, if you're eating too many carbs and not enough fat and protein, or if you are eating too much fat and protein beyond your genetic capacity, then you're going to be wanting to fall asleep like it's thanksgiving. That's why it's more than just dealing with gas. It's much more than that. So, that's the primary layer of genetics. And then there are the other nuances of genetics. Also, Arcane genetic, are you genetically at risk for celiac? Meaning this gluten trigger, are you in danger of certain genes that would trigger celiac? So gluten is off the table for those people. Are you genetically vulnerable to lactose? Meaning you should not do dairy unless you want to spend the money in the lactate. But even then, you may be reactive to the casing in a way.

**Dr. Sam Shay:** So, dairy may not be a good idea. Anyway, even if you can digest lactose, then there's the issue of coffee now. I went down the rabbit hole that coffee with coconut milk is good for me or extract or whatever because everyone seems to be saying it. And I tried to make the most bulletproof coffee ever. I had my green list listed down, but it was coffee, all the purest stuff. It was coffee. It was coconut oil. It was coconut milk, cardamom, cinnamon, licorice root-

**Dr. Wendy Myers:** Oh, it sounds so healthy.

**Dr. Sam Shay:** ...and clove. It was turmeric. It was this Moroccan Chai, Cocoa powder, Mo Chino thing. It was when you got the ratios right. It was in Ambrosia. But here's the thing. I was confusing anxiety for energy because certain people have a genetic predisposition to get caffeine, induced anxiety and depression, caffeine-induced anxiety and depression.

**Dr. Wendy Myers:** Yeah. Their liver can't metabolize it quickly enough.

**Dr. Sam Shay:** Yeah. CYPG, there are two major genes that are involved with it. And I happen to be borked with both. Bork is a tongue-in-cheek neurology term for not doing well.

**Dr. Wendy Myers:** Yeah.

**Dr. Sam Shay:** And I was very technical. So, I was confusing anxiety for energy. And that's a really important thing for everyone to sit and ponder. Do you have the energy, or is it anxiety when you have caffeine? And I came off coffee once I got my genetics back until I saw my genetics. I was, "Okay, I can't deny this anymore." I just thought, "Okay, just more coconut oil and more this and more of that."

Nope. So I've switched to caffeine-free alternatives. I love the taste of coffee. Love it. And so I've switched to caffeine-free alternatives.

**Dr. Sam Shay:** There is a dosage curve. So, if people do get Swiss water method, organic free stride coffee, that's one, 100 the amount of caffeine or something in that. So there's a dosage curve there, but the genes changed my life. In that respect, with coffee, with carbs. You can also now check genetically if you're sensitive to histamines. Now, histamines are really fascinating. Some people are fine. Some people are fine with coffee. Some people are fine with histamines. For some people who are not, here's the thing on histamines. This has been a major discovery in my clinical practice. I know histamine has been around for a while but from the genetic standpoint. So, whatever the histamine.

**Dr. Sam Shay:** When a bee stings your arm, okay, a single bee did not inject a half quart of water into your arm. That's swelling it up. That's not what's happening. It's the immune system mediated by the histamines that are rushing flooding water into that area of the bee sting to do what? Dilute the toxic venom from corroding and eroding your tissues.

**Dr. Sam Shay:** So, it's a logical response to dilute the toxic venom. So if you have an exuberant histamine response, the bee sting will create a massive water rush in order to dilute those toxic chemicals. And if you don't have enough histamine, then that venom can really do a lot of damage. But if you have too much histamine reaction, the swelling can impede blood vessel joints and cause its own problems. So, it's this constant balancing act with nature. So, what about high histamine foods or histamine-releasing foods, or foods that block the degrading of histamine? And if you are genetically vulnerable to histamine, you have those foods. What happens is you basically have this slow-moving, diffuse, globalized bee sting reaction in your body, which means what? Your whole body is putting on water weight, that's. And you're getting the immune responses and all the rest of it.

**Dr. Sam Shay:** But you're putting on water weight. That's one sign of being reactive to histamine. And this is the weight that won't go away with more exercise. It won't. And this is that frustrating layer of weight that washes out muscle tone for all, all these people out there who are frustrated I'm exercising, I think I'm eating well. I'm doing all the quote-right things, but I just can't get rid of this inflammatory water weight. You may be genetically vulnerable to histamines and eating high histamine food. One food that is reacted with histamine, unfortunately, is chocolate. And some people make it. No, that's not an ingredient. That's a food group.

**Dr. Wendy Myers:** Yeah.

**Dr. Sam Shay:** That's medicine. I just did three Keal ceremonies this morning. When I run these tests on people, if people are genetically vulnerable to histamines, I temporarily put them on a very low histamine diet for three to four months.

**Dr. Sam Shay:** And everyone suffers through three or four months of restriction of certain foods. If they're motivated to achieve the goals, they want to improve their health and other performance goals. And we can just see the changes, and then we can modify them. It's almost an elimination diet that occasionally brings in one favorite thing on a four-day rotation or something. So it's not that we kind of deprive people permanently. Some things if they're at risk for Celia. Yeah. We're off gluten permanently unless you may go to Europe and modify what type of gluten you're getting. There's also the genetics of your eating behaviors. So, some people are supertasters and bitter. And if you're super taste and bitter, which means you're very acutely aware of the taste of bitter, that means you're going to avoid cruciferous vegetables. People can, you can, just everyone's had that. Well, aviation theme, food trauma from childhood, "Here comes the plane." Here's the gnarliest Brussels sprout coming right at you. And if people are supertasters to bitter, they're going to avoid healthy vegetables.

**Dr. Wendy Myers:** Wait, is this just adding a pretty big percentage of the population? I thought it was 25%.

**Dr. Sam Shay:** It's a meaningful percentage. I don't have the numbers off the top of my head. I should. I'm blanking at the moment, but it's a meaningful percentage. Now the trade-off is that if you're a supertaster, you also don't like many beers, certain wines, and coffee, but you also avoid bitter green vegetables. Now those things can be healthy. And what you do is, if you do need to have more of those green vegetables, but your super tastes are, you don't change your world power. You change your environment. There are four separate ways to change the flavor of foods through cooking to make the bitter flavors go away. And so you don't have to force yourself. You just change the culinary environment. Now, somebody may be thinking, why is there variation on bitter? Well, again, if you go back to hunter-gatherer times, they're all things trade-offs.

**Dr. Sam Shay:** So, things that were bitter as a hunter-gatherer generally were to poison. So, that's why the cranial nerve nine, which is the taste of the bitters, is in the very back of the tongue. And you can detect four parts per million for bitter. You're very sensitive to bitterness. And it's right, the last thing before it goes down the throat. So if things were bitter, you instinctively knew to spit to not eat them, but some bitter foods are healthy. And so there's this trade-off between you being at a higher risk of swallowing something poisonous. If you don't have the bitter sensitivity as much, you're also going to avoid certain healthy vegetables. So, it's a thing's trade-offs. And it's also one reason why in Europe, especially they have bitters at the beginning of the meal, which I think is very smart because bitter tastes cranial nerve nine that bitter in the back of the tongue will trigger cranial nerve 10 to increase enzymes, peristalsis, acid, secretion, all the rest of it.

**Dr. Sam Shay:** So, that works because bitters will help with digestion because the body, from millions of years of evolution, is, "Okay, dummy. If you're going to swallow something bitter, that's probably poisonous." We're going to drown this thing in

an acid. And then we're going to dispose of it through enzymes and all the rest of it. It's like, "Fine, you can take something bitter. We want to survive. Despite your best efforts, we're going to do our best to stop this whatever poisonous thing you potentially swallowed from doing its damage." So we're actually hijacking that evolutionary reflex to improve our digestion by intentionally having safe and bitter things. Hence, too I think it's smart to have your bitters up and salads upfront at the beginning of the meal. So, that's the genetics, carb tolerance, food, the carb tolerance bit, RUBY food triggers, and wiring eating behaviors.

**Dr. Sam Shay:**

So that's the genetic foundation. The second layer is therapeutic. So, some people may have their ideal diets like keto or high carb, but they're wrapped in what I call Metabolic barbed wire. Metabolic barbed wire, so for example, if someone is genetically keto, yet they have a current meaningful issue with their gallbladder or gut or mitochondria, their carnitine shuttle is messed up, or their mitochondria itself is inefficient. Whatever. In that cascade, in fat digestion, absorption, and utilization. If that fat cascade is broken, damage impaired in some way, if you eat high fat, you're going to feel way off. Even though genetically you're suited to be high fat, you can't metabolically use it. So that's why I'm a metabolic barbed wire. This is where functional testing comes in to check gut testing, mitochondria, et cetera, to see if we can de-fang this barbed wire. You can now use fat, which is ideally suited for your particular genetic predisposition high fat.

**Dr. Sam Shay:**

On the other side, we have metabolic barbed wire, for example, in the high carb area. So, if someone's genetically high carb, but they have candida, you feed them carbs. The fungus is going to bloom, and it's going to feel awful. But if you feed them a low-carb diet to avoid feeding the candy, they're also going to feel awful because it's congruent with their genetics. And again, this goes to what do we do on this therapeutic layer to de-fang this barbed wire? That's where the functional tests come in, gut testing, hormone testing, mitochondria testing, whatever it may be, whatever be necessary. That's where functional testing comes in. Is that a therapeutic layer? If people are listening, if you have tried all the diets and none of them seem to work long term, then you probably are having an issue where you have a genetic predisposition wrapped in metabolic barbed wire.

**Dr. Sam Shay:**

And you can try to deal with the top layer, but it's in conflict with the bottom layer or vice versa. And that's why some people listening may have never found a diet that's ever worked. Not because one diet isn't good for you. It has to be layered surgically to break through all this barbed wire to get to the genetic layers. Does that make sense?

**Dr. Wendy Myers:**

Yeah, absolutely. Mm-hmm.

**Dr. Sam Shay:** This is a huge mental framework. I just figured out last month that's the term metabolic barbed wire, which suddenly made sense of all these things I've seen clinically. So, we've got the genetics layer. Then we've got the therapeutic layer.

**Dr. Sam Shay:** Then the next layer to determining someone's optimal diet is a personal preference. It's a personal preference. I can figure out the perfect diet for you, but if you're not going to have it because it grosses you out or whatever, then it doesn't make sense. I'll give you a very real example. Insects are likely to be the food of the future, and there are three times as many minerals and nutrients in cricket as there are in beef.

**Dr. Sam Shay:** Now the Oregon meat and beef, I would disagree. I think Oregon meat competes quite nicely with the cricket. And when you look at a cricket, what are you basically eating the entire, all the organs of the cricket which is basically one little tiny hopping piece. But a lot of people, especially in the west, don't eat insects culturally. Many other cultures generally do eat insects, but we don't in general. So, there are also religious restrictions. There are also cultural norms. I mentioned that tongue-in-cheek, the aviation childhood aviation theme, food trauma, and here comes the plane.

**Dr. Sam Shay:** Some people just do not eat vegetables because they just get triggered from five years old. So, there's a personal preference aspect to this, and that has to be taken seriously. It has to. It's the compassionate response to now, are there some unreasonable personal preferences? Of course, there are. Well, I just refuse to eat a certain thing because I don't want to, but there's no hit. It's just some solidarity thing. And within reason fine, we can find reasonable substitutes, but personal preferences are a reality, and people's preferences change over time. They change.

**Dr. Sam Shay:** So, the fourth layer beyond personal preference is access. Do you have access to the foods that meet your needs? Genetically, therapeutically, or personally, do you have access? So, many people are with or within what's called food deserts. There is no farmer's market, or if there is a farmer's market, there are not really any organic farmers, or maybe if there are, you don't have the financial access to that. Or if there is an organic farmer, there's only one, and they bring out only tomatoes seasonally.

**Dr. Sam Shay:** This happened to me when I was living in Dallas. When I was in Chiropractic school in Dallas, there was one organic farmer at one farmer's market, 25 minutes away. And I was such a die-hard. I was living off of okra and tomatoes because I only wanted an organic farmer's market, and then the cheapest organic vegetable at whole-foods I could find was a cabbage. So, there's an access issue. Access can also mean time. Do you have the time to source, shop, prep, cook, clean, and reset every meal. A lot of people like single moms. What I grew up with over time was a reality. So many decisions were made based on the time spaghettiOs for lunch was the most convenient thing timewise for my mother to do.

**Dr. Sam Shay:** I can understand and have compassion for that decision with this framework and not get, "So how dare you? How could you?" From my pedestal of being this functional health, natural medicine nerd. There's just a reality of access, and all of us handle our access needs through different strategies there. I'll give you an example. I have some friends who live in Puerto Rico, and it's very hard right now to get local, fresh, organic, reasonably priced food and vegetables consistently, very hard. So, that's another example of access.

**Dr. Sam Shay:** Then there's travel. When people are traveling, that's a whole different layer of complexity. I was on the road for a year and a half when I was traveling around teaching chiropractors how to pass their national registration exams. That was an entire process. When people are entrepreneurs or traveling, even eating out, if you are doing social engagements or having business meals or family time or whatever, eating out is its own complexity around access.

**Dr. Sam Shay:** So, it's finding the right restaurants, but even knowing what's on the menu and what to remove from specific items is an access issue. So, this is the access piece. It's not based on testing it. It's based on pure logistics time, act time, energy, finances, and your current circumstances. So, that's the access portion.

**Dr. Sam Shay:** Then the final top layer is what I call earth. And this is how your food choices affect your community, the economy, and the environment. I know plenty of people listening will say, well, that's the most important layer? And I would say, no, I say the most important layer is your genetics. You figure out what works best for you. And then you adapt your wider concerns to that. Now I'm going to just touch on a very sensitive topic, and I'm just going to drop a couple things for people to think about, and I don't want any vegans throwing kales like ninja stars at me. Just hang with me here.

**Dr. Sam Shay:** From one measurement, one pound of beef takes about 1900 gallons of water to make for one pound of beef. Now that is big agriculture or big agro beef, according to one calculation. Almonds take 1900 gallons of water as well to make one pound of almonds now. I have read calculations from a hundred percent pasture-fed and finished beef. Just beef is just wandering around with a big enough pasture, doing its thing, no pesticides, no nothing. It's just wandering around fertilizing the soil. All the Buffalo used to et cetera.

**Dr. Sam Shay:** When you do the calculations, and this is, it comes down to about 150 gallons of water per pound of pasture-fed and finished beef. I'm not talking about the pasture fed. That's gone, sent off to the last couple of months or whatever it's left to be fated up with corn. I'm not talking about that. So that's 150 gallons of water now. For perspective, corn, rice, and wheat take about, or maybe soy rice and wheat. It's one of the three: corn, rice, wheat, or soy. I can't remember. It's one of three of these four. Each of them is about 300 gallons of water per pound. So I'm inviting the people who are insistent that all meet drain water to

ask the questions about, "Okay, is it meat or is it access? Is it access to the right quality meat? Beef that doesn't require 1900 gallons of water?"

**Dr. Wendy Myers:** Yeah, I think a lot. The statistics in the vegetarian and vegan books, I used to be vegetarian and vegan. I think a lot of statistics are cherry-picked.

**Dr. Sam Shay:** Yeah.

**Dr. Wendy Myers:** For sure.

**Dr. Sam Shay:** Yeah. So, it comes down to an access issue, and I'm not saying, "Oh, you have to go start eating beef right now." I'm saying that and because not all beef is that 150 gallons of water per pound because I look where I am. There's plenty of past fed and fit. I have a quarter cow. I go through it several times a year. I buy it in bulk, directly local from the farmer, know the farmer, know the cow, blah blah, blah. It is possible, but it's an access issue. So, when we look at the five layers we have, genetics is the foundation. Then there's a therapeutic layer to see if you've got some metabolic barbed wire, if you need a temporary diet based on labs to de-fang those barbed wires, you can access your genetic potential there, your genetic platform.

**Dr. Sam Shay:** Then you've got personal preference access and then earth. Those are the five layers in order for someone to truly identify their ideal personalized diet and the model accounts for changes in one's life circumstances in health. So if someone moves somewhere else and suddenly their access changes, then the model accounts for that. Your ideal diet may have to shift based on your access. If you travel and get food poisoning, and suddenly you're dealing with a hidden infection, you're now in the therapeutic layer. And now you've got this therapeutic layer to de-fang that barbed wire and deal with the infections there. If your personal preferences change, if you understand the earth layer of a community, economy and politics, and environment work, it accounts for all that flexibility as people change through the course of their life. So, an ideal diet is not static except for your genetic layer. That doesn't change. That's the platform, but everything else you can adapt as needed into this model.

**Dr. Wendy Myers:** So when you're working with clients, what genetics testing are you doing? Because there's 23 in me, and there's ancestry.com. What are you doing?

**Dr. Sam Shay:** The carb tolerance test is not something you can extract from a 23 mirror ancestry panel because it's a completely different style of test. It's not checking for a variant analysis, which is a nerd speak for good genes, bad genes, middle to middle mixture of good and bad. The so-called green, yellow, and red dots. Some people have got 23 ancestry seen in green, yellow, red dot or the technical term is a homozygous variant, heterozygous variant, or normal variant, et cetera.

**Dr. Sam Shay:** That's not what I'm talking about with carb tolerance. There's a three-dimensionality to genetics that very few people know about. It's called

Copy Number Analysis. It's not a variant of a gene. It's the number of duplicates of a gene, the duplicates. So the particular gene I'm talking about is the gene that secretes the enzyme, the brakes on carbohydrates and saliva. And if you've got one copy of this gene, you make one X the amount of this enzyme like a cannon shooting from four of these little carb cutting scissors.

**Dr. Sam Shay:** So it's one cannon. If you have two copies of this gene, you have two cannons firing at the same rate. If you have three cannons, you have three cannons firing. If you have 15 cannons, you have 15 firing. They're all firing at the same rate where you have one cannon or 15. All of them are firing at the same rate. Someone with 15 cannons and 15 copies of this enzyme has 15 X the amount of enzyme to break down carbohydrates. It's linear. Now I am two. The second low is possible. It's the same as Inuit or native American cultures that did not grow up with grains. That there was a genetic pressure, local genetic pressure, because there's not a lot of grains around there's lower and lowering examples. Whereas conversely, the average copy number for this gene in China is eight because it's been in a rice culture for 5,000 years and rice actually inhibits this enzyme.

**Dr. Sam Shay:** So they've had to slay on extra copies of this gene in order to make up for the loss from the eating of rice, from the rice suppressing it. Europe is about five to six plus or minus on average. My ancestry came from the Northern latitudes of Europe from the Eastern block country, Eastern-block countries. So, the farther north you go, the fewer grains are there. And the more you have to hunt large animals with that meat on them with a tiny stick. So, that makes sense genetically, where it makes sense genetically, how there can be certain pressures. Now, what 23 means and ancestry don't do is this type of analysis because it's a complete set of genetic analyses. So it's a separate swab. It's a separate process. Once you have that genetic, once you have your carb tolerance, then you can then adapt systematically. What the ratios of carbs are to your meals, and then adapt to your other concerns around that.

**Dr. Wendy Myers:** Okay, great. And what are some of those common mistakes that people make when they're determining their optimal diet? Because there are so many factors involved and people make, they try so many different diets and try to see what works for them. And people find that they're just not feeling well in these different diets. What are they doing wrong?

**Dr. Sam Shay:** The biggest thing that people do wrong is they get locked into magic botulism. They get locked into food fanaticism. They think this is the one true diet, and there's not a framework to temper this absolutism that comes with the diet. That's why I have that five-part structure. And another way to think about maybe not in a five-layer system is it's a series of Venn diagrams that overlap. So, there's your carb tolerance and food triggers like histamines or caffeine insensitivity. There's the therapeutic realm like there are all these intersecting circles. And when people lock onto one diet, they can lose track of all the other complexities that intersect with their personal needs. That's the single biggest

issue with diet is this rigid absolutism. And I personally have seen so much friction around food that I feel that this model, these five layers, can end the food fight basically, end the food fight and create peace and common ground between people as opposed as vegans and paleos because there's so much overlap between different health oriented diets like local and seasonal and fresh and clean and all the rest of it.

**Dr. Sam Shay:** And my charge to the vegans is, okay, you deal with the GMO stuff. And my charge to the paleo is, you deal with factory farming. And we all agree in all the rest, literally all the rest, and you take on that little thing, and we'll take on this little thing, not so little out of the case, but we can now be working together instead of fighting each other because we all know what our jobs are. And we agree on literally everything else. I had an email spat with one of New Zealand's most famous vegans. And he got all in my face about speaking out against some of the problems of veganism.

**Dr. Sam Shay:** And I just wrote him an email. Just look, here are the 15 things we agree on. And no particular, we just disagree on these last little edge cases is broccoli or beef. I sent it out. He emailed me very quickly. He said you're right. We do agree on all of this. And we can actually work together now. And that was a really significant email to get from him. And I feel that the biggest mistake is altering people who have a different diet. That's a huge mistake. Food is meant to bring us together. The basis of culture is food. What is the basis of culture?

**Dr. Wendy Myers:** But it's fanatic. It's their diet, it is their religion almost. And I certainly have not been immune to that. When I first became vegetarian, I bought the china study for all my friends, and you became a fanatic. This is healthy, and it's working for me. You want to share it with everyone. And I think you have to be careful also when there's a lot of health influencers out there, and they promote one specific diet, it's because that diet works for them and it may not work for you. And so it's very hard to kind of navigate all that when you're just starting out in your health journey.

**Dr. Sam Shay:** I couldn't agree more. I feel that we are in a place where the risks are too high, and the stakes are too high. And the tools for being aggressive with each other are too powerful to fight and create friction over things like food.

**Dr. Wendy Myers:** Yeah.

**Dr. Sam Shay:** And we need a framework that accounts for individual needs, that they're changing needs, and creates a broader understanding of how people's diets are unique. And yet, if the filters are the same for everyone, the process of figuring it out is the same. There's a common humanity that we can all unite behind in figuring out our individual unique diets and not be at each other's throats.

**Dr. Wendy Myers:** Yeah, and so Dr. Shay, tell us your website and how people can work with you to determine their optimal diet and the other ways that you work with people, helping them with weight loss, et cetera.

**Dr. Sam Shay:** Absolutely. So my main website is just [drsamshay.com](http://drsamshay.com), D-R-S-A-M-S-H-A-Y.com. And there, I've got a free ebook, I've got more of my background. I also do standup comedy as a hobby. There's a link to my standup comedy playlist. There's also a way to contact me that as of this recording, I'm still accepting free 15-minute chats with people if they also schedule my calendar if they are lab-oriented. I just want to make that very clear. I work with people who are interested in labs, genetics, and therapeutic. So if labs aren't your thing, I'm not the coach for you.

**Dr. Sam Shay:** There are also people who want a more in-depth understanding of these five layers. I created a free e-guide. It's just [drsamshay.com/ideal-diet-eguide](http://drsamshay.com/ideal-diet-eguide). That's all one word. And that's going to be a guide that walks through the five layers and more detail. So people have a better understanding of what that's about.

**Dr. Wendy Myers:** Okay. Fantastic. Well, Dr. Shay, thank you so much for joining us on Myers Detox Podcast. That was so good because I know so many people are confused about diet. It's a very basic thing you need to focus on with your health, at least physically. People are very confused. Even people that have been studying health for a long time can still be confused about the diet they should eat because they've tried so many things. So, that was really educationally enlightening. So thanks, Dr. Shay, for sharing that with us.

**Dr. Sam Shay:** And thank you, Wendy. I love chatting with you. I really admire people such as yourself. They are putting themselves out there educating the public in such a scalable way and giving the public the benefit of the doubt of long-form podcasts that you can just sit down or do whatever errands or whatever and just listen to. And just this process, people like you putting out all of these in all this information for people to digest unintended is making us all better. And I hope to have a podcast soon one day. And I really admire people like yourself who have really gone through the hard yards to educate the public at a skill.

**Dr. Wendy Myers:** Yeah. Well, thank you, Dr. Shay. It's just really a gift to be able to do this every day and to help you guys. And what I was looking for when I started my health journey, there weren't podcasts 20 years ago. So I really appreciate everyone that's tuning in every week to get an education and the messaging that I'm trying to get out there, that's really just you have to focus on the physical, but we need to think beyond that with the energetic body and the emotional detoxification, working on emotional trauma as well.

**Dr. Sam Shay:** Absolutely.

**Dr. Wendy Myers:** Which we talked about.

**Dr. Sam Shay:** Yeah, that's a whole other discussion. There's a whole of all those other pieces. I have a 10 pillars model that accounts for all those others. We just focus today on genetics and diet and all that.

**Dr. Wendy Myers:** Yes, you have to, we want to do a deep dive today exactly. On diet and genetics.

**Dr. Sam Shay:** And I fully agree with you. There are way more complexities than just figuring out a diet that goes into optimal health and performance.

**Dr. Wendy Myers:** Yeah, absolutely. Absolutely. Well, everyone, thanks for tuning in today to the Myers Detox Podcast. I'm Dr. Wendy Myers, and I really appreciate you guys again tuning in every week. And thanks for sitting down and taking the time, and I will see you guys next week.