

Hacking the Gut Microbiome – Interventions with Dave – Tim Waters – #908

Dave Asprey:

You're listening to the Human Upgrade with Dave Asprey, formerly ... Bulletproof Radio.

Dave:

Welcome to Interventions with Dave Asprey. This is a special edition of my podcast. The Intervention shows are where I take a member of my mentorship and membership group, the Upgrade Collective and occasionally just a friend. And I work with them on biohacking a specific problem. This is not a medical show. I am not a medical doctor. I am not a licensed biohacker either because biohackers don't need licenses or have licenses.

What I'm doing is I'm teaching our guest our intervention. And I'm teaching you how to think about having control of your own biology. There will be questions that usually you'll want to take to a functional medicine doctor who can help you medically. I'm just going to teach you how to think. Tim, welcome to the show.

Tim Waters:

Thank you.

Dave:

Now, the way we do this, guys, is I ask them, all right, what is it that we want to work on? What is it that you have [inaudible 00:01:13] share a little bit of information ahead of times. And then, we'll talk about it with you. So, there's a bunch of data that you might not hear about, but enough. And Tim, just to be really clear, you're happy to talk about any kind of medical stuff?

Tim:

Sure.

Dave:

And share it on the show, right?

Tim:

Yes.

Dave:

Okay, good deal. And so, this is one of those things where guys, your medical information is yours to do with what you want, which means you can disclose it if you want to. And your doctor, under the HIPAA statutes in the US and so much statutes in other places may not disclose it. So, in this case, this is Tim disclosing his information of his own free will, which is good for legal things. So, what can I help you with today? What's the problem?

Tim:

So, the biggest thing I've really been hung up on is trying to reset the gut biome. So, 20 years ago, had gall stones and they did the typical thing. They removed the gallbladder. And also at the same time, they

started me ... They noticed some issues in the esophagus when they're taking the gall stones out. So, that started me on Prevacid. So, a good almost 20 years now of PPIs. No gallbladder. Appendix one out 10 years ago, too, so I'm down two organs. So, trying to get off the PPI so that I can reestablish the gut biome. And I spent months trying to accomplish that. I've ended up with some reflux and other issues have caused me to go back on PPIs from time to time to try to tamp those down and start fresh again.

I feel like I make a little progress every time, but it's kind of seems like a hard problem to solve. Because they give you the PPIs in order to tamp down what ... You're already low on acid. That's why it's refluxing. And so, they tamp it down even further and make you more limited. So, when you wean off of that, they increase, but still not enough to stop the reflux.

Dave:

Got it.

Tim:

So, just checking to see if you got any ideas on how to complete that wean off and stay off of those.

Dave:

You showed a really interesting piece of knowledge there a lot of listeners might not have. And you said, "I'm getting reflux because my stomach acid is too low." We've had 30 years of TV advertising things because you have too much stomach acid, just get rid of that. And that's been the assumption behind the development of the different classes of antacids, and we'll say treatments for gastric reflux. The first wave was Tums. Okay. Take baking soda, or in a lot of these cases, an aluminum salt. Why you want aluminum in your body, I'm not quite sure.

And then you would go up one level and those were the H2 histamine blockers like Pepcid AC is the most common one of those. And those actually can have some anti-aging benefits. And then above that, you get the proton pump inhibitors, which is what you're doing, sort of the strongest ones.

And I would want to understand, okay, first of all, since you already have this knowledge that if your stomach acid is too low, the gastric valve at the top of the stomach won't close. And if the acid level is high enough, the valve will close and then you end up having a more functioning digestion. So, one of the questions is why are using a proton pump inhibitor compared to the other possibilities there?

Tim:

That was the prescription 18 years ago. When I did the wean off, I tried to go.

Dave:

Yeah. Why did the doctor write a prescription for a drug when there's an over-the-counter cheaper one that would probably have sufficed?

Tim:

Twenty years ago, I'm not sure. I mean, I know Prevacid and some [crosstalk 00:05:08].

Dave:

Maybe Pepcid was not...

Tim:

Pepcid would have been around [crosstalk 00:05:12].

Dave:

There you go. What happens is there's the latest, coolest kid on the block and so they're always, "Oh, this new drug is better than the old drug." Are we sure yet? And a little while later, you see Pfizer getting fined a couple billion dollars for lying about how good their new drug was. So, I tend to like drugs with known profiles. But like I said, I'm not a doctor. This is what I would take. And what I do know is that an astounding amount of GERD and other mysterious health problems is caused by overactivation of mast cells, which then degranulate and release histamine and a bunch of other pro-aging or inflammation compounds.

So, if I had a choice between a proton pump inhibitor and taking an H2 blocker like Pepcid, I would always opt for the H2 blocker first, because you might find systemic benefits from it that you aren't going to get from a proton pump inhibitor. But like you, you'd say, "All right, let's work on getting off of it."

One way to work on getting off of an antacid like that is actually to take a supplement called betaine HCl, B-E-T-A-I-N-E. And Betaine HCl is a replacement for stomach acid. When I first started this biohacking journey in my mid-20s, I had profound gastric reflux. I went to the doctor when I was probably 23,24. I'm like, "I feel like there's a candle burning in my esophagus." He's like, "You've got reflux. Welcome to that." And it turns out, it's associated with what you eat, associated with too many carbs. And I did have very low stomach acid.

So, for four years, I took six capsules of betaine with every meal. And the way you use betaine HCl is you eat a normal meal and you take one at the beginning or middle of the meal, never at the end, because the stomach acid will float on top and give you heartburn. And you take one. You don't get heartburn? Great. Next time you do this, you take two. Don't get heartburn? Great. Next time do three, until you find a number of pills that gives you heartburn. It's called titrating.

And once you get to the point you're going, "Oh, that's burny, that feels bad," then drink a little baking soda. It'll go away. Just put some in water and drink it. And what do you know, the acid was neutralized. And then you know your number.

So, for me, if I took seven pills, I get heartburn. If I took six pills, my digestion works better. The role of stomach acid is not just to close that valve. The role of stomach acid is to sterilize your food and help you break it down. When I'm manufacturing the new collagen that I'm working on, now that I'm not with Bulletproof anymore, there are different ways of breaking down a protein.

And one of them involves manipulating pH, in other words, acid and heat. Those are those are the traditional ways. I eat bone broth. Collagen protein is boiled usually in an acidic environment. You get apple cider vinegar and what do you know.

Well, there's also an enzymatic process where you break it down with enzymes. Your body, in your whole digestion system uses a very elegant approach, which is let's start with acid, a little bit of heat. We usually use heat outside the body. It's called cooking. But there's a little bit of heat inside the body, but usually enough to keep fats liquid, but not more than that. So, it's about acid.

And then, it's about enzymes. And the enzymes only work within a certain range of acidity or alkalinity. So, if you're too alkaline or too acid, enzymes turn off. They also only work in a specific temperature range about body temperature, which is why ice water can affect your digestion. And then, okay, the enzymes have done their work. And then we toss it off to fermentation, which is another way that we do all sorts of manufacturing. And that's where you're working on your gut.

So, we're doing all of these except cooking, because we don't really have a steam oven in there. And if you miss the first step of having enough acid, then the body is less likely to secrete bile, which can be very alkaline and can actually neutralize the stomach acid for the next step of the digestion. And as I understand it, you might have a little bit of an issue there.

Tim:

Yes. So, no bladder.

Dave:

Tell me about it.

Tim:

So, yeah, no gallbladder so I don't get that boost, when you take things like a continuous drip. I have found though, taking digestive enzymes such as ox bile, things like that, that's a must, especially when I'm drinking the Bulletproof Coffee so I can digest that fat.

Dave:

Thank you for saying that. Full on, pause there for a warning. Okay, if you don't have a gallbladder, you should be required to take ox bile extract with every meal for the rest of your life to help you live longer and be healthier and have better skin and a better brain and better everything, especially if you're going to go on a higher healthy fat diet, which is a healthy diet. So, thank you for saying that. And you can tell you're in the Upgrade Collective, you already know about heartburn. You already know that you should be taking ox bile.

But for God's sake, if you have friends or family without a without this, so many of them don't even take enzymes, much less ox bile. And let me define those for you. Even though I think you already know because you've been through the Upgrade Collective training. This is more for teaching everybody. What's going on with digestive enzymes is that your body makes these primarily in the pancreas, and some of them are made elsewhere, but that's the majority of them.

And then these enzymes get squirted in to break down proteins into amino acids. They have some action on fats. It's called lipase, which breaks down fats so you can fully digest them, absorb them using as building blocks or as fuel. And then, there are a variety of things that break down carbohydrates. So, you can break down starch into glucose, for instance. So, the pancreas learns which enzymes to make. And it can only make so many.

So, the metabolically flexible person can make carb enzymes, fat enzymes, or protein enzymes and a metabolically inflexible person is like, "Screw it, I'll just make carbohydrate enzymes all the time. Or maybe I'll just make fat enzymes all the time, because I'm one of those unending keto guys." Either side of that isn't going to be very good. So, that's why you're taking enzymes. Without a gallbladder, I would take higher dose enzymes. I would definitely want betaine.

But ox bile extract is taken literally from oxen, and it is extracted. And it replaces what happens during a meal. Or more to the point what happens a little bit before a meal, or sorry, a little bit times during a meal, but it doesn't have an effect on the body for about 20 to 30 minutes after meal.

When you take that first bite of food, your gallbladder is supposed to secrete some bile, so that it'll be sitting there when the contents of the stomach come through. And it does that so it can change the acidity and it can also break up the fats that are in there into tiny little things called micelles. So, there's almost a soap like action that happens there. It's not really soap. But you can think of that. And

micelles are tiny droplets of fat that can be suspended in water. Why? So, your body can use them. Because if the fat can't be suspended in water, it'd be like trying to smear cold butter on something and it won't go in.

So, since your body doesn't have a store to do that, you take the ox bile extract with that and it helps dramatically. So, you're manually changing the pH by adding betaine HCl so you have proper stomach action function. You have digestive enzymes that are going to go through and help you to break it down. So, you're really helping to fill in stuff in the body. And when you do that, you're going to be better equipped to absorb the fats and to sterilize the food.

A lot of us, we're eating salads and things like that, you don't have enough stomach acid, you eat a salad, I promise you, your salad is not sterile. Because it's not cooked. And there are some very radical healthy people tell you cook everything to make sure it's sterile because you don't want bad stuff getting in. I am not one of those, but I don't think cooking is evil like I did when I was a raw vegan many, many years ago. So, do you eat a lot of raw food, a lot of cooked food?

Tim:

More on the cooked side.

Dave:

On the cooked side

Tim:

I might eat salads and things like that that are on the raw. Vegetables, I prefer those to be more raw than cooked. But I like meat and butter and bacon. And those are-

Dave:

Heaven forbid, all the stuff that provides nutrients for you. And it's really funny how you can take a cow and it'll eat stuff that people can't eat and turn it into meat that people can eat. It's like this amazing food source that can take inedible things and make them edible. Seems like that's environmentally beneficial. But hey, what do we know?

Tim:

So, what you're saying is at every meal, I should take both betaine and ox bile.

Dave:

And enzymes.

Tim:

Well, and the enzymes.

Dave:

Yeah.

Tim:

Okay.

Dave:

And there's some codes that I can probably put with the show notes. Certainly, you get them as a member of the Upgrade Collective. By the way, you're listening to this ourupgradecollective.com is where our members hang out, and there's a bunch of discounts and stuff in there. And BiOptimizers makes a very powerful enzyme formula. You can see it breaking down a steak on one of the older videos I've done with those guys. That works very well. It's a broad spectrum one. You can get betaine HCl all over the place. Ox bile is a little bit harder to find. I don't think it's in the BiOptimizers digestive enzymes.

Tim:

[crosstalk 00:14:39] in ox bile in there.

Dave:

It might be in there. If it's not in there, you can get ox bile at like Solaray makes, which is kind of broadly available anywhere you'd see vitamins makes a digestive enzyme formula that has some ox bile in there. You can also buy straight up ox bile extract. You probably want to take extra ox bile on top of the amount that BiOptimizers uses. If it's in there, I just don't remember off the top of my head.

Tim:

Okay.

Dave:

And so, that's going to help you deal with the right levels of enzymes, the right pH, and ability to break down fats, which are important parts of digestion. But we haven't gotten to the bacteria part because you have an interesting background. They pulled your gallbladder in 2002. Right. So, you've been doing all right without it. Did you gain or lose weight after that happened?

Tim:

I don't recall. Actually, it's been a while ago. And I don't know maybe it's actually worse. Before I hit the gallbladder out, they thought I had an ulcer. So, I did the barium swallow thing. And instead of going home and flushing that out, they checked me in the hospital and started working on the ... They're working on the gallbladder issues. So, I don't know if the barium sitting in the stomach instead of being flushed out like normal, made things worse at the start. And then 18 years of low acid, low bile. How much that's really wreaked havoc on things.

Dave:

Low acid and low bile for 18 years does take a biological toll. It's probably reversible. But let me ask you about 18 years that. When did you start taking enzymes and ox bile and all that?

Tim:

Oh, recent little over a year ago?

Dave:

Is that recent?

Tim:

Yeah, that's when I was starting to take things off. And I haven't actually done an ox bile all the time.

Dave:

I would make it a habit. Have a baggie in your pocket like a drug dealer.

Tim:

Just carry it around.

Dave:

Just a little bottle if you wanted to be fancy.

Tim:

Okay.

Dave:

Yeah. I mean, I probably have a bottle or a baggie in my desk drawer. I mean, I have these little baggies everywhere. I'm sure I'm on a list of drug dealers somewhere because I have 10,000 little baggies and 10 years ago, I still have them. But it's one of the things. It's just part of, it's like you brush your teeth, you take your enzymes when you do it because your body has been modified. But about 10 years after gallbladder was taken out, you had an appendix problem. What happened there?

Tim:

Yeah. It flared up basically and they removed it. So, there really isn't a whole big story. [crosstalk 00:17:19] What's that?

Dave:

The theory from functional medicine doctors and some doctors is that the appendix has a store of good gut bacteria to repopulate your gut when things go really wrong. Now, that said, if your appendix is swollen, you should treat it.

And if your appendix has ruptured, let's be really straightforward, you are probably going to die unless you get it taken out immediately

I am going to hypothesize that your digestion got jacked up when your gallbladder was taken out and when you were on proton pump inhibitors 18 years ago. And is it that shocking that if that thing that there are bacteria in the appendix that are supposed to be housing healthy stuff and repopulating, after, oh, 5, 10 years of having not enough stomach acid, that you had the wrong bacteria got in your appendix and that got ... Well, there's a hypothesis that that's like-

Tim:

Seems logical.

Dave:

Yeah, let's assume that might have happened. Okay, so that means you probably have a bacterial problem. Have you looked at your bacteria in the gut? What did you find?

Tim:

Yes, there has been results on that. There's some specifics-

Dave:

Let's talk about your poop.

Tim:

... you want to ask about.

Dave:

What stood out as being unusual? I'm looking at one of them right now. This was the Genova one.

Tim:

Yes.

Dave:

And it actually doesn't say you're too bad. It says you're mostly balanced. Yeah?

Tim:

To be honest, this was actually taken after following your diet for about three weeks, three months, sorry. So, it might have some balance in there.

Dave:

So, the diet seemed to help.

Tim:

So, the diet may have helped a little bit.

Dave:

I was looking to say, you don't look bad.

Tim:

It's just three months of being religious on it. It does show the expected fats are in the stool and some of that stuff, but it did not seem as bad as I thought it was going to be. I don't know what the-

Dave:

It was pretty decent [crosstalk 00:22:38] Yeah.

Tim:

Okay. The EPX and the [crosstalk 00:22:42] I wasn't sure. The inflammation markers.

Dave:

Oh, right. So, balance.

Tim:

That's right.

Dave:

You were in the balance zone for 95% of healthy individuals, which is amazing. Given your background, given the limitation of no gallbladder three months eating the Bulletproof Diet. I'm hoping you were taking ox bile every day on the Bulletproof Diet, right?

Tim:

I was taking the ox bile at this time. Yes.

Dave:

Okay, good.

Tim:

I don't think that [crosstalk 00:23:10].

Dave:

No, I can't overcome everything. I wouldn't want to see someone go Bulletproof who doesn't have a gallbladder. And I've said this like hundreds of times in blog posts, in the podcast, but I think it's even in the book. One of my closest oldest friends had a gallbladder out years ago, I keep telling her to take it and she doesn't take it. Michelle, I'm talking to you. All right. So, I'm going to say that it looks like eating lots of vegetables, and some grass fed meat and a decent amount of fat with things ... Digested fat really helps.

You did have fecal secretory IgA, which was high and this means that you have some inflammation going on here. And you had a bunch of other the fat digestion absorption, all of the fats were super high, long chain triglycerides, cholesterol, phospholipids because you're not breaking them down. So, what that means is more ox bile, more HCl, they're both required to break down fats. And I'm going to go through here. You also were quite low ... Actually, no, you weren't that low. You had adequate amounts of total short chain fatty acids.

This is a measure of whether your gut bacteria are making stuff you want. And your total, and this is butyrate or butyric acid. Most people listening have heard me talk about butyrate. It's what's in grass fed butter. And when you eat butyric acid, it causes you to have more bacteria that make this stuff. It's pro-ketogenic. It's anti-inflammatory in the brain, anti-inflammatory in the gut, and it turns indigestible fiber into a really beneficial energy source.

So, what's going on with you is you make acetate and propionate pretty well, which are short chain fatty acids. You're a little bit but not terribly low in making butyric acid, which means you might want to take some oral butyric acid. You can buy a supplement called calcium magnesium butyrate. It is going to smell like either socks or cheese, depending on your nose. And maybe whether or not you've had COVID, in which case you couldn't smell it. So, you're going to put it in your hand, go, "I'm going to swallow this?" Yeah, just swallow it. And don't breathe. Calcium magnesium or cal mag butyrate, B-U-T-Y-R-A-T-E.

Tim:

Okay.

Dave:

I think by taking some of that, it'll affect I know from studies it'll anti-inflammatory effects on the gut and the brain when you swallow it versus when you make it on board. It'll probably encourage your gut bacteria to make it on board as well. You're going to teach your bacteria to do that.

I'm also looking through here, anytime you get a gut test, you're going to see huge numbers of this species and that species. And it can be a little bit overwhelming. So, you sit down for a couple hours and you Google the species that are out of line. All right, what do they do? You have one that I wish I could get to grow called *Oxalobacter formigenes*. You can actually digest more raw spinach and kale than I can, even though I don't think they're good for your gut at all. Neither would Dr. Gundry. So, you're pretty good there.

And you'll see some that are high and some that are low, and you kind of go through there. I'm not seeing any of that pop out as being super problematic for you. You were very low on clostridium, which is interesting, maybe almost too low. You can get healthy clostridium. And that might be good if you tend to have gut infections that are diarrhea inducing and lots of food poisoning kind of stuff. There's a healthy clostridium that will crowd out the stuff that you always hear about causing Clostridium outbreaks in nursing homes and hospitals. So, it's basically a probiotic to prevent the bad stuff.

So, you go through and you say, "What am I going to do for all of this?" Actually, there's one more thing standing out here. You're a little bit low on your ratio of Firmicutes to Bacteroidetes. Interesting. Do you know what that ratio means?

Tim:

No.

Dave:

So, you're about 275-ish pounds and you're 6'1". So, you're carrying what, about 70 pounds that you don't want to carry? Or are you super ... I can't quite tell by the framing we've got here.

Tim:

No, I would want to lose at least 75 pounds.

Dave:

Seventy-five pounds. Okay.

So, what's going on with that one page of the Bulletproof Diet is that people who are at normal body weight or are even a little bit below normal body weight have more of a class of bacteria called Bacteroidetes, and it's kind of one of the big families of gut bacteria. And when they have an excess of Firmicutes, then Firmicutes makes you be fat and Bacteroidetes makes you be thin. So, Bacteroidetes is thin people bacteria. Firmicutes is larger people bacteria.

Now, that said, you need both. But it's an imbalance in either direction that does this. Your labs show imbalance in having not enough of the Bacteroidetes, then people are having more of the heavy people bacteria. Now, you can buy lots of species of Firmicutes as probiotics because they're good for you. But you cannot buy Bacteroidetes as a probiotic. There was one company that sold them about 15 years ago, but they just don't stay alive very long.

So, the only way to get Bacteroidetes is to feed them so they will grow. It's sort of like if you put poop in your yard a lot, eventually stuff will start growing there even if you don't plant it. And your bacteria, well, they grow in poop. So, there you go.

Now what do they eat? Well, they eat polyphenols, colored compounds. And you have an interesting situation. And one of the reasons I wanted to have you on to help educate everybody is that when you eat fat, fat is antimicrobial. It actually punches Firmicutes and Bacteroidetes in the face. So, a high fat meal with no carbohydrates will suppress gut bacteria. Okay, so you come through with not quite this dramatic, but we're just going to do it for the case of an image in your mind.

You're going to come through with a flamethrower. Maybe like a forest fire in a healthy forest that comes through every fall, and cleans up the small amount of debris that's there, so that new things can grow. And of course, if you're in the west and you've stopped those pesky forest fires and you wait till there's a huge amount of debris, then you light it on fire, then you have California state.

So, what we're doing in the gut though when you eat that fat or when you fast for a while, they also get suppressed. Then you take polyphenols, green tea, coffee. And then now, you've fed the good guys. This is one of the cool things. One of the six big reasons I think Bulletproof Coffee works or more to the point any coffee that is assembled in it with grass fed butter and MCT oil. And it's commonly known as Bulletproof Coffee, even though that's a specific brand that I founded. So, I'm talking about the idea of coffee plus fat.

And when you do that, the fat will be suppressive. And then there's food, but there's only food for Bacteroidetes. So, one of the things that I would hypothesize that that fat and coffee does is it shifts the ratio. Now, did you run a Viome test here? That was the Genova one.

Tim:

I have not done a Viome test. I've thought about it, but I have not.

Dave:

I'm going to recommend you do a Viome test. Full disclosure, I was in early a scientific and strategic adviser to the company. I am a meaningful investor in Viome. So, I have a bias, maybe. My bias comes from having talked with their chief scientists multiple, mutual times. Talked to them about their algorithms and actually vetted what they're doing. So, it's also quite affordable what you get there.

They're going to give you a recommended list of foods that will feed the good gut bacteria and starve the bad gut bacteria. They will probably do a better job of helping you shift that Firmicutes to Bacteroidetes ratio than I can off the top of my head, although that more polyphenols thing would be a really good thing for you.

The question is, you can take broad spectrum polyphenols. I formulated one. There are lots of brands out there that do that. And I'll probably come up with a new one for Upgrade Labs. That's got a different profile. But how do you know which ones? Well, you're going to get some good data from Viome to say which ones work for you. And since you're at it Viome also makes a custom probiotic based on the bacteria that you need and they mix a packet for you.

And they make custom supplements that could be helpful for you. And we can put in a Viome code here to probably save you a little bit of something.

The idea behind trying that for a month or two is that the custom probiotics are quite effective. I have a pretty good gut bacteria balance. I noticed a difference when I took them as well. Specifically, they're looking to reduce the immunoglobulin inflammatory markers that you found in that other tests.

So, what you have is you have a test that's been done that says, "Here's what's going on," but it didn't tell you what to do about it.

And what's very interesting is with the Viome tests are going to tell you what's in there, but they're going to tell you what to do. I will tell you, the nutritional stuff is not always 100% where I'd like to see it. For instance, it quite often tells people avoid coffee, but what they really mean is minimize coffee and they're in the middle of changing that in the app. Because they're saying if you have any bacteria that eat cortisol, you might have adrenal insufficiency. Therefore, everybody knows, even though it's not vetted that you shouldn't have a cup of coffee in the morning if you have adrenal insufficiency.

It turns out as someone who's had it, if you want to feel good in the morning, raise your cortisol in the morning when it should be up. Have a cup of coffee, it's all right, don't have 10. So, they're changing that. They also told me to eat mung beans, which shred my gut and are gross. So, there are little things like that.

If you don't like a food, you don't have to eat it Viome says it's good for you. But their avoid list, just do it for a little while and go, "Whoa, what just happened here." You might find there's just a couple of foods that are causing inflammation and might be a certain kind of vegetable. That would be really, really helpful for you. Now, I'm looking at our timing. You have some other stuff that we could work on as well and some lifestyle things. So, let's talk about blood pressure. What's going on with you there?

Tim:

Probably more of a genetic thing. There's a history of relatives with heart problems. So, I do have high blood pressure, been on high blood pressure medicine probably 15 years, maybe a little longer.

Dave:

How's your brain doing? You have any brain fog or anything like that?

Tim:

Well, pretty good for most part. [inaudible 00:35:08] seems like some days, it just doesn't want to kick in as well as others.

Dave:

Look at your blood pressure medication levels on the days it doesn't want to kick in. So, many people on blood pressure meds are lowering the amount of oxygen and blood flow in their brain enough that it has an effect on their cognition. And hypertension, high blood pressure isn't just a cardiovascular thing. It's a kidney thing. It's one of the biggest risks for kidney disease. And no one ever talks about how many people die of kidney disease, but is a really big number. In fact, it's much more of an epidemic than some other very popular ones these days.

You just look at hypertension in general and all the other diseases and diabetes causing, those are annual emergencies that we should lock down the entire world for until we get rid of bad seed oils and corn syrup. But that's a different podcast. For you, I want you to think about one of the devices that I've had on the show a couple times called the Zona Plus.

Tim:

So, I did get that after you did the recording with the guy last time.

Dave:

Oh cool. Have you used it?

Tim:

Yes. I'm just not to the point where it's had enough chance to take effect yet.

Dave:

Okay. And do you monitor your blood pressure with an at-home cuff?

Tim:

Yes, which hopefully is good.

Dave:

Okay. You don't have to do it daily. But most people have high blood pressure. There's a variety of under \$100 devices you can buy at the drugstore that'll give blood pressure. And do it the same time, same position every day and just see what's going up and going down.

I find that the data from Zona is very convincing. Most people can train themselves over the course of a couple of months to either radically reduce or get off a blood pressure meds. Do you take magnesium?

Tim:

Yes. Magnesium citrate normally.

Dave:

Okay.

Tim:

Usually, I think there are 500 milligram pills. I think I take two of them.

Dave:

Okay, that's cool. If you're getting a gram of magnesium a day, that can be enough. You might do one in the morning and two at night. I would love you to get as much magnesium as you can get, as long as you get disaster pants from it. If you take too much magnesium, you're going to know.

Tim:

So, is there a type of magnesium supplement or usually I'm getting citrate because that's what is readily available.

Dave:

Sure.

Tim:

Is there a different type of better or a mixture that you'd recommend?

Dave:

Magnesium oxide is not worth taking. And a lot of cheap magnesium supplements have that in it.

Tim:

Right. So, I'd avoid that.

Dave:

All the other ones that end in -ate are good. So, I like supplements that have the most -ates in them that you can get. BiOptimizers makes one that is probably the most complete out there. I've been encouraging them to have like a larger bottle though, because I'd love to take a lot of it. There's also various ones where it's citrate and bisglycinate or citrate and orotate, which is an unusual form. So, getting two forms is better than one. Getting four forms is better than two.

And it seems to get more and more expensive, the more complex the formulations. Because you have to mix eight kinds of magnesium. It costs a lot of money to buy them, hold them, store them, mix them, measure them and all that versus just put this powder in this pill, which is very cheap. So, if you're on a budget, you could probably buy three different kinds of magnesium, take one of each.

The kind that I like for Upgrade Collective members, because we usually care about like whole body energy including cognitive performance is magnesium threonate, which is shown in studies to enter the brain better than any other magnesium, but that one's maybe not the best one for blood pressure. But I like it that you're taking citrate not oxide, which is good.

Okay. And there's some other labs that are really worth talking about here. You have two of the markers that I don't like that are high. When people go on the Bulletproof Diet, what they typically experience is meaningful weight loss if they need it. Their HDL levels, the good cholesterol that's protective tends to go up. Their triglycerides tend to go down. And the brain works really well.

Now, if that doesn't work, so okay, there's some labs you need to run. And the labs are homocysteine and C-reactive protein. These are both inflammation markers. And yours are both substantially high. And I don't like that. And we're going to talk through that. Make sense?

Tim:

Yup.

Dave:

So, we have a gut bacteria test that says we're detecting some IgA. And so, we've got a stool thing that says you have inflammation and now we've got blood tests that say two different kinds of information are there. The first kind is easiest to go after is your homocysteine level is 11.6, which is high. You want it to be one or two. I forget the lower end. It depends on which lab this was pulled from. This as a summary.

And when homocysteine is high, it means you have a problem with methylation. The very basic way of dealing with methylation is you look at taking methylated folate or methyl folate, not folic acid, and methyl cobalamin, which is B12. But it's a specific form a B12. For you, there's something called TMG, trimethylglycine, that would probably be beneficial for you.

So, I think with that, as a methyl donor, you can do that. All three of those things would be ideal. Do those for a little while and see if your homocysteine levels drop. That's going to help you quite a bit. Any functional medicine doctor is going to be able to tell you in more detail that you can do genetic

testing of your methylation levels. You can even take your 23andme or any genetic test results on run them through various online things. Like MTHFR Forum is one that I've used that has a pretty complex set of offerings.

What you'll find there is, okay, some of these pathways are high, some are low, but you need more methylation, which is one of the ways your body processes base level biochemistry without getting into a lot of detail. So, homocysteine, we need to drop that. That's one pathway of inflammation, which is you're having a problem with methylation.

Second one is C-reactive protein should be less than one and yours is at 8.9. That usually is a sign of either you worked out right before you did the test or you had an injury, or it's a sign of chronic infection. In your case, maybe in the gut, maybe quite often it's a root canal thing, or it can be just general dysbiosis or gut bacteria not working. For unknown causes, then, for that, I tend to look at doing ozone therapy as just a broad spectrum strengthener of the body with antimicrobial things. A functional medicine doctor might be able to run more labs and help you figure out why that marker is high.

So, we're going to fix your methylation. We're going to look at addressing some microbial stuff with intravenous or at least rectal ozone because you have gut bacteria problems. Rectal ozone is probably going to be really good for you if you want to go there. Did a podcast on that recently with the SimplO3 guys. I'll put that in the notes for you. All right. Make sense?

Tim:

Yes. I'm just writing notes, sorry.

Dave:

It's no problem. We'll make sure there's a recording as well. Okay. I'm also looking at your fasting glucose is 118, prediabetes slash diabetes. Not good. You're doing intermittent fasting?

Tim:

When that was run, no, I wasn't.

Dave:

Okay, got it. I believe that you would benefit from reading Fast This Way or taking the free course on it the fastthisway.com, the fasting challenge. And starting that process. That's one of the ways to get it down. Exercising briefly at the end of a fast before you eat can help. But I think there's another reason you're fasting glucose is high and we're going to get to that in a minute. In fact, it's one of my favorite reasons.

But before we get to that, your HDL is only 39. When most people go Bulletproof, it goes up substantially more than that and their triglycerides dropped. Your triglycerides are 172. Mine are probably 58 or something. When people go Bulletproof, that's typically what happens. Protective HDL goes, phew. And then you see the triglycerides go, and doctors look and go, "Wow, that's amazing. I've never seen a man with HDL that high. Usually only women can get there. This is great."

In fact, very early in the creation of the Bulletproof Diet, my anti-aging doctor said, "Your blood lipids are technically disordered but great." And that's kind of funny. So, in your case, I think your HDL is low and your triglycerides are high, in part because you have fat absorption problems that we've already addressed in what you're going to take whenever you eat fat. Okay, but the smoking gun that ties together high fasting glucose and high triglycerides is ... Do you want to guess?

Tim:
I'm not sure.

Dave:
It is your TSH.

Tim:
TSH, okay.

Dave:
Do you know what TSH is?

Tim:
No.

Dave:
So, you have a thyroid insufficiency. Are you on thyroid medication?

Tim:
No.

Dave:
Has a doctor ever told you don't have enough thyroid hormone?

Tim:
No.

Dave:
Have you ever wanted to slap a doctor for not doing their job right?

Tim:
Not usually, but...

Dave:
You're a peaceful guy. I like that about you.

Tim:
I like my doctor. I know where he's coming from.

Dave:
By the way, it's not okay to slap your doctor, even if they're wrong. Because sometimes you think they're wrong and they're not wrong. As a matter of fact, is it okay to slap anyone who believes things differently than you? Hey, let's create a world where we don't do that because it's so weird. It's almost

like some people are going to disagree with you. And sometimes you're right, sometimes they're right. And you can still ... They could be your neighbors and your doctor and everything. So, let's go down the path of peace, which you so amazingly demonstrated there. Thank you.

What I do want to say though, your TSH is 2.55. You have high triglycerides. You have excess weight in your body. Your thyroid is sluggish. When you turn on your thyroid by taking prescription drug that a doctor will give you and it'll probably, at least if it's a functional doctor, be a mix of T4 and T3, usually natural thyroid extract. Although some doctors prefer giving you just T4, which is Synthroid or just T3.

And for people who haven't heard this part of one of these before, TSH is about going, "I need more thyroid hormone. My thermostat set too low. I can't make enough energy." Oh, and by the way, your LDL and cholesterol will go up as well if you don't have enough thyroid.

So, then the body yells. And if the yell is heard, then the body releases T4 from the thyroid gland. And then if the body is good at converting T4 into T3, it will convert the T4 into T3, which is what actually works. And if the body has problems converting it, even if you yell and even if you deliver the T4, you won't get the results you want, which is why I'm giving people T4 and T3 work.

By the way, I got your code for Viome, viome.com, use code Dave. And they'll save you some amount of money. The test is already run at less than what it costs them to run the test. And the company has always done that because the data is unlocking medicine right now. It's such a cool company. So, viome.com/dave.

All right, let's go back to what's going on though with your thyroid. When you do this, I think you're going to find a level of energy that you go, "Oh, I remember I used to feel this way." This is usually what happens with thyroid hormone. And you're going to say, "That's so interesting. When I intermittent fast, when I exercise, I lose weight. And before, I didn't. I wonder what happened?" Well, you turned the thermostat up. So, you actually use more of the calories you eat.

And since we've already addressed the input of calories because now your digestion is going to be working or getting your bacteria working, it's all good. And on that note, I think we're in a pretty good place in order to give you some directions to go to your doctor with.

Tim:

Yes. Thank you.

Dave:

You're welcome. I think there's more we could talk about. But I think that we've gotten to the smoking gun. I know that you've got some Oura data in here as well. And I believe that once you fix your thyroid, your sleep quality will go up. It is a really, really good thing. Oh, and I forgot. I forgot a couple things, just from the top of my head that I should share with you and share with listeners.

We talked about everything in your digestion except for prebiotic fiber. You create the fertile ground for good stuff to grow. So, I want you to do 10 to 30 grams of prebiotic fiber and eat the veggies and all that you're already eating on the Bulletproof Diet. You can get it from a variety of sources. The primary ingredient is usually Acacia gum. And the one that I made for Bulletproof has a large arabinogalactan and one other ingredient on the label. What is that stuff? It's a guar gum, hydrolyzed guar gum. So, there's a variety of products out there like that.

And since I, actually, Bulletproof won't tell me what they're doing. Literally when I asked, they don't answer. I think they still make it the way I asked them to. But I do not have any information, pro or con about what's happening over there.

Tim:

Okay.

Dave:

Now, probiotics, we also talked about a variety of them. But there is a spore-based probiotic that you can get from Just Thrive. I take that. It's a really good one and it survives any stomach acid. And you can even make it and it still survives. So, that's something I've taken for quite a while. I really appreciate it. That is something that I would take in addition to if you did like the Viome custom ones.

And because you do you have signs of a leaky gut, BiOptimizers make Leaky Gut Guardian, which is a product that can help you with that. I believe Just Thrive also makes a product that is an IgG. It's a capsule you can take specifically a different pathway. So, there's a lot of leaky gut stuff you could do. You could also spend \$500 a month on leaky gut, which isn't the goal here. So, you kind of cycle through to see what works.

I think that probiotic and some kind of prebiotic are not neutral are not optional for you here. And I think that that's a pretty complete set of places to start when you go back to your functional medicine doctor or you just decide, "I'm going to do my own biohacking," that you're now empowered with some data.

Tim:

Okay, can I jump back to TSH real quick?

Dave:

Yes.

Tim:

This part I wasn't sure. So, to do that, you think I need to go talk to functional doctor about getting a prescription as opposed to doing supplements? Did I hear that right?

Dave:

Yeah. For thyroid right now in the US, thyroid is a prescription supplement. What you need to do though is get an advanced thyroid panel. A normal western doctor is going to just measure TSH. Say, if you're yelling, no. Or they'll say, oh, it's not that high. But you have symptoms. Your LDL is high and your triglycerides are high, and you're overweight. There you go. Get your TSH for anti-aging reasons. I like to see it at about one. If you're at 1.1, fine, 0.9 fine. And a lot of doctors say, oh, 1.3, 1.4, 1.5, I just feel like having a thermostat turned down as you age, seems like a bad idea. And they're going to say, "Well, you're 50 and the average 50-year-old has it here." I think you can do better than that.

Tim:

Okay.

Dave:

Tim, it's always fun to be able to help someone out who's done the basic homework. You've got the data. Now, you've got the knowledge. Go kick some ass.

Tim:

All right, thanks. I really appreciate your time. I really appreciate everything you guys are doing with the Collective. It's been awesome. And I appreciate, especially all the advice you gave today. Thank you.

Dave:

Of course. You helped a lot of people by openly sharing your knowledge and your situation and just how to work on it. So, thank you for being a little bit vulnerable and saying, "Hey, I want to improve on this stuff." Because if you don't admit that there's something you want to improve, you can't improve it. So, you did that. You win. You helped really hundreds of thousands of people with this. And hopefully, I did too. See you later.

If you'd like more content like this or you'd like to work with me directly, definitely join the Upgrade Collective, which is my membership and mentorship group that you can join. There's more than 200 videos including four courses where I teach you every one of my books because not everyone learns by reading. That gives you discounts on tons of health and performance products that I actually use. You'd get to be in the live studio audience, interact with guests on the show, ask me questions, type things back and forth.

And every week there's community coaching calls. And every other week or thereabouts, I am on a call delivering new content and answering questions for you. So, this is a way to be part of a group of people really care a lot about upgrading themselves and upgrading humanity, which is part of my core mission. Just go to ourupgradecollective.com to join.