



**Transcript of “Tom Malterre: Gluten, the Gut  
Microbiome, & the Elimination Diet – #202”**

Bulletproof Radio podcast #202



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Dave Asprey: Hey everyone, it's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that, a comparison of blood samples from the 1950s and then those same kind of blood samples from today show that celiac disease isn't just a fad. It's four times more common now than it was 60 years. There's reasons. There's junk food, there's stress. There's all sorts of environmental things we've done. One thing that is well-documented is that a substantial portion of people- way more than half, who have celiac or Chron's have detectable micro-toxins in their blood. There's a high correlation. There's some cases where we can show causation, but we can't show 100% causation. It's interesting that something you breath through your nose may be contributing to gut problems. Kind of funky.

Today's guest is Tom Voltaire. Tom's an advanced functional medicine nutritionist with 10 years of clinical experience and a couple degrees. He's also a faculty member at the autism research institute. He teaches physicians and other practitioners about stuff like the microbiome, chemical exposures, nutrient deficiencies. He and his wife Alyssa have written two gluten-free cookbooks. They were gluten-free before gluten-free was cool. Tom, welcome to the show.

Tom: It's an honor to be here with you, Dave. Thanks for having me.

Dave Asprey: Of course, of course. We first met at J-J Virgin's event. She's a mutual friend of ours. She tends to pull together interesting people who are doing things that a lot of people just haven't heard of. Who are really working to move the needle for big numbers of people.

Tom: Right.

Dave Asprey: I wanted to talk to you because you're looking at gluten. There's been this we'll call it the gluten-free backlash. What they say. Any

time there's a big, scientific paradigm change. The first thing that happens is they make fun of you, then they try to discredit you, then it was there idea all along.

Tom: (Laughs)

Dave Asprey: The making fun of gluten thing, we've already done. It's gone past that. A third of the country's read a little bit of research or heard about this, and is now working on eliminating or at least reducing gluten. It has bad stuff in it. That's a scientific thing. Bad stuff, TM. That said. There's this recent study where people say, "Mm. It turns out only people with celiac disease should care about gluten. Everybody else should rub it on their skin. Eat it by the pound.

Tom: Inhale it.

Dave Asprey: I wanted to talk with you specifically about, why there might be this backlash. How you would respond to that as a functional medical nutritionist. Tell me about that. What's your take on celiac, given that you work with autistic kids and all that.

Tom: That's part of my practice, but I myself have gluten sensitivity reactions. I have, in fact, since 2004 recognized that, but I've had it pretty much my entire life. The reality is, Dave, people are down on what they're not up on. As part of the functional medicine team, you're taught by Dave Perlmutter. That's a phrase that stuck with me way back in 2007 when I was learning from him.

Dave Asprey: You've studied with Dave Perlmutter?

Tom: He was part of the faculty of IFM. Going through all the trainings over the years, I've been influenced by Dave quite a few times.

Dave Asprey: People who are listening should know, Dave Perlmutter wrote one of the two main books about gluten. He wrote ...

Tom: Grain Brain.

Dave Asprey: Grain Brain. I was confused. Grain Brain and Wheat Belly, because they're both names that sounds kind of the same. He wrote Grain Brain. He's a really good brain guy in general. I've been reading Perlmutter's books, including his book with Alberto Villoldo for many years. He's kind of a luminary in the field. Go ahead.

Tom: This phrase. I'm going to take it from him, I use it all the time. People are down on what they're not up on. When you hear someone who comes in and says, "Gluten is a fad. This is a trend that's going to go overtime. This is not a big deal." Whatever they're going to say about it. Immediately I say to myself, "That's a ignorant practitioner." That's a person who's not- or a lay person- who is not looking at people daily in their clinical practice. Walking in through the door. Who are pre-gluten-free diets. Having arthritis and migraines and all sorts of skin disorders and mood issues.

Perhaps in the case of children, perhaps autism or ADHD. When you take out gluten, and perhaps other foods. Like dairy or yeast or corn or eggs. Whatever it's going to be. They turn around their entire disease process. Their entire disease process. I don't care if they had chronic migraines or arthritis or Attention Deficit. Whatever it is, if you can take those foods out of their life for a minimum of two weeks. Preferably about 28 days plus. What happens is their intestinal tract is no longer irritated by those foods. Their immune system calms down. You'll see this mental acuity come back in people. This energy level come back in people. You'll see the skin clear up. You'll see the behavioral disorders melt away, as if they were never there to begin with.

When so much as this doesn't exist- I've been witnessing it for over 10 years in my clinical practice- I just say, "You just haven't seen it yet." Who are you believing? I don't know. The media? Are you looking at a selective amount of research studies? There's a drastic, 20 thousand plus studies on gluten-associated reactions. Other foods as well. There's something called cow's milk protein enteropathy in infants. There's a soy enteropathy. There's all

these different disorders that all you have to do is look, and you'll find them. I just say, hey, educate yourself. That's all.

Dave Asprey: When I hear someone say, "There's no reason that you should avoid gluten, unless you're one of those things like" - I just kind of shake my head. It's so- The studies are so clear. There's so many of them. Overcoming that gap. I just think it's going to take time. I hope that the packaged food industry who makes a lot of money from this, really doesn't just kind of push that message so hard that they kind of brain-wash people. I tell you, once you're on gluten, you want more of it. Can you explain the mechanism for why people tend to not have just one cookie?

Tom: There's quite a few mechanisms. For the sake of time, let's talk about one in particular. For example, I recommend elimination diets all the time in clinical practice. I ask people to take out the bare-bones minimum. The two most reactive foods for human beings. Those are gluten and dairy.

Dave Asprey: Shocking.

Tom: Those specific foods, if you look at them, have these opioid-like peptides in them. Those gluteomorphins, casomorphins. These things that actually bind to the same receptors in your brain that opioid does. These opioid-like peptides- when you're consuming these foods- will give you a drug response. They will sedate you. They will form an addictive pattern in your biochemistry, where you will crave more. The example I give is, you hear about Oprah. You hear about Kim Kardashian. They go out on elimination diets all the time. They're trying to lose weight and feel fantastic. The one thing they say is, "I'm craving cheese. I'm craving bread." The two foods that have the highest level of these peptides. In fact, it's fascinating.

We know, if you have kids- I have five. If you have kids, then when the kid is totally uncontrollable, inconsolable. What does the mom do? She breast-feeds them. They know that that milk contains these peptides that will cause them to roll their eyes back. Blup-

blup-blup-blup. They fall asleep. Sure, it's the physical cuddling and what not. It's also this biochemical mechanism. When you take out the extra fat. You take out the extra fluid. You concentrate this in a hard block of opioid-like peptides that we call cheese. Is it any wonder then that we crave that? Literally! Dave, come on, man. I've seen people who have withdrawal symptoms when they take cheese and bread out of their diet. Seriously. They'll say "I'm craving a grilled-cheese sandwich. I'm dreaming about it." They'll get the shakes. It's like it's...

Dave Asprey: I walk around like this (Claps) if I quit eating gluten. I have to stop my veins. It's terrible.

Tom: (Laughs) So true, man. So true.

Dave Asprey: Years ago, when I was working on my nutritional stuff. What works for me. I'd gone mostly gluten-free. Nausea was bad for me, but I didn't understand that mostly doesn't count. It's sort of like, well I almost quit crack. I almost quit heroin. I only shoot it up on Fridays.

Tom: (Laughs) You're almost pregnant!

Dave Asprey: Friday night I would go to Birk's restaurant which is my favorite steak-house in Silicon Valley. Morris's the head chef there. I've known him for years. They have one grass-fed steak on the menu. Grass-fed filet mignon! They have also the best sour-dough, crusty French bread ever. They would use real butter. Four containers of butter and a loaf of bread. I would just have that. It was my one cheat for the whole week. That cheat-day thing?

Tom: Yeah.

Dave Asprey: I would notice- It took me two years to figure this out. I'd be like, "If I have a whole loaf on Friday, maybe it's Saturday if I go there again?" I would go there a lot. It would be like, maybe I'll just have one piece. Tuesday, maybe I'll just have two pieces. I was just like

someone smoking. I'll just have one, and then you have three! If you just quit it, the addictive effect really does go away.

Tom: Couple weeks. It goes down.

Dave Asprey: Your new book is called The Elimination Diet. I've followed a classical one for the course of a year. Eliminating for four days at a time. Years ago, to understand what was going on with me. You've written some much more advanced things than that in your book. What's the amount of time in The Elimination Diet book. The one you wrote for gluten elimination to get you past the craving, and then to get you past the other biological effects of gluten?

Tom: The bare-bones minimum we need is about 28 days to really get to a point where you'll going to notice the reactions when you're adding it back in. I suggest- actually in my book- that you wait until day 50 to start adding this stuff back in. Really, it takes that amount of time before people really get how much they're under a fog. How much they are not as focused or as sharp as they could be. How their energy level could be higher.

The comments I get all the time- at the end of the elimination diet- is "I feel 20 years younger. Oh my gosh. I had no idea that I had memory left. I had no idea that I could think ahead to what I'm going to do next month, and be totally positive and excited about it." All these things about brain function. Bare-bones minimum, 28 days. Prefer 50 days just for the gluten stuff. What happens in this program is- you're right- I get rid of all of the things that I've seen in clinical practice for 10 years that have been contributing to people's joint pain and what not. Gluten, dairy, eggs, yeast, corn, soy, nightshades. The list goes on for a little bit. What I would say is, if you take all those foods out at the same time, then the immune system can calm down.

Dave Asprey: You feel amazing.

Tom: Oh gosh.



- Dave Asprey: If you just take out wheat, but you leave cheese, what happens?
- Tom: There are studies. There's studies that are just fascinating. Dave, check this out! You can do an intestinal lavage in people who are reacting to gluten with dairy. You can put those same immune cells in exposure to dairy proteins and have almost an identical inflammatory response in 50% of the people. 50% of the people. If you take out the gluten, and you don't take out the dairy, you still got pain. You still have discomfort. You still have mood disorders. Sid Baker, he works at the Autism Research Institute. He always say, "If you're sitting on two tacks-"
- Dave Asprey: (Laughs)
- Tom: "-and you take one out. Do you feel 50% better? No, you still have a tack in your bum!" Take them all out, and the pain goes away. To give you an idea of what you were talking about earlier. I need to get it all out. Otherwise I still have issues. Alessio Fasano, he works at the Autism Research Institute. We did an interview. I said, "Here's what I'm finding in my clinical practice. I'm finding that when people do a little bit of cheating, it totally keeps their results over. They don't ever fully let go of their inflammation. Their pain. Their skin disorders." I said, "What do you think about this statement? Do you align with this? 100% effort equals 100% results?" He said, "Tom. 99% effort equals zero results." I'm like, oh! I don't see that. I see that when people reduce a little bit, they actually find benefit.
- Dave Asprey: Reduction helps. You're right about that.
- Tom: His argument is, look, if your immune cells are getting excited every time you eat. Even though you don't have the symptoms, outwardly, you may still be having a brewing, inflammatory response in your intestinal tract.
- Dave Asprey: Or your brain.
- Tom: Which are the same thing! We now know-

Dave Asprey: Oh, good point.

Tom: -that you have neuronal connections in the intestinal tract. We now know that you might be feeding certain organisms that talk directly to those neurons and change brain function. Yes, yes, yes! You really got to get it all out. People have a hard time with that. They say, "It's a food! I can have a little bit, it's not going to ..." I say, "Imagine this then. This is how your immune system works. You're sitting on a plane, which you do often Dave. You're sitting on a plane. Someone five rows back from you starts coughing horrendously. (Coughs) (Sneezes) The thought's immediately on your mind. Maybe not you, because you're dosing up on all sorts of stuff to prevent that.

Dave Asprey: Wear a gas mask.

Tom: Other people are going to say, "Oh man, I'm going to get that. I'm totally going to get- Whatever that is, I'm not exposed. I'm going to-" Did it take a muffin-sized chunk of someone's sputum to get exposed in your body before you came down with the flu? No, it's little teeny particles. That's all it takes to excite the immune system. Little teeny exposures can go a long way when it comes to food as well.

Dave Asprey: You're totally right about that. One of the things I would like to eliminate from diets entirely is the idea of a cheat day. It's so harmful. In my work, I recommend a refuel day where you might change the ratios of macronutrients. Just because you're having a day where you're eating a lot of carbohydrates, doesn't mean that you're eating a lot of opiate-based carbohydrates or proteins. It doesn't mean that you're eating hydrogenated fat and Snickers bars and whatever other garbage you used to crave. Partly because of the immune stuff that you just mentioned. Also just because, then, for the next four days you have food cravings and brain fog and you're kind of cranky. You don't get all the benefits that you're looking for.

Tom: That's your deal. Your whole thing is to elevate people to another level. Which you've done eloquently. That's exactly, exactly what this diet does. This diet helps you to figure out which foods are contributing to your symptoms. The whole deal with The Elimination Diet is, we want you to eliminate the symptoms that don't serve you. We want you to find out which foods rock in your particular biochemistry. That's the whole goal. This is not a life-long diet. This isn't something you do every single day. This is something you do as a diagnostic tool for yourself. An empowering tool for yourself. You find out what works.

Once you do then, you bring yourself- you elevate yourself- to that next level. Once you're at that next level, it's addictive. That feeling awesome is something you're going to seek out more. Next thing you know, you're going to seek out awesome relationships. You're going to seek out awesome work. You're going to seek out your life's mission. It's amazing. When people are just cowered down. They're experiencing pain and they don't have mental acuity and things aren't working well for them. They're not alive. You know that. You try and help people get out of that place.

Dave Asprey: I've spent way too much of my time in that place. Of my life in that place. That's a bit of a problem.

Tom: We all have. That's the reality of finding out what's keeping you there. Why wouldn't you look at food? The reality is you're going to bring in 25 tons of food through your mouth through your lifetime. The biggest suspect for irritating your body- anywhere- is going to come from your food entering your intestinal tract. Interacting with your immune system there. We're now noticing that it's no longer called the immune system. It's called the microbial interaction system. Wherever you have the highest concentration of microbes you're going to have a lot of immune cells and/or potential exposure to microbes. It's like, whoa, all right. If I want to keep my immune system- my microbial interaction system- calm, let's keep my gut calm. That's where the vast majority of those cells are.

Dave Asprey:

It's true. If you're putting stuff in your gut that doesn't work for you, it doesn't work. Your elimination diet book, and mine- I recommend people read your book if they're interested in what works for me. As people who are hacking their own biology. You got to know your personal food plan. I've spent years trying to dumb things down. Not because people are dumb, but because there's so much information that you want to want to just compress it enough. That without having to study it like you have for 10 years, that you can crock it. I came up with a list of suspect foods. You and I would agree, those are the things to eliminate. To see what's making you weak.

The one where I was on the fence- and I'm still on the fence about this- is egg yolks. Particularly raw egg yolks do so many fantastic things for your cell membranes, your brain, for your lipids, for your gut. I put them in the bulletproof food section as long as the eggs are good and carefully done. Like you said, they're one of the top eight most reactive foods. I was on the fence there. You recommend eliminating eggs. I recommend you test yourself for heart-rate changes before and after a meal to see if it works. Any thoughts there, specifically about eggs? They are a superfood but they are also potentially allergens. How do you handle that?

Tom:

The Elimination Diet is designed to determine what is working and what isn't working. For this particular diet you take them out, and then you add them back in. You will determine at that particular time if you have symptomology. You're welcome to do laboratory analysis you like as well. They are removed in the diet. I am not going to even question (Chuckles) the fact that they're dense with nutrients. At all. The whole purpose of the diet is to identify what may or may not be exciting your immune system. The reality about eggs is interesting.

Gluten and dairy I don't find to be as what's called transitory. I don't feel that if someone has a reaction to them, that those reactions go away quickly. (Laughs) You might have a life-long issue. What I do find, though, is in some people with eggs, it can be transitory. Meaning, once they've taken out the foods for a while ...

once they've healed their gut. They've worked on some sort of repair program. Maybe adding in some particular amino acids. Nutrients they've been deficient on to calm down and repair their immune responses. They might be able to tolerate the eggs again. It's not a death sentence by any means. This just like hey, let's figure out. Let's figure out if it's the thing that's causing your eczema. Let's see if it's a contributor for your migraines. That's all this is. That's all it is. Nutrient density phenom. Immune excitability. It's going to depend on the person.

Dave Asprey: That's what annoying. Everyone in health. Ranging from the radical raw vegans. I've been to one of those all the way over to the carbohydrates are nothing that you should ever touch. I ate only one serving of broccoli a day for three months. The rest of it fat and protein. I'll be like an Eskimo, but I didn't have seaweed.

Tom: (Laughs)

Dave Asprey: By the way, I got an egg allergy during that diet. I couldn't make enough lining for my stomach. The stomach is lined in mucus. I didn't have enough polysaccharides- that would be sugar or carbohydrate- to make mucus. My eyes were dry and my sinuses were dry. I got a permeable gut from that. I got actually allergies to several foods that were reintroduced at the end of that diet. That was a failed experiment in nutritional ketosis. I'm actually working on eliminating the egg allergy right now. It's kind of funny we're talking about it. I didn't think we'd go there.

Tom: (Laughs)

Dave Asprey: The interesting thing that happens there is that it is highly variable on a personal basis. It's also variable on a time basis. It's also variable on a food quality basis. Have you seen people react to GMO grain versus non-GMO grain? Grain is grain, but. It's maybe a bad example.

Tom: No it's not. It's a great example. You're dead on man.

Dave Asprey: What do you do, though? This broccoli wasn't fresh and it knocked me out. This broccoli was fresh and I felt amazing. Do you see that, and how big of a factor is food and freshness and quality?

Tom: (Laughs) I'm going to add to that. I'm going to say- Looking at the specific variety of a particular food could cause a reaction or not. Whether or not you're in a stressful situation could cause a reaction or not. There are so many variables, Dave. It's life. It's complex, man. We're talking about millions of factors leading to a state of disease. It's allostatic load. You hit a particular threshold. You tip that balance. Now someone's in a state of disease. Potentials. Here's the thing you did not mention, which- well, you hinted at- that should be focused on intensely. Which is, you touched on it with GMOs.

You had said, "Is it possible that somebody could be reacting to GMOs?" The reality Dave, is that what is a GMO? Sure, it might have altered peptide structures. It might have altered starch presentation. It's genetically modified. That totally makes it a potential epitope altered substance. Meaning how it's presented to the immune cells could be changed, and therefore it could be more reactive. Totally, totally. There's another factor. This happens with all foods these days. Whether you're talking broccoli or anything else. That is, we're living on a planet that has 87 thousand plus industrial agricultural chemicals for fuels, pharmaceuticals. Whatever we're looking at.

What we're seeing coming out of [inaudible 23:01] lab and [inaudible 23:05] emphasizing as well now. Is that, when you have chemical levels around that are elevated, they can actually change your antigen presenting cell behavior. They can change the presentation of proteins to your immune system in general. We might be, because of chemical-laden food. Maybe it has a pesticide. Maybe it has some sort of chemical on it due to packaging. A plasticizing agent or what not. BPA. Phthalates. That particular reaction could be completely altered in the human. We have to take into consideration now, as we're putting in. In the United States we're going 74 billion pounds of chemicals are imported or



produced in the United States. 74 billion pounds every single day. If you start doing the math on that, you start saying-

Dave Asprey: That doesn't actually- I don't know that we have the ability to transport that many. Unless CO2 or something. We can't move that many billion pounds in container ships.

Tom: (Laughs)

Dave Asprey: That number doesn't pass the smell test.

Tom: This is coming from the American Academy of Pediatrics. It was the actual chemical analysis done by the United States Government. I would check it out. It'll shock you. The reality is, this number did not include pharmaceuticals, fuels, pesticides, and food additives. These are some of the four largest classes of chemicals. You say to yourself, "How is this even possible?" You look at 16 billion pounds of BPA produced every single year. You look at the 2012 to 2013 chem reports from some of their profit analysis and they say, "We just increased our sales of BPA by 750 million pounds." You start adding up the individual chemicals. However shocking this may be. However you and I- as people who are concerned about chemical exposure- will immediately shut it down and say, "No, that's not even a possibility. That's not even." Do the investigative work man. It turns out there's- Oh my gosh, you add up these numbers, and it's true. It's absolutely crazy. It's absolutely crazy. I would say-

Dave Asprey: I still suspect that some of them are double counted. You bought this chemical. You imported it. You added it and you made this chemical. If that was an annual number, I'd buy it. On a daily number, eh ...

Tom: Check it out.

Dave Asprey: All right. I'll check that out. I think that the point here- that really I don't want to lose- is that, there's a ton of these chemicals. We have no idea what they do to our immune systems. We know in some

cases that they change the way your immune system reacts to food.

Tom: Exactly. Not to mention, what is the immune system again? The immune system-

Dave Asprey: It's your brain.

Tom: -is the microbial interaction system. It's our sixth sense. We have our fingers to touch things. We have our eyes to see things. Smell. We want to determine what's friend or foe in the environment. We want to determine, can I get something out here to preserve myself. Make myself thrive, survive. Food, danger. All those things. We want to sense our environment. It turns out that the immune cells are specifically designed to interact with bacteria and viruses, fungi. All the things that we know can potentially either cure us or kill us in the environment. What happens when you start putting on parabens. A preservative in your skin care cream. Triclosan is a hand sanitizer on your hands and you ingest some of this stuff. We see the rates of eczema, asthma go up. All the sensitivity diseases. We actually see food sensitivity responses go up in individuals that have these chemical exposures.

Dave Asprey: This is one of those reasons we have a rule in my house that's like, if you wouldn't eat it, you shouldn't put it on your skin.

Tom: (Laughs)

Dave Asprey: That means- apparently to my kids- they just rub chocolate all over their face. They miss the point here. (Laughs)

Tom: That's awesome.

Dave Asprey: It's an interesting point too, because the topic of the documentary- that I'm coming out with soon this year- called Moldy, is looking at what those agricultural chemicals did to the fungal biome in our soil.



**Dave Asprey:** What's going on in our gut comes directly from the soil. Since we don't live in dirt floor places anymore, it's actually the biome in your home ... that influences things. I've even developed probiotics for the home that you put in your environment. Those are so important and it's just avoided. The reason we have to do this is because 35 years ago these chemicals took soil molds that were always not so good for us, and made them 500 times more toxic. What's growing in your drywall now, makes 500 times more toxins. It's not that the chemicals made you weak. The chemicals pissed off Mother Nature. Mother Nature's like, oh yeah? Let me clobber you right back!

**Tom:** Adapt or die. It does not kill you. Makes you stronger.

**Dave Asprey:** It's a good cause for concern. It's one of the reasons that I just restarted the gravel pit on my property. We're turning it into an organic farm. I don't want to be around a healthy biome in my soul because I don't want my kids around that. Maybe I'm obsessive. Actually, I just like to feel good all the time. I don't think that's obsessive. I'm willing to go to extreme lengths for that. It would be easier for me to live in LA than to live on Vancouver Island but I do this for a reason.

**Tom:** The science is there man. I think you're brilliant. The reality is, when you start looking at any disorder. When you're looking at obesity. When you're looking at type 2 diabetes. When you're looking at arthritis. When you're looking at- Anything. You look at anything. What are you going to find? What you're going to find is, a lack of biodiversity in the microbiome. You're going to find there are some missing microbes.

You read that book? That Steven Blaser book? It's awesome. Missing Microbes. He basically says, "Many of the diseases and disorders we're experiencing in developed countries are due to our massive use of antibiotics. Our massive use of sanitation-based chemicals." One of the biggest class of chemicals on the planet people neglect, for example, are the chlorination-based chemicals we use in our water supply. You say, "For sterilizing the

environment, we're going to be missing certain types of microbes." It turns out one of my colleagues, Dr. Jim Adams at the Autism Research Institute, he published a really neat paper, showing that 20 to 40% alteration in the microbiome of kids with autism.

Blaser mentions and others in Epidemic Of Absence- another great book about the microbiome- we're seeing that there's a possibility that up to, close to a third of the indigenous microbiome- we'd find if we lived how we use to live exposed to the animals and the dirt and everything else in the environment- are now missing. They're now extinct in some people's systems. When you're missing those microbes, you don't get the nutrients that those microbes would provide for you. You also don't get the protection they provided from some of the pathogenic or harmful organisms. We're seeing more cases of [inaudible 30:08] we're seeing more cases of overgrowth of pathogens.

Dave Asprey: I remember this time. I was in Nepal which is over there by Tibet. I'm trekking three or four days away from the nearest road. You stay in these little guest houses. I had this nice lunch and I was mostly good and free. When you're really hungry they have this Tibetan bread that's ridiculously good. I was eating so much. At the time I was like, all right I'm just going to eat whatever I can. You're at high altitude. This lady makes this little, most unsanitary thing you could ever imagine. The lady makes it. She walks out of the kitchen. (Laughs) She comes back. She has both hands full of fresh cow manure. Full on like this. She packs it around the herbs that were in our food, like right in the garden. She goes back into the kitchen. I'm just like ...

The thought in my mind was, "How is it possible that these people aren't all dead?" Clearly, there's no running water here. She probably wiped her hands on her shirt and then went back to cooking. I didn't get sick. I was taking probiotics and everyone else on that trip eventually did get sick. I didn't because I was going grapefruit seed extract. I was taking soil-based organisms. No problems even with street-food in the middle of nowhere.

(Laughs) That was just an example of how an indigenous person- She was probably 85 or 90. She was this old lady, still able to bend over and pick up things. To cook. To do her thing. There's something going on there that, in the West, we think is impossible. That's not impossible.

Tom: You're on to it. How many cases of antibiotics do you think she had in her lifetime?

Dave Asprey: Probably none.

Tom: Exactly. The birthing process itself is fascinating. You come through a vaginal canal. As you're coming through the vaginal canal, a baby's head will press against the mother's cecum. The mother's cecum will then evacuate some of the fecal matter that has been brewing in the mother's cecum for the last trimester of her pregnancy. That completely shifted and became far more vigorous before birth. As if she was expecting to pass some of that on to her offspring. Baby in the squat position is born head up. Mouth open. There's a likelihood of having some of that exposure happen at birth. I don't know what had happened. I don't know how Freud was always like, "Come on. There's a reason you have these oral fixations. These anal fixations." Whatever it is, during certain times of life. Now the microbiologists are saying, "Oh my gosh. He was write. They make sense." We were trying to inoculate our systems. We're trying to expose ourselves to this incredibly beneficial soup of life around us. That will protect us from disease. That will help us form nutrients from our diet. It's amazing how complex the microbiome is. It's a totally different universe.

Dave Asprey: When our children were born. When they first attached to wife Lana's nipples, we actually sprinkled a little bit of Bacillus infantalis. Which is the right probiotic for babies. We actually put it on her nipples so that literally in the first feeding, our kids were getting some of the healthy bacteria that are species-appropriate for humans. For kids. They don't do that in the hospital. Instead they do things like smearing antibiotic ointment on your eyes in

case your mom had gonorrhea that was active. In California, that's actually the law. Unless you really go out of your way, they'll just do it in a birthing center or in a hospital. That's just, hey, your mom might've been someone who had a serious STD. Just in case, let's just kill the bacteria! Man, we got to get away from that.

Tom:

If your Strep B positive, they'll actually- during the birthing process- give you some antibiotics. There are some nice reviews, showing that perhaps the protection isn't what we imagined it to be. At the same time, I did an interview with an amino toxicologist. Dr. [inaudible 34:06]. He said, "Look, come on. If we're doing these interventions- these sanitizing interventions during the birthing process- we stop a human from completing their selves." He says, "Human organisms. What are we? We're outnumbered one to 10 by microbes. Our genes are outnumbered 150 to one." It's like, oh my gosh. We have so much influence.

A new study just came out, what, four days ago? Showing that the DNA from the microbes actually alters expression of our own DNA? Which is fascinating. We say, "Wait a second. We're not just human. We have a genome that's less complex than worms. It's less complex than fruit flies. What are relying on to form these complex, biochemical organisms that we are?" We're relying on microorganisms to complete ourselves. They're now calling us humans super organisms. To interfere with that process doesn't seem to make sense.

Dave Asprey:

I'm a little skeptical of that. I feel like we had this time when bacteria are bad. Bomb them with antibiotics! World War Two. Change the world with sulfur drugs. Then we go over here to oh, the biome! The biome! Those little bastards in your gut-

Tom:

Kill you. Sure.

Dave Asprey:

-even the healthy ones are not working for your best interests. They're working for their best interests.

Tom:

(Laughs)

Dave Asprey: You're a walking bag of medium for them to grow in. They will-

Tom: Who's in charge?

Dave Asprey: Yeah! One of the things that frankly, annoys me, about these bacteria is fasting induced adipose factor. I don't know if your work has brought you across this. I wrote about this in The Bulletproof Diet. One of the things I could not explain was why when I cranked my calories up to four thousand to 45 hundred calories a day. Stopped exercising and cut my sleep to five hours a night. Figured I'd gain a few pounds. Show that I gained only a little bit when I should've gained buckets of fat. The calories in calories out doesn't work. What I did is I grew a six pack. I felt really good and I did it for two years while I got Bulletproof started while I was working full-time as a senior executive.  
(Laughs)

Why did that happen? Why do people sometimes lose a pound a day but not everyone? The reason is that the gut bacteria, when they get sugar- Certain species, the fat people bacteria. That includes Lacto bacilli. When they get sugar, they're like, "We better make our host store extra fat in case we need it to keep the host alive." You're liver makes fasting induced adipose factor. The bacteria tell you to make extra, which gives you a fat ass ... for their benefit! The fat ass wasn't to make me attractive to the opposite sex. It didn't serve me.

When I modulate my food intake, to basically, bonk all those bacteria on the head. Then feed them with polyphenols like you would find in broccoli, or God forbid, coffee. What happens is you shift the ones who don't make fasting induced adipose factor. All of a sudden, what was for me years of obesity, got much easier to hack. The Lacto bacilli are also the most commonly promoted things in the body. It feels like owe it to ourselves to at least understand those little bastards in there. Some of them might be our friends, but only if they behave themselves. If they're not our friends, I'm going to make life really hard in my gut biome for the guys who don't serve me.

Tom: That's awesome. (Laughs) That's funny Dave. The interesting piece that you're mentioning, too, is brilliant. That is, you're talking about certain things that shift the species that you can consume in your diet. You had mentioned polyphenols. You had mentioned plants. I'm going to get a little bit more intense and say- You and I. We live up here in the beautiful Northwest. I'm hanging out in the woods. I wild harvest. I'll be going to get some nettles later today.

Dave Asprey: Sweet.

Tom: Anytime I go outside. Roots, fruits and shoots. I'm taking Oregon grape and getting the actual berberine alkaloids coming from it. I'll be eating the wild lettuce that's coming up right now. I'll be eating the bittercress, *Cardamine flexuosa*. The reality is, if you're outside and you're an indigenous person, you will be consuming bitter, tannin-rich alkaloid-rich, polyphenol-rich foods all the time. You're doing berries. Whatever you're doing out in nature. Natural foods. Not these hybridized, nonsensical things we see on our grocery-store shelf. Hybridized foods will not have any of this stuff. You go outside and watch the average kid- if they're consuming a standard American diet- forage. They'll put something in their mouth and they go ... (Gags)

Dave Asprey: (Laughs)

Tom: We now know that these chemical compounds interfere with something called quorum sensing. The communication between the microbes to form biofilms and colonies, so they can evade your defenses. We know that rosemary is eloquent. We know that actually peppermint is brilliant about breaking apart and stopping the forming of these. A lot of the culinary herbs- that have been passed around through generation to generation and generation- are actually microbial-modulating herbal compounds. There's no mistake why we have holy basil. There's no mistake why we have all of these bay leaves and what not. They are there for microbes, parasites. They're supposed to keep our system in balance. Without those, you do these acellular, carbohydrate-rich meals



with lots of sugar and flours and everything else. Of course you're going to feed all of these organisms. Of course it's going to throw everything asunder. It makes sense.

Dave Asprey: I love that you're mentioning those specific things. My kids are five and seven. We have it in our garden, in fact we're turning it into a farm. One of the problems with the garden is, they go through there all the time. They'll pull off the top of the rosemary plant and just eat the rosemary. Then they'll go the oregano and strip the leaves like monkeys and just eat it.

Tom: (Laughs) That's me man. I do that all the time.

Dave Asprey: It's like, we better plant extra because we're not even going to get to bring it in and dry it. If it is dried, they will walk up to a dried stalk of oregano. They'll strip it off and just eat it like chips. I know it's good for them. It's also hard to grow enough herbs when you have little herb-eating machines like that.

Tom: They take out the new growth all the time.

Dave Asprey: They do. It does modulate the bacteria. It does so many other things. You and I are not living the way almost everyone is listening in their car in traffic right now-

Tom: So true.

Dave Asprey: -to this podcast does. How do we translate our relatively bizarre ancestral patterns into something that someone who lives a normal life can do? What are your recommendations there?

Tom: One of the quickest ways to get people connected with life is to experience life. If you can get someone to actually grow something, they will start to experience the wonder of growth itself. Life itself. If you can start something from seed- like broccoli seeds in your kitchen for example- I highly recommend it. The bitter compounds will be beneficial for microbes. Gosh man there's research on showing you. You can actually cure H. pylori infections with just broccoli sprouts alone. You can ingest those

for increased antioxidant and detoxification function. It's the process. It's just taking those seeds. Sprouting them. I've got videos on my website you can check out on how to sprout broccoli sprouts.

Dave Asprey: Give me a URL. We're going to put that at the end of this show. People driving want to know it.

Tom: Whole life nutrition. Just think of whole life nutrition dot net. Whole life nutrition dot net. Check it out. The other thing is a lot of the things we're talking about right now. Rosemary. It's not that difficult to grow. It's more difficult than the mint families, though. The oregano. The peppermint. Oh my gosh.

You just get a little start from a nursery. An organic start and you put it- Careful where you put it. If you put it in a planter box, on your balcony, in your window in your kitchen. Somewhere. Watch that thing grow. Make sure it gets enough water. Make sure it has decent soil. The amazing connection you have with that process. Babying it. Watching it. Taking a little leaf occasionally throughout the day. Can be so life changing. Not only are you participating in the wild forage per se, but you're also connected to where it's coming from. You're kind of like, "Where's the rest of my food coming from? Maybe I need to think about the sourcing of anything." It starts getting you into the process of being connected with your food and where it comes from as well.

Dave Asprey: That is awesome advice. Let's say you travel a lot. You live in a small apartment in LA. Can't you just buy a oregano capsules? Can you just buy turmeric capsules? It still works, doesn't it?

Tom: There's really great data on enteric-coated peppermint oil.

Dave Asprey: (Chuckles)

Tom: There's phenomenal data on curcumenoids. Are you kidding me? Rosemary. It doesn't really matter, per se, if you're going to not



have access to the fresh stuff. You can still get benefit. It's all over the place man. I read research on that all the time.

Dave Asprey: I've been using turmeric. Various forms of it. For probably 15 years for it's anti-inflammatory things. It absolutely works. Some species, or some preparations absorb 10 or 20 times better than others. Even the variables of how something is delivered into your body changes how you absorb it. Just like the broccoli. I know you're probably the broccoli whisperer.

Tom: (Laughs)

Dave Asprey: If you put butter on your broccoli, you get more of the vitamins from the broccoli. You actually can absorb them better. Any other kind of fat. Guacamole works pretty nice as well. Stuff like that. It's such a complex system. The boiling it down to a set of best practices that are most likely there. Even if we aren't 100% certain how much oil per gram of broccoli is ideal for maximizing absorption of this fraction. Honestly, who cares? How do you recommend- in your book *The Elimination Diet*- how do you recommend people deal with all those variables? Where they're like, "Okay, I'm trying to eliminate some things and I'm going to put some stuff on my plate." What's the thought process you want somebody to go through when they're going to plate up?

Tom: When you're plating up. We actually have a real tough time recommending people eat out during the program-

Dave Asprey: (Laughs)

Tom: -so we have a lot of ... Come on, man. You know how it goes. If you go to your favorite restaurant. I got a side of steamed broccoli at one restaurant in New Orleans. What do they bring me? They brought me steamed broccoli, but the dude scooped it from a macaroni spoon.

Dave Asprey: (Laughs)

- Tom: Literally, there was macaroni and little cheese stuff stuck on the bottom of my broccoli. I was like, "Excuse me, how did this happen?" I went to Andy Weil's restaurant in Arizona-
- Dave Asprey: True Food's Kitchen?
- Tom: Yeah yeah yeah. I had this curry. I go to eat the curry and I lift it up. I was with a couple of physician friends of mine. Some of I was like, "Hey, what is this? Is that a wheat kernel in your spoon?" Right before I was eating I was talking to them. I was like, "What? What? Oh my gosh! Look at that!" There's actually a kernel of-
- Dave Asprey: Sprouted wheat stuff.
- Tom: You get gluten-ed. You get contaminated when you eat out a lot. We really focus on people having whole foods that they prepare themselves. They're going to be as easy as possible. I just finished up, for example, some chicken sausages with fried plantain. I had some savoy cabbage. Some parsley. A little bit of cilantro. Some broccoli sprouts. We encourage people to sprout broccolis. I show you exactly how to do that in your kitchen. It's super, super easy. Ramps up detox better than anything else. That's the one food that if you can eat raw ... will really shift things tremendously.
- Dave Asprey: You're saying raw broccoli sprouts?
- Tom: Absolutely, yeah. It's the sulforaphane content. The sulfur-based content that you want. Things travel. I'm going on a tangent a little bit here. Sulforaphane the sulfur-based compound that gives you that diaper-y smell when you're cooking it in the kitchen. Your Brussels sprouts.
- Dave Asprey: Diaper-y. Lovely.
- Tom: I got five kids, you know, right?
- Dave Asprey: (Laughs) I'm not arguing.

Tom:

Yeah, right? That particular sulfur compound is highly unstable. It's used by the plant to be a pesticide. An insect bites the plant, and in doing so, it frees up an enzyme that breaks apart glucose from that sulforaphane. It's stored, normally, with glucose attached. Sulforaphane glucosinolate is what it's called. SGS is attached. Once you bite into that, that activates that enzyme. Separates the glucose, then you have the active, free sulforaphane.

That particular enzyme that gives you the free sulforaphane ... is denatured when you get past 118 degrees. It's a protein denaturing, much like when you denature the proteins in an egg-white, after you heat it past 118 degrees. You see it turn from translucent, almost transparent, to being far more white. That same process. You denature that enzyme, it doesn't work very well. You don't get the free sulforaphane. Interestingly enough. Keep that one raw.

You're right, there are so many things to think about when it comes to individual foods. You were saying, carotenoids, for example. If you get butter with the vegetables, all the carotenoids are much better absorbed. Things like sulforaphane you want them raw. Lightly steamed, for example. To get it in.

We teach people. Here's the thing, Dave. My wife makes all these amazing recipes. We have a ton of great recipes in the book. We also provide an online support program. In that program, my wife walks you in the kitchen. She gives you videos. 24 cooking instruction videos. I coach you through some of the tips and tricks of getting through the diet and having a blast doing so.

I give you webinars as well. People who come on those webinars, they get to ask me these questions. They'll say, "Someone told me that this particular food is best prepared as such." I'll say, "Thankfully I just read 16 articles on that. Let me tell you about that." It's fun. I get to do that interactive piece. There is a lot going on when you're thinking about what goes on your plate. We try to make it as simple as possible. We give you menu plans. We give you the actual foods themselves. We show you how to make them.

Then wow. Not only do they blast through your taste-buds and make you really excited about eating food again, but they blast through your symptoms. You can wake up and be a functional human again. It's awesome.

Dave Asprey: This is always a conundrum. There is something to be said for eating whatever you're going to have. Some of it raw for the signaling mechanisms. As a former raw vegan, you really get into this stuff. There's also an issue with something like raw broccoli. I used to eat giant bowls. I had to buy new bowls-

Tom: (Laughs)

Dave Asprey: -because you cannot get enough calories as a raw vegan. At least a muscular, tall raw vegan.

Tom: Yeah man, I know.

Dave Asprey: These are like ginormous bowls, and they'd be full of like chopped up broccoli and cabbage. Raw, cruciferous vegetables inhibit thyroid function. How do you draw the line between, okay, a little bit good. Buckets of raw broccoli are probably going to mess you up.

Tom: Love it man, love it. You know me man, I dig. They call me the mechanism man in my functional medicine circles.

Dave Asprey: (Chuckles)

Tom: I hung out and I did a TED Talk on broccoli. Broccoli, the DNA whisperer. I consulted with researchers at the Fred Hutchinson Cancer Research Center. Johanna Lampe at the University of Washington. As well as the team over at John Hopkins. Jed Fahey's crew over there. I asked them. I said that same thing. I said, "Look. There are certain glucosinolates- not the sulforaphane- but there are other glucosinolates found in these cruciferous vegetables that seem to be goitrogenic. Maybe inhibit the actual absorption of iodine. Maybe impede thyroid function and multiple mechanisms.

I said, "What's the risk there?" They were really quick in saying, "Look man, if you're not consuming two plus pounds of raw broccoli everyday, have a predisposition for some sort of iodine insufficiency or thyroid dysfunction, it's a moot point. Don't even stress about it." Johanna was saying, "I'm getting people over two pounds of mixed raw and cooked per day, and I haven't seen alterations in thyroid function." What I would say is ... Jed Fahey- he's from John Hopkins- he said, "I think this whole thing came back from when cows were being fed milk after they would consume canola, or rapeseed." It used to be- before it was hybridized- rapeseed had a tremendous amount of these sulfuric-based compounds. They had some goiter issues back then. There are parts of the globe where they don't eat anything but some goitrogenic compounds. It raised the alarm level.

We have to come back from that fear. The reality is, the research does not support that if you're consuming less than two pounds of raw cruciferous vegetables a day. You'd have to do that for six months or more, and then you have a predisposition for thyroid function or iodine insufficiency. Yes, there's a limit. I don't want you going out eating two plus pounds of whatever it's going to be. bok choy or arugula or Brussels sprouts of any of the cruciferous. If you're consuming them lightly steamed and you are having less than two pounds per day, relax a little. Enjoy, have a good time.

Dave Asprey: I absolutely put some raw cabbage on my salad. I'm happy to do that.

Tom: Me too.

Dave Asprey: I did actually get thyroid dysfunction once when I was a raw vegan. (Laughs)

Tom: I bet. It sounds like you had to get a bowl- You were doing the two pounds man!

- Dave Asprey: I don't know how to get a couple thousand calories a day of raw vegetables without using an awful lot of blending and chopping and just eating.
- Tom: (Chuckles)
- Dave Asprey: It was a problem for me. I don't know how I was eating more than two pounds of just cruciferous. I ate lots of other stuff too. I think that there's- I question that based on some of the clinical nutritionists that I've worked with who have seen problems. Especially with people on sustained, long, long periods of time. If you want to eat two pounds of broccoli for a month, I don't think it's going to do anything to you, but if you do it on a regular basis- What about raw kale? What's your take on that?
- Tom: I don't have a problem with raw kale as much. Some of the compounds are less in kale, including the sulforaphane. The broccoli sprouts seem to be. The tip of the top. Cream of the crop. Mary Poppins is where we stop. You go down from there, and you'll say, "Well yeah, you got arugula and some of the cresses. Radishes and then you got kales." Kale is decent. I don't have an issue with raw kale as much. It doesn't seem to have the goitrogenic, glucosinolates as high or the sulforaphane as high. Raw kale. Once again, everything in moderation. You don't want to be doing two plus pounds of raw anything all the time.
- Dave Asprey: I think two plus pounds of raw kale a day would be kind of dangerous.
- Tom: (Laughs)
- Dave Asprey: When the producer on my film was doing several meals a day with lots of raw kale in it and got kidney stones. There's the autism oxalic acid link. There are high levels of oxalates in laci kale versus dino kale. In fact there's a protocol on my website here's how to cook your kale. Use some water, dump the water. The water has most of that. You can even bind up the oxalic acid. It's one of those

things where if you have a piece of raw kale, it probably won't bother you.

I also know people who eat a piece of raw kale and they get joint pain from it. That's probably because they have a high oxalic acid level. That's probably because of their gut biome and that's probably because of their fungal biome. The fungus in your gut will also make oxalic acid. It's so complex. I am a little leery of excessive brassicas in raw form, but I'm a huge fan of eating some raw brassicas for the signaling effects. What about the pills? For 10 years I've been taking BioDiem and related things. Diendomethane, I think. One of the broccoli compounds that also contain sulforaphane in the capsules, because of the anti-cancer research. What's your take on the capsule form of broccoli? Can I take my broccoli sprout extract because I was too lazy to sprout myself?

Tom: (Laughs) Yes you can man.

Dave Asprey: (Laughs)

Tom: The same team at Johns Hopkins University came out with the SGS trademark product. That's used by two companies now. Thorne Research makes Crusera-SGS. Xymogen makes OncoPLEX. The actual, original broccoli seed extract is what that is. That's been on the market place for quite some time. That's been proven to actually have little higher levels of the SGS, the actual sulforaphane glucocinolate. Some of the competitor products they're right about 13%. You're see other people's vary between seven, 3% what not. That's awesome. You can take those capsules. Those are great. The DIM, the I3C- indole 3 carbinol- those two compounds are different than the sulforaphane. Raw or lightly steamed. I'm not pushing raw in everything.

Dave Asprey: (Laughs)

Tom: Lightly steamed actually as much benefit. That's what they'll recommend in some of the pharmaceutical or pharmacognosy



researches. They'll say, "Lightly steamed," on the cruciferous. You can get it from supplementation.

Dave Asprey: Cool. Count me in the lightly steamed with a little bit of shredded raw on top camp. Based on that, reading that stuff. We tend to think similarly there although you might be a bit more accepting of the raw. By the way, neither one of us has perfect evidence that says this. These are small tweaks. If you're listening to this, try it. Either one is probably a really good decision. It's not about either one of us knowing or being perfectly right about that. Directionally I think that we're in full agreement. Best practices for this guy over here may be different than this guy over here. Just acknowledging there's a difference and seeing what works is the core of being human.

Tom: Let's bring some balance too man. I love that. I love that! The other thing is- what we're finding in the research is- you don't have to eat that much. If you're doing a quarter cup of broccoli sprouts, and you do it five times a week, that's probably enough. The reality is, that these chemical alterations that take place- they read portions of your genes that are ingenious- that take place ... If you're eating five servings a week, the lasting effect ... It's 72, 94 plus hours of effect after a single serving, man. You don't have to eat them seven days a week, a pound plus a day. If a little's great, a lot more is better is the American way. No. Just get those five servings in. I'm right there with you.

Dave Asprey: Awesome. We're running up on the end of the show. This has been fascinating. Hopefully we didn't lose anyone by going deep into the nooks and crannies of broccoli.

Tom: (Laughs)

Dave Asprey: It's just an example of how, as geeks, we can really get into it and talk about what is the best practice. In the idea of identifying perfect up here, and looking at whatever you're doing down here. How do you just move more in that direction? Not about



identifying perfection. I know my broccoli is picked by one-armed monks.

Tom: (Laughs)

Dave Asprey: It's even better than your broccoli is. Sorry man.

Tom: Dude you got me. You got me.

Dave Asprey: (Laughs)

Tom: Mine have two arms, so whatever.

Dave Asprey: We can always be slightly better. It doesn't matter. Eat more broccoli, boom. (Chuckles) From there-

Tom: Easy, easy. Love it.

Dave Asprey: There's one question that everyone on this show answers at the end. It's given all the stuff you know, not just from your profession but just from life, your top three recommendations for someone who wants to perform better at whatever they do. You want to kick more ass, do these three things.

Tom: If you want to kick more ass, do these three things. I would say, consider the impact of your actions. What I mean by that is, where's your food coming from? Where are the influences that you're feeding into your life? Whether they're thoughts, whether they're foods ... Just consider where they're coming from. Be conscious of the fact that the purity, the nutrient density, is going to change depending on where they're coming from. How they're produced. Where are the thoughts coming from? Where are your ideas coming from? Where are your food sources coming from? That's an awesome one.

The other one is, listen to your body. Listen. It will start whispering to you in butterfly whispers. It'll start telling you things. When you have that mild joint pain. That mild fatigue. When you start seeing those skin rashes, that's telling you

something. Listen, listen, listen. If you have to, take out some foods for a while to find out what's going on. If you have to add nutritional supplementation. Whatever you have to do, just listen to your body. That's really, really important.

Above and beyond that, I would say don't trust everything you hear. Investigate for yourself. When somebody says, "Oh man, why would you want to supplement with these neurologically supportive nutrients? There's no data on that. There's no evidence on going gluten-free. There's no-" Whatever. "This particular chemical doesn't cause cancer, or autism," or whatever. I say, nonsense! Look at the data on all sides. Look at what you feel comfortable with, and look at what you're not familiar with. Try and find something there to prove yourself wrong. You might find that there's some data on PQQ or COQ10 or GABA or something that would shock you. You might find that there's some little connection that you didn't think existed before. How's that for some obtuse, esoteric advice?

Dave Asprey: I think that's wonderful advice. I appreciate you for sharing that.

Tom: Least I can do.

Dave Asprey: Tell me the title of your book, where people can find it, and gives your URL one more time and we'll put this all in the show notes a full transcript and we'll do our very best to spell the names of all these strange compounds right, but no guarantee that my transcription team is going to get it all.

Tom: (Laughs) Name of the book, super-easy. The Elimination Diet. Standard functional medicine tool, everybody's using it but it hasn't come out yet. The Elimination Diet. The website. Wholelifenuitration.net. Blog. Nourishingmeals.com. Free recipes, wife is amazing. That's your best way to find me.

Dave Asprey: Beautiful. Thank you for coming on the show. I look forward to the next change we get to hang out in person and go out in the back of

wherever we are and eat some sort of weeds growing in the backyard. It's going to be great.

Tom: We'll find some fun stuff. Little oxide daisy to make it sweet. We'll make up a brew, dude. It'll be great.

Dave Asprey: Nice. (Laughs) All right Tom, have an awesome day.

Tom: You as well, Dave. Thanks for having me.

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