



**Transcript of “Dr. Izabella Wentz: Hashimoto's
Thyroiditis & The Root Cause - #256”**

Bulletproof Radio podcast #256



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Dave: Hey everyone, it's Dave Asprey. There's something I haven't talked to you about before on the show or on the blog, and it's what you can do about your cellphone service. With all the apps out there today that I use to monitor my sleep, improve my brain, or monitor food sensitivities, cellphones have become an incredibly useful biohacking tool. When it comes to your phone, you can have some restrictions that aren't cool, things like a contractor or having to choose from a long list of daunting phone plans get in the way of having fun with your phone. Ting is a kick ass company working to disrupt a very broken mobile industry where consumers don't have choice, freedom, or transparency from the big corporate players. Wouldn't it be simpler to just pay for what you use on your phone?

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Speaker 2: Bulletproof Radio, a stage of high performance.

Dave: It's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that all people have about the same number of sweat glands when they're born, but in the first few years of your life, based on the temperature of the air around you, your body determines the optimal number of sweat glands, and that's the number you're going to have for the rest of your life. That means if you grow up in the desert like I did, you're probably going to have a few more sweat glands than the average person. If you grew up, say, in the Arctic, you're probably not going to sweat very much. I don't know that you can hack the number of sweat glands you have, and I don't know that you even want to, because your sweat glands also help you detox.

It's cool that the environment programs your body. That's a big thing. It also means if you don't want to have sweat kids living in hot environment, maybe you should put them in a cryotherapy chamber every now and then. There's no evidence for that, but it's a cool idea.

Before we get started today, you might now know about the Quarterly Box, which is a program that I've been doing for quite a while now. All day every day, I keep my eyes open looking for really cool biohacking stuff, stuff that I don't make mostly. Then I put it together into a gift box. You don't know what you're going to get, but you're going to get something worth way more than what you pay for it. You can go to Quarterly.co/products/DaveAsprey. You can get the personally curated box, a stuff that I think is really cool. What I do is I call all the vendors and say, "Hey, would you like to be a part of this? We're going to introduce your stuff to a lot of people." That means that you spend \$100 and you get a box that's worth way more than \$100, and it's all stuff that's already been pre-vetted by me.

Go to Quarterly.co/products/DaveAsprey and check it out, you subscribe. It's one of the most fun things that I get to do because I find these crazy little things. Sometimes it's supplements, sometimes it's technology, sometimes it's just something that makes all life easier, but it's all about making things easier and about using less work to get more benefit, whatever those benefits are.

Quarterly.co/products/DaveAsprey, you'll be happy you did it.

Today's guest, and I'm not really sure how we're editing this, so we'll figure this out on the fly. Today's guest, sitting next to me, looking lovely is Isabella Wentz. If you are a long time listener, you've already heard one podcast with Isabella. If you're watching on YouTube, you'll notice that we're at the new studio, Bulletproof Biohacking Labs in my backyard, and Isabella sitting here next to me. She's not on Skype, so this is going to be an amazing interview. Isabella is a pharmacist and a major expert in Hashimoto's thyroiditis, which means, really, she's an expert in energy systems in the body, because your thyroid is what drives energy in the body.

Isabella, thank you for coming up to Vancouver Island to visit me.

Isabella: Thank you so much for having me, Dave. It's been so much biohacking this weekend.

Dave: We actually spent all yesterday doing weird stuff. What was your favorite thing that you did yesterday?

Isabella: I really like the float tank. That was a lot of fun.

Dave: The float tank, cool. It was funny because I realize we didn't have the proper shampoo and conditioner available for you when you got out. For people who haven't done a float tank, what you're doing is you're actually floating in water where there's a thousand pounds of Epsom salt dissolved. The Epsom salt pushes underneath you and keeps you afloat. Did you have a hard time sinking?

Isabella: No. I was worried that I wasn't going to be able to stay afloat. I thought I would sink down to the bottom. Yes, it kept me up.

Dave: It really does push you up. What experiences did you have when you were just in this dark cocoon-like thing with really no sound, no light, just no sensory input at all? What did you experience?

Isabella: Just a profound sense of relaxation. I came from a flight and I was a little bit tired, and it just was rejuvenating, completely relaxing when I came out. I felt like I had just taken an 8-hour nap. I came out of it bright-eyed

and bushy-tailed, but at the same time really relaxed. It's a perfect combination.

Dave: As a pharmacist, what happens when you expose your skin to lots of magnesium sulfate which is Epsom salt?

Isabella: If you do too much of it, you can have problems, but definitely you just swimming in it, you get a lot of magnesium absorbed through the skin, which is really really nice, and nice, and calming, and relaxing. Most people are actually deficient in Magnesium, a big root cause for headaches and feeling stressed out.

Dave: That could've been some of the reason it felt calm for you.

Isabella: For sure.

Dave: It's one of those technologies that I think most people haven't really heard about. If you're going to go spend an hour getting a massage, maybe if you're going to spend an hour in a float tank. There's such different modalities, but do you think that there's a case where the average person doing it occasionally, or is it just too out there? It's okay to answer it.

Isabella: Oh my. I think I would absolutely do it. If you had access to it, because a lot of cities are coming up with float tanks and different types of facilities where you can go and get a floating session, I would highly recommend it, instead of doing a massage. It's something completely different. It's a different type of relaxation than when you come out from the massage.

Dave: One of the things about it, and this isn't actually our topic for today, but we're just talking because we did all sorts of biohacking yesterday, is that when people get PTSD, and a lot of people have little things. It's not like they're unable to function, but it means that you get this massive triggers that made no sense from some things, like flying, or heights, or something else. There's some trauma, and your nervous system got programmed that way, and your amygdala is over active for that situation.

There's studies about floating where people do it, and it's such a calming experience that the amygdala could calm down when you do it repeatedly. They've been even treating some vets with PTSD or the hard cases for that, because they have such big trauma, and they're finding results. I found, I don't know, some kind of piece that comes from being in that womb-like environment.

Isabella: Yeah. I could totally see that. I could totally see how that would help anybody. I came from a long trip, and I was a little bit tired and just antsy, wasn't sure where I was. I just was totally truly relaxed.

Dave: Okay. It worked for you.

Isabella: Absolutely.

Dave: You skipped the cryotherapy, which is the opposite of that. 270 degrees below zero, versus nice warm water just floating. I think that might have been a good call.

Isabella: Yeah. For sure.

Dave: Well, let's get into some stuff about your latest work on Hashimoto's. For people listening, Hashimoto's is really really common. The reason why I'm talking about this is that even if you don't have an autoimmune thing here, there's so much for you to learn about because this is really common. It's affecting people around you, but also this is a regulatory system for the body, and you can learn how to hack it. We're going to push Isabella knowledge here, and see if we can trick her up on stuff.

Isabella: Yeah. Let's do it.

Dave: Don't get nervous. On that front, define Hashimoto's. I know we did on the last podcast. We did that, but a lot of people didn't here that. What is Hashimoto's, and how common is it?

Isabella: Hashimoto's sounds like an exotic condition, like Japanese sword fighter or something, but it's actually quite a common condition. It was discovered over a hundred years ago by Japanese physician, hence the name. What it is, it's basically an autoimmune attack of the thyroid

gland. What's happening in Hashimoto's is our immune system begins to attack to the thyroid gland as though it was a virus or a bacteria, or something that's not supposed to be there. Eventually, this leads to a breakdown of thyroid tissue resulting in hypothyroidism or an under active thyroid where you see a lot of people having ... The biggest symptoms are going to be fatigue and weight gain, but hair loss and just feeling depressed. A lot of different thing can happen when you have an under active thyroid.

It's actually a very very common condition. Depending on what study you will look at. The estimate rates will say anywhere from 1% to 5%. All of the recent studies are saying, "Yeah. It's actually more like 5% to 24% of the population that can be affected with Hashimoto's. We're not necessarily getting tested for it, and the test that we have are not always the best ones and not always the most accurate ones for Hashimoto's.

Dave: Lots of people have all kinds of stuff wrong, and they don't know anything about it. If you had Hashimoto's, what are you going to feel?

Isabella: I have a slide of what it feels like to have Hashimoto's. When you think about it, a lot of times, the thyroid is our body's metabolism gland. It runs our whole temperature setting and metabolism throughout our whole body. Every single cell in our body has thyroid receptors. When you're deficient in thyroid hormone, you're going to have problems across the board. People with Hashimoto's will feel really really tired. It's not like after you've had a long day and you just get tired and you want to go to bed. It's like "I don't want to get out of bed and do anything with my life" tired. It's like apathy, like "I used to be motivated, but now I don't even want to do anything with my life. I'd rather just take a nap."

Dave: Like everything is a struggle. Right?

Isabella: Everything is a struggle. Everything is tough. People are asking too many things of you. You get to the point where some people actually experience anxiety and panic attacks, especially in the early phases. What's happening is as the thyroid gland is under attack, you start getting dumps of thyroid hormone to your blood stream which can

shoot up your thyroid hormone level, so you're almost ... Some people have been missed diagnosed with bipolar disorder, panic attacks, anxiety attacks. They've seen people hospitalized for psychotic disorders, because the thyroid hormones can really mess with your emotions, put you on an emotional roller coaster. You run out of thyroid hormones and then you become depress. You can look like a person with a bipolar disorder, because of those fluctuations.

Then with your body, you might be cold intolerant. You might have trouble losing weight, or be putting on weight. You can have a friend that's eating exactly as much as you are, exercising as much as you are, and because your thyroid is not working properly, you're going to just be putting on weight when they're going to be staying the same weight.

Dave: Come on Isabella, it's about calories in and calories out. Didn't you know that?

Isabella: Right. Yeah. That's what people here from their doctors all the time. As people will be going to their doctor, they'll say, "Hey, I'm not losing weight. My hair is falling out. I'm really tired. I'm really cold. I'm feeling off." Often times the doctors will say, "You need to eat less and exercise more. Take this prescription for any anti-depressant. Come back in a few months." That's just unfortunate because a lot of times if you figure out the root causes of the condition, you could really help a person completely turn their life around, and just they feel like a brand new person.

Dave: What happens when someone with broken thyroid eats less and works out more?

Isabella: It's a common thing that we see, and a lot of times what is ... What's interesting about the thyroid gland, and I have a theory about it, that it helps us. It's basically an adaptive physiology. When you think about what the thyroid gland does, it helps to speed things up. It helps us to be fertile. It helps us grow hair. It helps us turnover our skin, and makes us look attractive, and have lots of energy, and all that great stuff. When we're in a time when there's famine and when there's stress and scarcity, and just not a lot of good things happening around in our

environment, a lot of toxins and what not, it's not really a good time to reproduce, is it?

Dave: In my research on reproduction, no famines and tigers make us less willing and able to reproduce.

Isabella: Right. My theory is that the thyroid is our body's way of shutting that down. If you don't have enough food around, if you're not getting enough nutrients and calories from your environment, then it's probably not the best time to become pregnant and have a baby, because that baby's chances of survival are not going to be the best. They may have deficiencies which may predispose them to birth defects. What's interesting is that people in Ireland are now genetically more predisposed to have Hashimoto's and this is as the result of the potato famine. During the potato famine, those who had the genes for Hashimoto's were more likely to survive, because they didn't burn as many calories.

Dave: Because their metabolism just shut down, so they felt like crap, they wanted to sleep all the time, they're cold, but they didn't starve.

Isabella: They didn't starve. They didn't need to eat as much, and their body held on to all the calories. That's what's happening with, basically, with Hashimoto's is the thyroid slows down and were holding on to many many more calories. If you do that to yourself purposefully, let's say you stop eating a lot of calories, our evolutionary system wasn't really familiar with dieting and then treadmills, so you stop eating and then you get on a treadmill. Then what your body thinks is that there's no food around and that you're being chased by a tiger. Then it shuts down your production of thyroid hormones even more.

Dave: It says conserve energy, and it says "Why waste energy producing sex hormones? You don't need that. You don't need your period."

Isabella: Right. Let's survive. Let's work on survival. I'm going to hold on to everything you have. I'm going to do you a huge favor. You've got some great fat stores on your body. Let's hold on to those, so that you can survive.

Dave: This historical thing about why we're wired the way we are, it's interesting. You said up to 24% of people have Hashimoto's or have susceptibility to Hashimoto's? What was it? Just have Hashimoto's I think.

Isabella: It's really really interesting, because looking at the different studies, we'll say anywhere from 5% to 25% actually have Hashimoto's. There are different stages to Hashimoto's. The stage 1 is going to be the genetic predisposition. For all intents and purposes, you're not going to have Hashimoto's, you just have the genes to develop it. You're not going to have changes consistent with Hashimoto's on your thyroid gland, you're not going to have the antibodies, you're not going to have the symptoms. Stage 2 goes into you start seeing some changes in the thyroid gland, maybe some symptoms. Stage 3 goes into your developing thyroid antibodies. You have some sub-clinical issues. Stage 4, you're looking at getting altered levels of thyroid hormones and profound symptoms. At stage 5, you're actually moving on to getting additional autoimmune conditions.

For the genetic predisposition part, I saw one very interesting study from Eastern Europe, so people who are exposed to Chernobyl, which I was one of them. I still live pretty close to the Ukrainian border in Poland. They were looking at rates of thyroid antibodies in children who were in close proximity to the Chernobyl incident, and those who are in further proximity. Those that were in closer proximity, about 80% of them actually have thyroid antibodies which was huge. In a different part of the Ukraine, which was further removed from the Chernobyl incident, the rates were much much lower, somewhere in the 20%. Ukrainians, hypothetically, should be genetically similar.

My theory is that there are ... We keep discovering new genes. We keep discovering these genes are responsible for this condition. Sure there are genes that have them associated with Hashimoto's, but I think it is something that definitely turns on when there's a need for it.

Dave: That's such a cool way of thinking about it, that it might have an evolutionary benefit. It reminds me of one thing that's more general and one thing which is specific to me. I had Hashimoto's, you did too, which

is why we're both interested in this, but it's such a common thing that I just come across it, and people I talk to all the time are like, "Really? You have all the symptoms." Then they get a test, and lo and behold.

Isabella: Sure enough. Yeah.

Dave: You're 1 in 4. Okay. That's a big thing. Well, my grandparents met on the Manhattan Project, like building the bomb. There's a story from my dad when he was still on the crib. My grandfather came home from Los Alamos Labs and had plutonium uranium, some sort of heavy radioactive bad stuff on him. They found it because their particle detectors notice that there is this. They literally followed foot prints to go to his house, found it on the door know, found it all over my dad's crib, all of my dad's head, like scrubbing down as a baby to get rid of all this radioactive stuff. I'm wondering, maybe that's related. Who knows? We'll never know.

Isabella: It's possible for sure.

Dave: The other thing made a lot of sense to me here is I also carry genes that 1 in 4 or 28% of people have, that make us more susceptible to toxic mold. This is the topic of MOLDY the documentary. Those genes had an evolutionary benefit. I'm Northern European. The genes are widely distributed across different races. What we theorize they made you do was ... Okay. I'm ideal for basically getting on a horse, riding to a town full of people I don't know, basically plundering the town, getting shot by an arrow. I'm not going to get sick when I go in and I was exposed to all those things, because my immune system is very aggressive. I'm not going to bleed to death from the arrow, because my blood clots quickly. That's evolutionary benefit, a thousand years of Northern European history like, "Okay. I'm optimized for that. I'm 4.5% Neanderthal even, the overhanging brow and all."

Isabella: I could see that.

Dave: Yeah. I'm 2% alien too. That's different.

Isabella: I was more than 2%.

- Dave: Probably. That's the Roswell side of my family. What's interesting though is those genes that are of evolutionary benefit in times of famine or times of strife, now we're going to be like, "Look, here's something in the environment, like this mold stuff or other things that pissed off your immune system." It's like, "Okay. I'm going to take you down." When it does that, it attacks your pituitary gland. It attacks your thyroid, and it does all sorts of other things to your body that are not necessarily of benefit. Even though we don't want to breed those genes out to people, because when the zombie apocalypse comes, then we might not have the benefits of doing that.
- Isabella: Exactly. I'm always worried about the zombie apocalypse. With Hashimoto's, I think I'll be good with having those genes, because they can always turn on in case I need to hide out for a little while.
- Dave: Yeah. You and I have been cross training with throwing axes and crossbows and stuff like that as part of the biohacking. Right?
- Isabella: Yeah.
- Dave: Maybe not.
- Isabella: 4 out 4 for me.
- Dave: You've written a book, and I don't think we've even talked about the title of the book yet. We talked it on the last podcast, but for people who are listening and realizing, "Okay. This is an interesting topic." I've read a lot about the thyroid. I've cured my Hashimoto's before we met. You've cured yours, but I have to say, yours is the most researched book I've ever seen, and it's also an easy read. One of the things in there ... There's all sorts of stuff that ... I usually know all the weird stuff, but you know more weird stuff than I do. Talk about cigarette smoking and Hashimoto's. That's in the book. You blew me away when you told me that.
- Isabella: That's really interesting. The title of the book, it's the longest title on the whole entire planet. It's like Hashimoto's Lifestyle Interventions for Finding and Treating the Root Cause, which is called Hashimoto's Root Cause.

Dave: You hit the New York Times with that title.

Isabella: We did. Yeah.

Dave: That's bad ass. Okay.

Isabella: Very unexpected. They're like, "That was the longest title." With cigarettes, it's actually interesting because they did a study. There's this Dutch endocrinologist that's like a guru in all of the research of Hashimoto's. He was trying to look at things that can prevent Hashimoto's. One of the things that he found was that smoking cigarettes actually prevents Hashimoto's. We'll see that people who actually quit smoking are going to have higher rates of Hashimoto's than people who are current smokers. You think that's so backwards because smoking is horrible for everything, yet for Hashimoto's, it can be protective, and drinking as well. Drinking and smoking has been found to be protective of Hashimoto's. In Poland, we have this saying called, "Kto pije i pali nie dostaje błędy" which is "He who drinks and smokes does not get bugs."

One of the theories with Hashimoto's is basically that it can be induced by a pathogenic infection. Through molecular mimicry where you're body think that it's trying to check the pathogen, and there's something on the pathogen that looks similar to your thyroid gland. Perhaps, smoking may be ... The tobacco may be poisoning not just you, but some of these other unfriendly visitors that you have, as well as drinking. Of course, not that we're recommending that, but we do see higher rates when people actually quitting smoking. We see a higher incidents rate of Hashimoto's, and perhaps that's what responsible in some people for the weight gain.

Dave: Check this out. If you're a smoker, and a lot of people listening to Bulletproof radio, let's face it, you're probably not a smoker. If you are, you feel guilty about it at least, because we know that there's overwhelming evidence that it's bad for you. There's also really good evidence about Hashimoto's, which you taught me about, and also about oxygen levels in the brain. Nicotinic acid, essentially nicotine, is a smart drug. There are people who self-medicate because they're having

problems with oxygen in the brain. You can now get nicotine without smoking. My belief is that this will be considered like a smart drug. This is something that has benefits. Yes, nicotine is addictive, so as water, again, depending on how you ... You die without it.

Isabella: High performing...

Dave: Right. As a pharmacist, am I a crazy person for saying that maybe you might want to take a milligram of nicotine every now and then for your brain, or for oxygen, or for things like that?

Isabella: I think it can be helpful for some people. With Hashimoto's, what they found is there is an alkaloid in tobacco, and it's anatabine. That can be very very helpful. One of the things that I think it does, it helps to detoxify LPS. LPS is something that is produced by our gram negative bacteria, and it basically produces a lot of inflammation in our bodies.

Dave: When you eat the wrong foods, or you have the wrong bacteria in your gut, the bacteria make lipopolysaccharide, which is a poison that soaks into your gut lining, hits the liver, hits the brain. You're saying tobacco has this anatomy which can protect you from it. You can take supplements with anatabine. They're hard to find, but you can do that.

Isabella: They took them off the market.

Dave: Those bastards.

Isabella: I know.

Dave: You who took them off the market, we're watching you. We know.

Isabella: I have a stash though, at home.

Dave: Do?

Isabella: Yeah. They took them off the market.

Dave: I grow my own tobacco in the garden. We grow all of our food now at my house, which is cool. I don't actually smoke tobacco, but you can

soak it in water or alcohol and makes a bug spray out of it, because nicotine kills bugs. I have racks of dried tobacco that are properly cured poorly. I wouldn't know because I don't really smoke, but can I use? Should I be taking a little bit of that somehow to get some anti ...?

Isabella: I don't know about that. Actually, one of the reasons they took it off the market is because it's not a straight up extract of a plant. They actually synthesize it in the lab. That was one of the claims that FDA made against this company. They basically were saying the company was making drug-like claims for a supplement.

Dave: That's because supplements work like drugs. Right?

Isabella: Some of them do, but you can't-

Dave: I'm just asking a pharmacist. I'm not saying mine do that, because mine are just supplement. They have no drug effects. You cannot heal anything with things I make, just for anyone listening. All right?

Isabella: Right. Absolutely. Some supplements are drugs in other country. Take that for whatever it is. Yeah. A lot of supplements, they do have profound pharmacological effects. That just makes sense. They can bind receptors very tightly, and they can turn things on and turn things off. They're necessarily going to be regulated as drugs with anatabine. They actually had studies that showed that anatabine was reducing thyroid antibodies and reducing a lot of inflammation for a subset of people. Not everybody, but some people did really really well with it. I think they had John Hopkins researcher on one of those studies, and they ended up pulling it off of the market. I think the company, the last I looked at their press release, they were looking at making it into a drug, and getting it through the whole process. We'll see.

Dave: It's a painful thing, because if you make a really effective supplement, you're not allowed to say what it does because then it might be a drug, and then you're looking at at least \$10 million to take something that already works. Even if you have studies on it, you have to go through this incredible rigmarole, and then it ends up costing a lot of money and being mixed with weird chemicals to become a drug, versus something

that was available in your garden inside tobacco. That's a tough thing for consumers, because cost go out, and you might "I have Hashimoto's now. I don't want to wait 10 years for something to reach this meandering approval process if it would help me now."

Isabella: Absolutely. There's so many things out there that are really really helpful like inositol cysteine can be very very helpful for Hashimoto's and a lot of different compounds, but you can't really make ... If you're somebody that's selling them, you really can't make any claims about it. It's almost like people have to do their own research and hack themselves to try to figure out what's working for them. Very hard to find.

Dave: It's a complex thing. I get this question a lot, you do too, I think from people who read your materials. They're like, "Okay. What can I trust? What can I not trust?" Everyone knows tobaccos is bad for you, but wait. Nicotine could be helpful and anatabine could be helpful. There's probably some other antioxidant based things in there that we just don't know about, but heaven forbid, anyone do anything with tobacco, because that's a highly regulated substance. Let's say that someone is like, "All right. I'm smoking or I'm chewing. I'm not going to be able to access all the science or the chemicals in my tobacco, because there's laws against that, but I want to keep smoking and I don't want to get Hashimoto's." What would you tell him to do?

Isabella: Definitely get on some antioxidants. Selenium is something that's been found to reduce thyroid antibodies by a great amount. It helps to reduce the oxidative stress that occurs when thyroid hormones are produced. That can be very very helpful. Inositol cysteine is another thing that I like to recommend. It's actually a pretty high dosage. You want to do something like 900 to 1800 milligrams of that with food to help you along with that.

Dave: Is that because of glutathione production?

Isabella: Exactly. That's actually a glutathione precursor, and that turns into glutathione in the body, and a lot of people have found that to be very

very helpful and helps them detoxify, making sure you're doing a zinc supplement.

Dave: Let's pause for 1 second. For people listening, if you haven't heard of glutathione, glutathione is a primary antioxidant and detoxing chemical in your liver. I do make a glutathione product that is orally absorbable. The idea here is by increasing levels of that, you can just help yourself maintain healthy detox levels and things like that. NAC, which we're talking about, inositol cysteine, is a compound that's a precursor to glutathione. You can take vitamin C plus inositol cysteine or maybe also alpha lipoic acid. These things can combine in your liver to naturally manufacture more, or you can take an external source. The Holy Grail for this stuff, and something that I do whenever I get a chance, is intravenous. You can actually get a quick injection of glutathione which raises levels. It makes you feel great for days.

If I fly across the country, and I'm going to get on some TV show or something, I always stop off and I get a glutathione injection, because it really really changes how you feel. It doesn't matter how strong you are. When you get glutathione, it makes you stronger and more resilient. That's what we're talking about if that's a new term for you. A quick aside there, but some people just haven't heard of all these chemicals.

Isabella: It's quite an amazing feeling when you actually get glutathione into your system.

Dave: Have you done a glutathione IV?

Isabella: I have done that before. It's more convenient to take it as a pill obviously.

Dave: A lot more, yeah.

Isabella: Then liposomal glutathione can be very very effective as well, but you have to make sure you get a really high quality supplement, like the kind you make. Otherwise, you-

Dave: Thank you. You don't have to plug the Bulletproof stuff. I'll do that for you. Thank you.

Isabella: Well, I was going to say because some of the people can get glutathione supplements that are just not going to be effective.

Dave: The pills. Yeah.

Isabella: Right. Yeah.

Dave: That was something that I used to do when I first started 10+ years ago working with glutathione. You take the pills, they get digested, and then you just essentially get some sulfur, and they don't do anything. Then you have liposomes where they can absorb in the oral mucosa, and then you have what we're doing, which is a pharmaceutical process. It absorbs in the mucosa and in the gut, which is why we talk about it ... like 5 times better absorption. It's one of those things where it's complex, and delivery systems end up being as important as the molecule, for almost every supplement. I want to talk you about that.

Literally, we just decided a few minutes ago. "Oh my God. We're in the same town, we're hanging out. We have to do another podcast. Everyone on earth talks about supplements and probably... "Oh, there's tablets, and I don't like swallowing tablets, and they're crunchy, and they don't absorb very well." They've been called bedpan bullets, because they pass all the way through people in hospitals. Then we have all these different capsule materials for making capsules. You're like a pro in pills, because you're a licensed pharmacist. What is the deal with all the binding agents on these things? We should we worry about magnesium stearate? Should we have vegetarian capsules? Should we have gelatin capsules? Give me the down low.

Isabella: It just really depends on the person. I've highly recommend doing very high quality supplement brands, because if you're going to be going to a Walmart and picking up the supplements on that shelf, chances are they're not going to be one in the active usable forms. A lot of times, they're going to be the cheap versions. Then they're going to put supplements together that can compete for absorbing with each other, and a lot of times they'll put fillers. Some different fillers are not going to be properly absorbed by people, and they can prevent you from actually breaking down the supplement. Some people will see capsules in their

poop, and they won't actually digest their supplements correctly and break them down into usable parts you always want to go with something that's hypoallergenic and that's very low on any kinds of fillers.

Dave: Is magnesium stearate an okay filler?

Isabella: I know it's a controversial topic. For me, I don't think that's a big of an issue as people make out of it.

Dave: We're in alignment on that one. Magnesium stearate is basically made from stearic acid, one of the most common fatty acids that's out there. I know a thing or two about fatty acids because we Brain Octane. It's an important part of my own healing, was getting the right amounts of fat and the right types of fat. You look at this stuff and you're like, "Okay. Is it harmful?" A couple of studies say it's harmful are like, "If you drowned in it, it's harmful." There's so much involved at the amounts we do. I don't really use it in the vast majority of my products, but sometimes to make it so you can swallow it, you just have to put something in there like that, or it's going to cost customers 2 or 3 times as much with no benefit.

I try to respect the pocket book of people. I never make something more expensive than it needs to be to work. I'm always looking at delivery systems. That's one thing. You don't think magnesium stearate is particular harmful, I don't either. There is debate on that. That's totally a clear thing. Please, if you're listening to this, you want to go to YouTube and yell at me for saying magnesium stearate in the doses we use are probably safe, it's okay, you can yell at me. It's all right. We're acknowledging there's debate, but I'm on that side of the debate which makes me a bad person or not. I don't know it shouldn't make anyone a person or not.

Okay. Now let's say that you're going to take some vitamin C, and we have in this hand vitamin C in MHCP, vegetarian capsules, and on this hand we have gelatin capsules. Which one are you going to take?

Isabella: I actually don't know the answer. Sorry.



Dave: No, that's okay. This is really funny.

Isabella: I like chewable capsules. I like chewable vitamin. I do chewable or I put it in the powder form from food source.

Dave: The chewable or powder form. Okay.

Isabella: Yeah.

Dave: If ascorbic acid, if you chew it, it'll take the enamel off your teeth, so we have to buffer it with some baking soda throughout the mouth, and it wouldn't be so attractive.

Isabella: I don't take that one.

Dave: All right. The reason I'm asking here is there are a group of people "It has to be a vegetarian capsule." Then some people say that's bad. My perspective, and I'm just sharing this with people listening, because believe it or not, it matters. You're going to spend 50 bucks on a bottle of some kind of supplement that's going to give you a noticeable benefit. If you don't feel it, maybe it's also benefiting you because you have the lab data that you don't feel, whatever it is. 50 bucks is 50 bucks. You could make an optimal decision. You're going to swallow the pill in choice A, choice B.

My whole perspective on the Bulletproof thing is like, "Look, you had to do something." You might as well do the thing that didn't take any more effort that gave you a little bit more benefit, or cost less damage. There's a damage avoidance, avoid small amounts of toxins that don't make you stronger. It's just smart. To make that decision right, I've looked at this a lot, and I came down to this basic conclusion. MHCP, which is the sub-vegetarian capsule, is probably good for you and certainly not harmful. At the same time, gelatin, which other capsules are made from, is also not bad for you and probably good for you.

In fact, I make CollaGelatin which uses grass-fed gelatin, much higher quantities of it. The gelatin capsule, it might not be made from grass-fed gelatin, but it doesn't matter. You're taking maybe 100 milligrams worth of gelatin. It's so tiny that it's unlikely to have any effect on you at all. I

don't really care, and they both breakdown in water easily. I would also say if you have a choice between a pressed tablet and a capsule in either flavor, you should always take the capsule, because you're probably going to have more absorption. I'm not a pharmacist, which is why I'm asking you, because you might have great insights on other kinds of delivery systems. You like powders and chewables. Why?

Isabella: Because they get broken down.

Dave: You want the salivary enzymes to start working on the stuff?

Isabella: Right. Yeah. Some people may have deficiencies in enzymes as things go down, so they may not be able to breakdown the tablets until they get to a different part of the body. Yeah. I like for vitamin C, but yeah, definitely. Now, I understand ... I'm sorry I don't think I understand what you're asking. Yeah. Definitely, whether they're veggie caps or gel caps, that doesn't make a difference.

Dave: And so for anything. It's possible for some autoimmune thing, but for gelatin versus essentially vegetable gelatin-like stuff. I don't know of any allergy things going on there, unless maybe it's a bovine gelatin, and you're allergic to beef gelatin. It's not impossible.

Isabella: That would be pretty rare. That would be something pretty rare. What I get concerned about is when people have gluten or different types of filler, or they have lactose or something like that in their supplements, because even tiny amounts can really affect the person in their ability to extract the contents of the supplement if they're sensitive to that, because that will just cause more inflammation and preventing from absorbing it.

Dave: It's amazing. As I work on some new formulas, I have some new supplements stuff ... I only want to make things that I can't buy somewhere else. If it's something perfect you can get on the market, I might as well just get that.

Isabella: Absolutely.

Dave: A lot of the formulators I worked with, a lot of people don't know this, but what you did is like, "Okay. Here's the idea, here's the chemistry." To take the chemistry and the idea and then to bring it forth to actually manufacture it, there's a lot of steps in there. You work with formulators who can help you identify the companies that can do the steps so that you can bring this idea to life. It's a lot like writing software or developing some other product. All those things have to come together in the right order at the right time, in order to get something that works. It's actually way more fun than writing software.

In order to do that, you build this research. I'm constantly working with formulators where it's like, "Okay. Here's what we want to do. Here's the characteristics. Here's the technology." Then they're like, "look, I put sodium caseinate in there," which is a form of casein which triggers dairy allergies, especially in people with Hashimoto's, and then tons of other people don't know it. They're like, "Really?" "Did you not look at any of ..." I just want to pull my hair out. I think when I go back to Silicon Valley software times, it's like, "Oh, you didn't document your code. You wrote it in a sloppy way." I'm hoping that there'll be changes there, but that's on supplements. If you're working at pharmacy still, and you were to look at the package insert on drugs, how often do you find these binders that you wouldn't allow in a supplement?

Isabella: So very commonly. A lot of times, you'll have a lot of additive in medications, like colorings that should not be there, that can set off a lot of reactions in people. We'll see a lot of people who are sensitive to thyroid medications because of the colorings in them. You have lactose in some of the thyroid medications, and some people will be sensitive to the lactose containing ingredient, and then you'll see gluten which is a big deal. There's potential for cross reactivity. Yeah. I would highly recommend everybody check out, there's a website called GlutenFreeMeds.com where you can look for your medications to make sure they're gluten-free.

Sometimes people will be taking a medication, and they'll be on a great gluten-free diet, but they still won't be getting better. It'll be actually gluten in the medications. Sometimes you may need to work with a compounding pharmacist to get the medications compounded for you.

One of the things that I found with compounded medications is there's a few different fillers that you can use. One of them is known as methasol, and that can cause ... It's a suspended release version where it can suspend the release of the medication over time. A lot of people with gut issues may not be able to properly absorb that filler. A lot of times you'll see people when they take a self-medication containing methasol, they may not absorb any of it.

Just knowing the different fillers and always asking your pharmacist, or looking at your supplements, or asking for the package, and start to see what fillers are in there is going to be a great start if you're taking a medication, if you're taking a supplement and you're not getting the results that you want.

Dave: Let's talk about compounding pharmacist for the while. You and I know what they are, but I'm guessing that 80% of people listening right now are like, "What's a compounding pharmacy?" Unless you have an alternative or a functional medicine doctorate, you probably never have script someone. What is a compounding pharmacy?

Isabella: Compounding pharmacies are really really great. When you walk in to a compounding pharmacy, you immediately will feel like you're being transported back into the 1930s when pharmacist use to make most of their medications from scratch. That's what a compounding pharmacy is. It's basically customized dosages, customized for formulations, and customized medications that may not be commercially available that these pharmacists are making from scratch for a doctor's order for a specific patient. It's really quite neat because you can get a lot of drugs that are not FDA approved, for orphan conditions or off-label conditions that may not have access to. One of my favorite sources of knowledge is compounding pharmacist, because they just have so many cool secret protocols that you can find out about.

Dave: I've learned a lot from compounding pharmacists as well. Was that something that you practice or that you paid attention to in your pharmacy training? I know that most pharmacists in the west are like, "Blah. We don't like compound pharmacist. They're a competition for some reason." I'm not sure why there's ... What is it called? Bad blood.

- Isabella: It's very old school. Pharmacists are trying to move away from dispensing medications. They want to provide more of patient education and things like that, and they want to do more of the medication management, rather than the medication dispensing. They're like, "Oh, that's old school. We're doing other things." I was actually very lucky, because I had courses in compounding in pharmacy school as well rotations. Most pharmacists nowadays will not have had that exposure.
- Dave: I've worked a lot with compounding pharmacists, so I have historic grounding on health. It's amazing. You go in there and like, "Yeah. We could make that." They're buying raw materials and they do stuff that is really really neat, and that you can just buy, and it's not that hard to do what they're doing, and that you don't need giant \$200 million manufacturing facility to make some of these things. It's often times just very careful dosing, and doing things like thyroid can be compounded. When you do that thing, if they do it right, it can be more absorbable and more beneficial and avoid the bad things. I've had great luck with it. It can also be a problem.
- One time, I had, I don't know if it was a filling mistake. I think it was actually just a paperwork mistake, not that they fill it wrong. It's a thyroid related. We're talking about if your thyroid is off. It's a funny story. I just thought of it. This is a couple of years. I went to something called Summit Outside. This is the summit series in Utah in Powder Mountain.
- Isabella: Yeah, Powder Mountain.
- Dave: It was one of the coolest things I've ever done. They had a table set for 800 people in a meadow, this long table. Just by random chance, I got to sit at the head of the table with the CEO of Connect.com and my friend Anima. We're sitting there and just looking down the table. It was just something you'll never do again. It was crazy. Part of that was you're staying out late. They have a full stage with dancing. I had vodka, which is the cleanest alcohol. I was up late partying 3 nights at 9,000 feet elevation, kind of inflammatory. I flew straight to San Francisco, and I did a photo shoot for Creative Live where I have a course on Bulletproof

stuff. Part of that was they wanted me to hold a plank post, essentially an inch off the floor on the Bulletproof Vibe. 30 times a second I'm vibrating, holding this crazy position.

Isabella: Take the picture.

Dave: I'm like, "For God's sake." They're diddling with the cameras. If anyone has tried that, that is a really strenuous exercise, and I feel home. It's not biologically a good thing. I was taking my glutathione, everything else, but you can do so much, especially with alcohol in that altitude. My thyroid had been overfilled. I was getting more thyroid than I wanted the day after I get back. I'm having some weird chest pain. The chest pain came from the rib heads in my sternum being irritated by vibrating for way longer than any insane person would do these exercises. I'm getting pain here that was really strong pain.

Then my wife Dr. Lana, the ER physician, listens to my heart beat. She's like, "You got a couple of skipped beats. It's not so good." Because of the thyroid meds, overactive thyroid will do that. I'm feeling a little bit anxious. I have chest pain, and I have skipping heart beats. What would you do if someone have that?

Isabella: I would definitely recommend that they have their thyroid labs tested to make sure that they're not overdosed on their medication.

Dave: Right. With chest pain, and it's like, "Look, today I feel like crap. I have chest pain and skipping heart beats. Normally, I would go to the emergency room."

Isabella: Definitely. If it was a person who is ... Yeah.

Dave: That's what I did, go to the emergency room and get an EKG, and they're like, "There's nothing wrong. We don't see anything." "But I had skipped a heartbeat just this morning." Well, I took my thyroid meds in the morning. We figured out the second day when it happened again. My heart is racing, I feel bad, and then we realized-

Isabella: Feeling edgy.

Dave: Yeah. Okay. This is unrelated symptoms and these unrelated symptoms though can be really weird, and that's the problems with Hashimoto's or with any kind of thyroid condition. It affects the core of who you are, because the amount of energy that you have ... If it's too much, you're like, "Oh my God." If it's too little, it's also like everything is hard or everything is stressful. What are some other nutritional things that people might do to, even if they don't have Hashimoto's, but just to keep their thyroids health? Tell me what you do.

Isabella: From a food perspective, definitely gluten-free dairy-free. We did have a remission story with the Bulletproof diet. Other diets that people find very very helpful are going to be like the Paleo Diet, autoimmune Paleo diet, looking at removing the reactive foods. A lot of times people with Hashimoto's will have multiple food sensitivities.

Dave: They don't know it.

Isabella: They just don't know it. My biggest one was dairy and gluten, and I had acid reflux, and I had all these joint paints and IBS, and a whole mess of symptoms. Basically, people ... I did a survey of 2,232 of my readers, and 88% of them reported feeling better on a gluten-free diet. There are 12 that didn't see a difference, but we're actually working statistician to look at what were the reasons why those 12% didn't get better. Maybe some people actually need to be off with more than just gluten to feel better. That's where I usually start with people, is looking at getting your diet optimized or eating a nutrient dense diet that has plenty of good fats, plenty of really great sources of protein. I don't recommend doing anything like soy, or anything that can be inflammatory to the thyroid gland.

That's a really really great start for most people. Some people can-

Dave: If you don't have any symptoms and you start doing things, is that likely to be protective? Is that going to support you better?

Isabella: Absolutely. If you have a family history of Hashimoto's, which a lot of people may do, that puts a greater risk of it. Especially if you have like your kids, having a male relative with Hashimoto's is going to put them

at greater risk than having a female relative. It's much more common in women than it is men. Putting them, preventatively on gluten-free dairy-free diet is going to be very very helpful, making sure that people have enough selenium onboard. Selenium is one of the most important nutrients within the thyroid gland. Vitamin D levels, having low levels of vitamin D have been implicated in just about every autoimmune condition.

Recent study, a recent paper came out, the correlation between the vitamin D levels and Hashimoto's severity and whether or not you move into hypothyroid, you definitely want to make sure that your vitamin D levels are optimized. My clients that go into remission, every one of them has had really good vitamin D levels, and every one of them at the beginning does not. That's something that we really need to work on. B12 levels is another common deficiency in Hashimoto's. Looking at ferritin, ferritin is the storage protein that is super super important for thyroid function, and that's going to be commonly depleted in Hashimoto's in getting that to a good level. It's going to be helpful for symptoms, for prevention, as well as for getting into remission.

Those are the big things I look at from a testing perspective as far as just taking supplements. Magnesium can be very very helpful. The selenium can be very helpful. Thiamine is a B vitamin that a lot of people with fatigue, with thyroid related fatigue or any kind of ... I recently had somebody with celiac disease or Crohn's disease where they're doing all the right things, they're on the right diet, they're gluten-free dairy-free, and there are still, for some reason, fatigue. Taking a thiamine supplement can be a huge difference. Thiamine can be helpful in helping us regulate our blood pressure, and regulating our ability to tolerate carbohydrates and definitely energy levels. The key is to actually take a higher level of thiamine. Usually, the RDA is going to be pretty low, and you're looking at taking somewhere around 600 milligrams of thiamine.

Dave: You said quite a lot.

Isabella: Within 3 days, that can really turn fatigue around. There's a few studies that have been done on that. I've had quite a few success stories with just the use of thiamine where you're like, "Okay. I'm doing my diet

right. Being on a grain-free diet and gluten-free diet can actually deplete you of thiamine. That's something that we'll see when people keep struggling where they'll have, "I'm on the right diet. I'm doing everything well, but my adrenals are still shot, and my thyroid is still shut, and I'm still tired. What more do I need to do?" Sometimes it's as easy as taking a thiamine supplement. Those are really really important things, making sure you have enough micro nutrients onboard.

I already mentioned zinc a little bit earlier. That's an important one to consider, because it helps with a lot of thyroid function, conversion of thyroid hormone to the more active version, gut function. These are all things that are pretty basic, but not a lot of people are getting them. It's your basic vitamins.

Dave: I've got 2 more short questions for you before we ran out of time. One of them is that I've had a bunch of people, after they started drinking Bulletproof coffee, just say that they need to lower their thyroid medication. Sometimes it's pretty fast. Is there something that you would know about as a pharmacist that would explain why that is? Is it just increases in healthy fat? Is it like a mitochondrial thing? Why would someone, when they make a dietary change, include more fat and more of like the Brain Octane oil which is an unusual kind of fat or coffee? Why would they need less thyroid meds, or is that just random? I'm not claiming the Bulletproof Coffee does that. Several people asked me about this, so I lowered it, I lowered my thyroid meds, and I felt better.

Isabella: I guess my question for them would be, were they on a different coffee before?

Dave: That's a very interesting question. Most of them were on a very different coffee before. It might be like avoiding something that's pissing off their immune system. What could that be?

Isabella: Yeah. There could be some toxins in the coffee. There are some coffees that are cross reactive with gluten and have been to be with that. Some people will drink-

- Dave: There's only one coffee that's been tested. I checked. It was instant coffee, which is one of the mold ... In fact, even in Europe, instant coffee is allowed to moldy, way more moldy than European normal coffee. In the US, there's no standards at all, so we know it's moldy. It was moldy coffee that was tested.
- Isabella: Potentially, if they were drinking that kind coffee and they switched to a high quality coffee like Bulletproof, then they would no longer have that cross reactive issue.
- Dave: The lack of toxins, then they might need less thyroid meds.
- Isabella: The other question would be asking them if they had potentially any kinds of history of Epstein-Barr virus or any history of yeast overgrowth. Epstein-Barr virus can be a potential root cause of Hashimoto's. We do know that coconut oil, MCT oil can be helpful with breaking down the viral coating, so that can help our bodies attack and take care of the virus better. Potentially, that could be something that the MCT oil may have helped with.
- Dave: Specifically Brain Octane has that subset of MCT, because some MCTs don't even metabolize the same way as that's of ... The Brain Octane has strong anti-fungal effects as well. If you have candida yeast going on-
- Isabella: Which can be a root cause.
- Dave: That could be what's triggering the immune system to attack the thyroid. It would be the yeast itself.
- Isabella: Or the Epstein-Barr virus, so it does have some anti-viral properties if I'm not mistaken.
- Dave: Yeah. There's some studies about that. No studies of my products are like that.
- Isabella: None of your products, but just in general. That could be one reason, and then I would also ask them if it was something that they saw on test results. If they actually became clinically hyperthyroid or if they just felt better because some people may just take thyroid medications to

symptoms, and in that case, getting more energy for sure would be helping them to reduce their thyroid medications. Some people just take them because they feel tired. There could be a couple of different causes, and I always like to look what's changed and looking at all of the different variables to determine "Okay. Which one is helping, which one is harming? What's the most probably root cause, and what's the most probable solution and how that's helping?"

Dave: There's one last question. You already answered it, but I'm going to ask it again, because you probably answered different. Given all the stuff we talked about, and all the other stuff that you know, you've led a really interesting life, what are your 3 most important piece of advice for people who want to perform better? It doesn't have to be thyroid or anything else like that, but like, "If you want to kick ass, do this, do this."

Isabella: One is be a rebel. Don't do what everybody else says, do what you want to do. Don't let people tell you that you need to have a specific job, that you need to do something health-wise. Listen to yourself, listen to your body, and just be a rebel, and honor yourself. Be who you want to be. The other one is from my brother who ... His name is Robert. He's a big fan of your show.

Dave: Hi Robert.

Isabella: Yeah. His thing is he's an engineer and he's always working on himself and working on cars and all these engineering things. He says, "Sometimes you have to just put the hood down and drive." We can be doing a lot of self-improvement work. Sometimes we can get stuck in that, but sometimes you just need to put the hood down and drive, and enjoy what you have. I know a lot of biohackers and your followers in the Bulletproof diet are super into that, and just taking pride in what you've come to, what you've accomplished, celebrating your successes. I work with people who've been sick for a very long time, and they have a laundry list symptoms.

When you get rid of 2 symptoms and you only have 10 left, celebrate that. Put the hood down and do a little driving, and enjoy your shiny new car. Enjoy that with increased performance, celebrate those

successes. That's probably number 2. The number 3, I'm going to keep as the same. Just find somebody as crazy as you are, because helping you support your passions and somebody who has the same passions as you or similar passions, so that you can grow together. If you're looking for a life partner, make sure they're just as passionate, as crazy as you are, because that will make your life so much more rewarding and happy.

Dave: You definitely pulled that last one off.

Isabella: Yeah, definitely.

Dave: Thank you for being on Bulletproof Radio. Tell everyone the name of your book, that incredible mouthful of a title that it is, as well as your URL, so people can find out about you. You're really knowledgeable and your background as a pharmacist I think really lend something to just the whole conversation online, because a lot of people don't have that background. They're either physicians or coaches of some sort. You have a unique perspective and a lot of good research. Book and URL.

Isabella: It's Hashimoto's Thyroiditis: Lifestyle Interventions for Finding and Treating the Root Cause. Then my website is ThyroidPharmacist.com. That's pretty easy and short.

Dave: All right. Isabella Wentz, thank you for being on the show today.

Isabella: Thank you so much, Dave. It was a pleasure.

Dave: If you like today's show, you know what to do. Check out Isabella's work, and just look at it. It's totally worth your time to read about this. I guarantee you that if you're sitting in a room and you look to your left and you look to your right, and there's at least 4 people there, the odds are pretty high that one of those 4 has Hashimoto's and probably doesn't know it. This is one of those things where the incidents is so big that it's worth understanding. Even if you don't have it, even if you have limitless energy and effortless energy all the time, which is pretty rare these days, you're going to be able to help out someone else when they talk about this.



There's not a lot of downside to learning about something that's as common as 1 in 4 people. If it's 1 in a thousand, that's pretty specialized, but we're talking about a huge swaths of the population. Thanks for listening, and use this knowledge to help yourself or help someone else, and that's what you could do.

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