



Transcript of “Summer Bock: Can Fermented Foods Restore Gut Health? – #251”

Bulletproof Radio podcast #251



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Dave: Hey, it's Dave Asprey of Bulletproof Radio. I'm a little off today, for today's recording, before we even get to our cool facts of the day. If you are watching us on YouTube, you've got to check this out, because I'm wearing the world's dorkiest looking hat. Here check this thing out on video. I'm actually wearing a 24 channel EEG cap that looks either like a biker beanie or like bowling shoes with wires coming out of my head and off of my ears, because about two minutes ago I stepped out of an hour of really intense neurofeedback training. It's a new kind of technology that I'm testing out that's tied with the sort of things that we do at 40 Years of Zen.

That means my brain might be a little but scabbled because I've been challenging the heck out of it with some really good scores, and I promise I will not forget too many words, but I'm at my brain's maximum capacity, but I wanted to get this episode out to you. All right, here we go. Into today's cool fact of The day.

Today's cool fact of the day is that we just found a bacteria that's the first ever that can infect something just by touching it instead of by reacting to chemical signals which is how most bacteria do. They sort of have this little dance they do. Because this thing can get into you just through contact, it's called *Pseudomonas Aeruginosa*. I probably said that very very poorly because I'm not trained in Latin or Greek, wherever that name came from. It can infect humans, plants, animals and surfaces, which makes them much more diverse than other pathogens. Since it doesn't respond well to antibiotics, it's something you don't want to get infected with.

Is this useful knowledge? No, not really. Just that we found something out about bacteria that we didn't know ever in all of history, but you really are not going to be able to avoid it because you can't see bacteria.

The other thing that's interesting, that isn't really a cool fact of the day, but it's still interesting, is that we are approaching the Bulletproof Conference, which is now we're hoping to have about 1000 people coming. October 23rd through 25th. Dozens of companies showing the

latest biohacking tech and some speakers that are just going to knock you out about your brain, about how you perform, and everything you can do to take control of your environment so that you have more control of you own biology.

I'm really stoked. This is the third conference. It's been growing almost exponentially and it's not actually something that we do at Bulletproof to make money. It's something that we do to give back. If we are lucky it breaks even, but it's a hell of an experience and that's what it's there for, so come and hang out with 1000 other people who are as biohacker cool as you and none of whom are going to be wearing a hat as cool as mine today.

Today's guest is a friend and trained herbalist and a fermentationist who has a background in studying microbiology. She's actually studied at the Institute of Integrative Nutrition, and designed this thing called the Gut Rebuilding Program, which is what she used to fix her own gut. If you've listened to Bulletproof Radio for a while, you know that I also spend a lot of time working on my own gut. I've taken pig whipworm eggs, I've spent probably \$50,000 on probiotics in the last 15 or 20 years. It's been kind of a ridiculous thing. I've reached a state of stable gut, which is ridiculously cool, to not be able to clear the room all the time inadvertently and things like that.

Speaking of such subjects, let me just introduce Summer Bock. Summer that was the worst introduction ever. Hey, I just talked about farting and then I introduced you, so that's what happens when my brain is at full capacity. Anyway Summer, my good friend, welcome to Bulletproof Radio.

Summer: Thanks. I am excited to be here. I have so many things that I actually want to talk about today. So this is going to be fun.

Dave: One of the things that I knew we'd talk about which we're already talking about is poop. Because at the end of the day, let's face it, that's what happens when you digest food and when your bacteria are broken when you are eating the wrong foods or maybe not enough fermented foods, or maybe more specifically, the wrong fermented food even or

food fermented wrong. Weird stuff happens and you kind of notice it there first. Tell me a little about your story though. Like you have the microbiology background but you became a fermentationist and you had a lot of problems with your own gut, so tell me about the problems you had and let's talk about how you hacked them and then what other people can do to make their gut work better.

Summer: Yeah, totally. Well, let's see. I'm trying to think where to start exactly because as you know the stories are so interconnected. For me there was a time in my life when I was super sick, I guess that's the place to like zoom into. I was suffering from multiple chemical sensitivity. I was only able to eat about 20 or 30 foods without having a reaction. I had hives. I was waking up in the middle of the night with panic attacks and I was allergic to a ton of stuff like the environmental allergies.

I remember this distinct moment one day, I was in college. I was doing premed and I'm standing on the corner there like waiting for the bus and I watched all of this like yellow pollen drift through the air and my nose is running, my eyes are swelling up, my whole body is just freaking out and it just hit me. I was like wait a minute, I should not be allergic to the world that I was born into. Like that just doesn't make any sense. That was the moment when I made a very clear decision that I was going to cure myself of all of my allergies. At that point I was even having allergic reactions to my cat so I was not well. It was a moment to moment just honestly like suffering.

I really relate to people who are in that place who just have tried everything, and I did and so I ended up at my doctor's office again. I had done a ton of stuff. You know naturopathic doctors, allergy clearing, chiropractors, I had done various kinds of testing and everything was helping kind of a little bit, but it really wasn't helping all the way. So I ended up at my doctor's office totally panicked like I'm getting worse, and she's like no you are a healthy twenty something. I'm like what are you talking about? This is not healthy. This is not at all what I would consider to be healthy. And she looked at me and she goes "I just don't understand what you are doing here. You know more about this than I do." I was just like, what are you talking about?

At the same time like it's true. I was seeing her patients. I was working with them as an herbalist and as a health coach helping them with their lifestyle changes they needed to be healthier. It's just that I was a really complicated case and I guess I just had to go through a lot of trial to get to where I am today. She looked at me and she was like "Here's the thing, I'm going to write you prescription, you're not going to fill it. I don't think it's going to do anything anyway. So what are you doing here?" I left her office that day on a verge of breakdown because I was just like my last resort has just cut the cord. All right.

That's the point where I go really serious about what I was doing and that was also the point where I decided to just take my health 100% in my own hands. I let go of that safety net, that kind of like oh someone's going to save me kind of feeling. At that moment I was like no, I was going to figure this out. I'm going to cure myself of my allergies. I'm going to figure this out whatever it takes. That journey led me ... I was taking a bunch of different herbs for those trained as an herbalist and I'm like taking stuff for my liver, my skin, my adrenals, like every organ system and I stopped doing it all.

I did some research and discovered that I really needed to focus on my gut. I was taking probiotics and that helped a ton. It wasn't until I really asked myself the question, like what is the whole food version of probiotics? What did my ancestors take to get these probiotics in their gut? That was a really pivotal moment for me. I started making and eating the right kind of fermented foods and was able to get myself much further a long on the journey very very quickly.

Dave: So fermented foods helped a lot and started taking probiotics and you started to notice a change. There's a lot of people who've done this but there's also people who do fermented foods and they don't tolerate them, they don't do so well, they take probiotics. I tried one experiment where probiotics made me gain 10 pounds in a week. Like oops, I guess the species kind of matters and the environment they are going into and everything else. It's pretty darn complex. So how did you go from that to not just being an herbalist but to being a fermentationist? How do you actually become? Is that like a self described title or is that...



Summer: Self described.

Dave: All right.

Summer: Yes, it is. And I certify people as fermentationists. Basically I've really done a lot of work on studying the microbiology of fermented foods and looking at fermented foods is medicine. We really look at anything from like miso to kefir to sauerkraut and really go in there and look at the science. Really want to uncover what is the present day information that we have to attribute like the traditional results that people get from these foods. We steer a little bit clear of like alcohol and things like that. We just kind of focus on fermented food as medicine.

Dave: What about like pepperoni? That's a fermented food.

Summer: Yeah. We don't go too much in the realm of meats because they are mostly cured. There is lactic acid that's created by bacteria on the outside that helps it to cure and it sort of ferments but there's not like a probiotic content worth talking about in those.

Dave: It's interesting. I've always been a little suspicious because the stuff that grows on meat seems like it might want to grow on you and I know absolutely that some of the things that grow on dry aged beef are really pathogenic even though it's supposed to be okay. I really steer clear of the dry aging process. I've had some that's clean but more often than not, there's stuff in there that does not belong in meat and I would recommend actually not having fermented or long dry aged meat. Let the animal bleed out, cool it down for a day or two, and then freeze it and it's going to be really fresh.

Summer: Can I say something about that?

Dave: Yeah, please do.

Summer: Yeah, there's going to be a lot of histamines when it comes to meat. Like when you are feeling fat and I had severe histamine intolerance.

Dave: Do you still or you did?

Summer: No. I did.

Dave: It's gone. Okay.

Summer: It's gone and I did a lot of gut healing. I did a lot of what I call really building up my bio terrain. Getting a ton of minerals and vitamins. Starting to actually absorb my food and I did a lot of that work with fermented foods. Then went through a period where I couldn't touch them. I was so reactive to fermented foods for a while and I just had to stay totally away. That's one of those things where I've gotten a personal understanding of cured meat and how they can really affect you. They're adding a lot more work when you eat them.

Dave: Yeah, there's a biological burden. Like every food it does something to be broken down and it's broken down by the bacteria in your gut and then they make byproducts from that. Then it's broken down by your body and that makes byproducts. So the idea that every food has like stuff that goes in and stuff that goes out in the process of getting energy from it. I think a lot of people don't consider that it's a two step thing. That's like it's either good or it's bad but like it's some of both.

When you have a healthy bacteria balance in your gut, what do the bacteria do for you that makes you say you have to do less of breaking things down in your own gut?

Summer: Well I mean, they have cellulase, which is an enzyme that we do not produce. They are breaking down the cellulose in vegetables and really unlocking the matrix of vitamins and nutrients that otherwise really wouldn't be accessible to us. We are really wimpy when it comes to digestion when you look at all kinds of animals. We have the wimpy wimpy digestive tract and our two to three pounds of bacteria that are living in our gut hopefully and hopefully the right ones, they are basically taking our digestion to a new level. As they are fermenting and digesting more of our food, they're creating, not just unlocking the vitamins, they're actually creating vitamins on site that you absorb like B and K and then they are also producing short chain fatty acids. You're just really getting a lot of energy right there from these bacteria. It's pretty amazing.

Dave: I think a lot of people don't know that that even if you are eating some types of foods that don't have fat in them, you are actually powered by fat because the bacteria turn them into fat. So that's one more argument in my estimation against the zero fat or the near zero fat diet extremism that came to dominate like the 70s and early 80s and still exist in some corners of the internet. That type of thinking sort of avoids the fact that no, your body really it does use fat as the primary fuel source even if you don't eat fat. There's mechanisms in nature to make fat. So why wouldn't we be able to just absorb fat directly.

There's also those studies that say that when you eat fat, even the same kind of fat that is made by bacteria in the gut, when you eat it, it has a different effect when you eat it than when you make it naturally and that you might want to be doing both. Have you seen anything about that?

Summer: No. I haven't. I really look at what did my ancestors do. That's a big question that I ask myself. How did they do it? So I'm always trying to figure out if they had a lot of good bacteria in their gut and that's how they absorbed their fatty acids, I'm gonna lean a little bit more towards that.

Dave: My ancestors were at least partly cannibal because I'm 4.5% neanderthal. Do I need to worry? Just kidding. Actually I don't know if neanderthals are cannibal but I am 4.5% neanderthal. See the ridge on my forehead?

Summer: Very nice.

Dave: I'm just giving you a hard time because I always laugh like some of my ancestors probably did really dumb things and it's surprising that they survived enough to pass their genes on to me along with predilection for doing crazy things.

Summer: Well we're lucky. I mean we live in a time where we can look at science as well. I think what they had that we don't have is just a deeper understanding of trusting their bodies. I think that's the piece that we're really missing and they had less stress. Honestly the kind of culmination

of my story really has a lot to do with me looking at stress. When it came to healing my body, I did a lot of the stuff to rebuild my gut and then in order to get to the place where I didn't have anymore food allergies and I was able to ... I can eat anything I want right now. I eat what I want. I eat what makes me feel good but I'm not having reactions to it which is phenomenal, but the thing that really did that was learning how to manage my stress. Since I was born, I think I was born into the world in this really stressful environment and I have never known anything different than that until recently.

Dave: Now I've gotta learn more about this I eat what I want. Is this like the 4 hour work week where like it's not work, I just do a lot of it every week but it's only 4 hours that counts or did you like hack what you want, like I really don't want that pizza. Instead I want what makes me feel good which is like the gluten free pizza with like no cheese and stuff. Like do you really eat what you want? You're like "I feel like eating at McDonald's right now. I'm just gonna go do it." I hear people like that and I'm like yes your under 25 and you're taking it out of yourself at both ends and you don't know it. Right?

Summer: Yeah.

Dave: What does that mean when you say I eat what I want or you're like I choose foods that make me really healthy and I want those.

Summer: It's both. I am really susceptible to sugar addiction. I got some genetic testing done and it came back and it said, I don't know the exact terminology but it was along the lines of you will go to excessive lengths to satisfy your food desires. I was like oh yeah, I will actually. I think about how many miles and new cities I've driven across to go to the Whole Foods to get some sort of like organic chocolate.

Dave: You're like the classic test case for women, food and desire. Alex Jamieson's new book that just came out ...

Summer: Yeah, she's a good friend.

Dave: She knows both of us but you made me laugh like you're a test case like I desire food and I will have it. I'm the same way. If it's really really good

clean chocolate, it's worth going there. You're not going to just like eat whatever. Sorry. The mass market chocolate is mostly crappy. It's just not worth it.

Summer: When I was able to start eating gluten and cheese and dairy again, I was really disappointed honestly. I tried a bunch of different things. I even tried crystal hamburgers. Do you know what that is?

Dave: I was like you tried crystal? I thought you meant meth. This is not that kind of a show. What's up with this. Summer, geez!

Summer: Yeah no, I tried crystal hamburgers and it's really funny, I think that I like good food. I like food that tastes good and so much of the gluten out there doesn't taste good. It just doesn't. I will eat a really good piece of baked bread at the restaurant down the street. It's called Il Primo Natural. A plug for this little tiny restaurant, but it's this Italian place and their bread is phenomenal. I just don't want to waste my time on really anything else and I don't mean that in some sort of snotty way. I just mean I know what a lifetime of eating out will do and I'm going to choose wisely.

Dave: So just because you can eat gluten now, like you don't react to it the way you used to, is that a wise choice?

Summer: I'm not going to eat a lot of it. I will from time to time. I'm just relieved to be relaxed around food for the first time and I think that's part of my motto, being relaxed around food and not having a panic attack like right before I eat like I used to. Now I don't have anxiety I go out to eat with friends, I would take two bites, I would wait 20 minutes to see whether I was going to have a reaction or not and then I would probably usually be if I didn't, I would be eating the food in the to go box like in the car on the way home.

Dave: At this point, people are like okay, Summer is probably a little bit crazy and neurotic, but here's the deal. If you have food sensitivities, it's actually like that and I don't know what percentage of American's have them but I would guess it's probably around 50%, they just don't know it, and occasionally they eat stuff and then they're total jerks or they're

really tired or they have a headache or migraines or psoriasis or hives or they just sleep 12 hours and snore. All sorts of weird stuff that's tied to these sensitivities and you just don't know until you realize. In my case, I would eat bread on Friday night and it would make me a zombie on Monday but I was fine on Saturday and Sunday, so having a lag like that, unless you're really good at event correlation, which is what we call it in the tech space, you're not going to see this. You can do an elimination diet and you'll see it really really easily.

That's why a lot of programs I think ... Summer you probably talk about eliminating some foods for some amount of time. The Bulletproof diet's like get rid of all the suspect foods. Just do it for a couple weeks and when you eat them again, they'll knock you out. This kind of thing, when you have awareness of this, I like to feel good and you go out to a restaurant and you know there's a 70% chance that when you eat that stuff, it's gonna knock you on your ass potentially for a day or two and you're going to have sore joints and like your muscles are going to cramp up or you're just going to be a zombie. It actually is a rational response to say I'm a little bit fearful of this. I'd rather have control of my food and part of this is restaurants are completely cutting corners. I know, I run a restaurant now. The Bulletproof Coffee Shop in Santa Monica.

It's a constant struggle with suppliers to get what we want. Like no, I actually want it done right. We want the good quality stuff, not the cheap stuff. It's just endemic in our supply chain. I think a lot of that's rational but just for people listening, if what Summer said about I would take a couple bites and see what it's going to do to me, actually there's a lot of people where they have no idea what the food they just ate for lunch does to them but their whole afternoon is wasted at work because of what their food did to them without their knowledge. Get off my soap box but anyway that's just so important.

Summer: I appreciate it. I appreciate the validation. I think when you're in it, you feel like you're crazy.

Dave: Oh yeah.

- Summer: Straight up. You're just like, "I'm losing my mind." Like I said I went to my doctor and she's like you're healthy. Uh uh, that's not health. I mean what I experienced today is much healthier.
- Dave: You still have sugar cravings, right?
- Summer: Well I do. Yeah, I do. I do still have sugar cravings.
- Dave: Maybe if you didn't have occasional gluten those would get better. Like I don't have sugar cravings. It's just not a part of my existence anymore but I also, I can tolerate gluten but I think that the long term autoimmune effects of having gluten occasionally outweigh any possible benefits so I just don't do it. Plus you're a pretty good cook too. You know when you're not a cook, you don't really need to use gluten in most dishes but there will never be a gluten free croissant. Sorry.
- Summer: I went for 14 years without touching gluten at all, so I got a little bit relaxed around it and took some time to have the full body experience. Be like what is it like? What is it like on the other side?
- Dave: That's healthy.
- Summer: It's been interesting but I think like I said, the one thing that I really learned and this is the part of my healing journey that I've been able to reflect back to my clients, because I have these weekly group video conference calls with all my clients together and something I really started saying at the beginning of each one is "What in your life are you not handling?" I mean to the point where I already know my topic for this coming week is going to be "Is your house clean?" I know that sounds kind of maybe far away from the concept of rebuilding your gut and healing your body, but we're talking about people who are so stressed out that if they could actually get their house clean and their whole life handled, really really handled, without being perfectionists on top of all of this, you're talking about a healthy human mind.
- The more I do this work the more it truly ... how much of it stems from the mind. I don't mean it's in your head. I just mean the way you live, the way you believe, the way your relationships are. They really set up up for how sick you might end up in a stressful situation.

Dave: It's also pretty annoying because these bacteria in your gut, if you are stressed, they pick up your stress and they make more toxins, right? You don't get a good night sleep? They increase the amount of toxin that they make. You are stressed? They make more lipopolysaccharide right? Even if you have "good bacteria" in your gut, if your life isn't good, the bacteria in your gut won't make the best things they can make. How do you coach people on that weird environmental thing? Like the environment for the bacteria in your gut, you've gotta eat the right food. That's a part of it but there's other things.

How do you coach them on the other things, the epogenetic factors, the environment around you that changes your gut bacteria? Because even if you take the right probiotics, you eat the right foods for them to eat and things you're not sensitive to, if your life is crap because you're stressed all the time and you have basically software problems you need to deal with, the bacteria aren't going to work. How do you tell when you're eating the wrong stuff, you're taking the wrong probiotics vs. your a miserable person and you need some therapy. What do you do with a client like that? How do you walk them through that thought process?

Summer: One of the steps we all go through in the program is called emotional detox and I teach people what it looks like to let emotions leave your body so if that's happening, you don't stop it and try to like make them go back inside. You actually allow them to keep coming out.

Dave: So you're telling boys to cry?

Summer: I'm telling boys to cry without tears.

Dave: No.

Summer: Just like the best. I like watch football sometimes and when they cry, I'm like yes. Okay so anyway, like crying, laughing, teeth chattering like being afraid, sweating, you know yawning is actually one of my favorites. I say that's one of the most powerful ones because when you yawn, people might think you're tired but once you come up with a few good one liners about it, like oh you know, just waking up, things like

that. You can yawn in public situations and get rid of some tension and some fear, some anxiety, some terror even.

Dave: Yawning is like a dominant thing among chimpanzees isn't it?

Summer: Is it?

Dave: I know with dogs, when you yawn, you're reassuring them but I think with chimpanzees it's some sort of a challenge, like they hump your leg when your done. I don't remember what it is but I'm pretty sure us primates yawning does something neurologically bad to the people around you. So you're telling us overcome that with humor? I could buy that.

Summer: Yeah. I think it's helpful. So just knowing that emotions have to come out and not get stuck, that's important because that helps you make better decisions.

Dave: Just don't do it in the ape house.

Summer: Just don't go to the zoo and do it. Exactly. I just read this really amazing quote today. The decisions of our past are the architects of our present.

Dave: Who is that? What quote is that?

Summer: I read it in a cheesy Dan Brown novel.

Dave: Interesting. I've heard that somewhere.

Summer: I have too. I have no idea where. That's just where I picked it up and wrote it down, but I love this. Like the decisions of our past are the architects of our present. Really when I'm talking to people about them being sick and what they need to do in their lives, you're like at a minimum 10,000 decisions away from being healthier and seeing the effects of that. You have to understand that the decisions you're making right now, you're not really going to see the results of those until on down the road. Where you're at right now is based on all the decisions you made your entire life. Every single one.

Knowing that, that arms you a little bit better in the present moment and I think this other sort of state ... I have all these mottos that I kind of live by, but I really think that the more brains in the situation, the better. The more people you have thinking with you and strategizing, maybe calling you out in a nice way or helping to stretch you or even just being there for whenever, to just listen to you, the more brains you have, I think the better decisions you make and the better you eat. The better decisions you're gonna make, you know.

Dave: You talk about something interesting about trusting your sense of taste and smell. Talk to me about that. I have a couple stories I want to ask you about but what does that mean? It sounds kind of obvious, but give me the next level.

Summer: Well it's complex really because when you're eating crystal hamburgers everyday and junk food and Cheetos and Dr. Pepper and Mountain Dew and Taco Bell, just trying to think of all the things I used to eat when I was younger. You eat a lot of that stuff and your taste buds want that and your sense of smell wants that. It dawned on me one day when I was in the subway in New York City ...

Dave: Subway sandwiches or subway like riding the subway?

Summer: I was walking down into the belly of the dark hot subway in the summer in New York City in Manhattan and it was gross. It smelled really bad and I was really hungry and I had celery. There's this man sitting on the bench eating a hot dog covered in chili and cheese and onions and relish and it smelled kind of amazing in this way. If you smell like something I want it in my body but I got it in that moment. I was like oh, you have to eat this food that kind of overwhelms your senses to cut through all the rest of the like whatever it is, the noise. That's when I had that realization you can be in an unhealthy place and listen to your taste buds and listen to your sense of smell and it kind of going to keep driving you towards some of that unhealthy foods. You have to get your nutrient levels back up and heal your body in order to really trust those.

Dave: That's what I was going to say. If you trust your sense of taste and smell, you're probably going to end up at Pizza Hut. Like that tastes pretty

good, at least until you've really taught yourself what real food tastes like and actually, if I was to eat that, really, bad fats don't taste good anymore. It hits me like bleh! It's very interesting as a parent. My kids and I think all of us by extension, but my kids just as an example, they know when something isn't quite right in food and they don't want to eat it and as parents we're like shut up and eat. I use more kind kid language than that but it's like well no, this is what we're having for dinner and if you don't eat it, you're going to be hungry.

Like shocking because I'm not making you something else. I've learned over time that when they think of food they normally like and they're like no tonight, I'm just not eating it, that if I eat it, I usually feel like crap later then too and it's because it probably wasn't as fresh as we thought it was or sometimes everyone who eats it like kids are cranky and I'm like I just don't feel great. I should feel a food high after a meal and I'm feeling kind of zombified.

I've learned to that if you listen to not necessarily your sense of taste and smell but those are plugged into your fight or flight response, your autonomic nervous system, and your body will tell you perfectly well when you look and smell and sense the food, before you even put it in your mouth, whether you ought to be eating that or not. It's entirely possible to train yourself to know. I still routinely look, you know, probably don't want to be eating that because every single thing you put on your plate, it's either going to make you stronger, it's going to hold you where you are or it's going to make you weaker. In some food.

All of them have some good, all of them have some bad and it's different for different people at different times of the day, different phases of life, different times of the month. There's all sorts of variables that are in there but your body's wired to know this and when you said trust your sense of taste and smell, I don't interpret that as oh if it smells good, go ahead and eat it, because you can hack that so easily with food chemistry. It's if your taste and smell goes to you and if your body's like yeah, eat that. That's going to be really good or if there's a subtle like I want it but its not right, then if you can listen to that voice, which is quieter than the eat it now voice, there's a lot of value in that and that

guides a lot of my intuition around you know, just not going to do that vs. I think I'm going to be all right on that one extremely hacked wine.

I'm pretty much will tell you flat out, red wine isn't good for you. It's just not. I know people don't like to hear that I could talk about all the many reasons. That said, it's enjoyable and different bottles of wine have a profoundly different effect on how you feel and most people that drink know some wine gives you headaches some doesn't, but it's a little bit more nuanced than that when you start really paying attention but your gut will tell you if you're listening and how much of that's bacterial vs. how much of that's you, I don't even know. Do you?

Summer: I think a lot of it is bacterial. Actually think that we're like a little marionette and I think puppet master because if you have candida or some other organism living in your gut that you don't really want proliferating there, you can make a decision to not sugar or whatever and 24 hours later, you're standing at the freezer shoveling it in your mouth. Your brain said no and I've had this happen. It's a personal story, like three bites in I was just like, "Wait a minute. What am I doing?"

Dave: That happens to a lot of people that you can't eat just one. It's kind of designed that way and it's talking, certainly to the yeast there. Can you explain the mechanism? How does yeast do that? How does it cause a food craving? I think it's really fascinating.

Summer: It's really the gut brain access. You are there communicating using chemicals that trigger your central nervous system and tell you what to eat. I'm not exactly sure on a scientific level. That's not my area of expertise of understanding what are the actual chemicals that are being sent and what is it triggering in the brain. Are they sending a little pictorial of ice cream or is it like saccharides that they're able to trigger. I'm not sure on those details.

Dave: Well some of the research for the Bulletproof diet, I dug in on this because it's fascinating and it really drove me crazy. I used to have really bad candida. Especially if you live in a house with toxic mold. Most listeners know that I just did the documentary moldy, go to moldymovie.com and look at that. It's like this is what mold in the

environment does. Mold in the environment talks to the bacteria in your body, including in your gut and your eyes and your sinuses, and it changes what it does. It makes it think it's under attack from the mold so it forms biofilms and it becomes more aggressive and it forms this chemical called lipopolysaccharide or LPS you'll see it read as.

What's interesting, when you want to make a bacteria or a mold for that matter, make more toxin, you stress it and you can stress it through light dark cycles, by shaking it, by heating it up, by cooling it down and basically messing with it. Happy bacteria sort of sits there and does its thing or you can basically make it uncomfortable and it responds with basically the equivalent of you waking up on the wrong side of the bed. If what's in your gut wakes up on the wrong side of the bed, it wakes up with a wave of toxins or it gets hungry and when it gets hungry, it gets stressed. When it gets stressed it dumps LPS. When LPS hits you, your liver tries to to detox it. When your liver can't detox it enough, then the LPS affects your brain and your nervous system and you feel like crap and you feel like crap, you're like "Oh my God, I need sugar."

The reason that you need sugar is that your liver uses glucose to detox LPS so what it's doing is dumping more toxin that you can oxidize so your bodies like give me more sugar so I can deal with this toxin please. That is a really nasty situation because if you eat the sugar, you feed the bacteria so it stops making poison, so then you feel better and you're a hostage. Not like marionette. More like they're in the cockpit with a gun to your head. That's why you shouldn't trust those little bastards living in your gut. That's why I'm a little suspicious of you fermentationist Summer because you're like "I'll just eat fermented food. Oh I'll be fine." I'm like no, those little bastards, you need to vet them. You need to know who they are, what they are and what they're intentions are and you need to set up the environment so they have no choice but to serve you. Otherwise they'll take over. Like they're mean little hackers.

Summer: Yeah but you're not growing candida when you make sauerkraut.

Dave: I sure hope not. I've seen some interesting scum on the top of my sauerkraut. Do you measure what's on the top of your sauerkraut? How do you know?



- Summer: You see that light thing back there in the corner? That's one of the crocks that this woman made. I don't know if you can see it.
- Dave: I can see it, yeah. It's a dark crock though right? It's not clear?
- Summer: Oh yeah. It's stone. It's actually porcelain and it has a moat around the top so it creates an interlock. I've gotten to the point where I just really promote making fermented edges with an interlock. It's just better.
- Dave: But how do you know what was on the veggies when you tossed them in there? This has always been one of my problems. I'm not opposed to fermented food. I think it works for a ton of people but I know so many people who just get knocked out by it.
- Summer: Well and that's the histamine and so that's sort of the difference. It also has to do with how long you ferment it. I get this. When I was histamine intolerant, it didn't matter how long it had been fermented. I couldn't touch it. I had to get rid of that before I could even begin.
- Dave: What was the secret to getting rid of histamine intolerance because there's millions of people interested because they're on antihistamines.
- Summer: It's kind of I don't know. It's a little bit odd but I went on a low microbe diet.
- Dave: Oh so you eliminated the bad stuff in your gut, okay. Low microbe diet.
- Summer: I omitted all bacterial sources, so meat. I wasn't eating any meat. I wasn't eating any eggs. I did this for two months and I just let things settle.
- Dave: So what did you eat that wasn't a bacterial source?
- Summer: Mostly vegetables. A little bit of fruit and some fats and that's about it.
- Dave: But vegetables are covered in bacteria. Are you cooking them all like steaming everything or something?

Summer: They are covered in bacteria but comparative, it's a very very low amount. You compare it to what's in your gut compared to even what's on me. Compared to hydrochloric acids you kills. It's very very minimal. That's what happened to me. When you take cabbage or any kind of vegetables that you're going to lacto-ferment and you chop them up, sure they're might be some random bacteria growing on there, but they're in such small amounts. Then as soon as the lactic acid starts being produced, it's a very quick cycle. That acidity prevents these other organisms from growing. In the end, you end up with a ton of lactobacillus and leuconostoc. Those are the main two different genuses of bacteria that you end up with and hopefully, if you've done it right and you fermented it long enough, I generally tell people to ferment it for at least three weeks, you end up the lactobacillus plantarum which actually helps to break down histamine.

Dave: It's really interesting when you dig in on those different species. I wrote a post a while back about why yogurt can make you fat and foggy and how some of the species that are even put in commercial probiotics form nitrosamines in the gut or they form histamine in the gut. These amines, basically these are the ammonia that comes off when you have protein and there's protein in everything so you always gets some protein, but if you have the wrong stuff growing in your gut or even too much of the right stuff, there's an imbalance. It can actually take any source of protein and break it into these things that mess with you. I think that's one of the reasons that for instance pork, I'm a huge proponent of basically pork fat from carefully fed pork, essentially bacon, pork belly, but most of the time if you get pork that isn't done right, pork has amino acids that very quickly breakdown into really bad things in the gut.

It's a very tough thing. Was the pork clean and was the gut clean. You put them together, you like wow, that tastes amazing and I feel amazing, but if the pork was not so good, you get these breakdown of these amino acids in the gut you get tyramine and putrescine and things like that that are formed by the bacteria that might even be good for you depending on if you ate something else.

Summer: That's depressing

Dave: That's really fricking complex. Now there's someone sitting in their car or their working in their office right now and they're going, "I feel overwhelmed. I think maybe I'll just eat pizza because the bacteria can eat that." How do you boil all this interestingness down into an actionable thing? Okay, I know I react poorly to some foods so I want to make the bacteria in my gut happy so should I just eat some sauerkraut and be done with it? I think most people tried that and it didn't do anything.

Summer: Let me try to sum up my life's work.

Dave: Thirty seconds. That'll be fun.

Summer: Basically, let's just start with this. The three main causes of having the wrong bacteria in your gut are antibiotics, stress and nutrient deficiency, so not having enough nutrients in the body. Really the antibiotics and the nutrient deficient foods are like kindling and lighter fluid and they're just hanging out, creating a hugely flammable environment but they're really not going to activate on their own, but then when you add stress which is like a lit match, that's when it explodes.

For me that's when I see peoples issues really go out of whack. That's where people get to live in denial for a long time. Oh, you know I've been eating junk food my whole life and nothings ever happened to me. That's why because they haven't hit the deadly trifecta, I like to call it. Then really from that point, you have to look at how do you reverse those? Well we know that every time you take antibiotics, it gets that much harder to get your native flora back, so every single time you take them. Those of you that who've taken them for years.

Dave: Like me. I took them for about 15 years once a month.

Summer: So you know this?

Dave: Oh yeah. I've lived most the stuff you're talking about.

Summer: Yeah, exactly. I look at it in terms of this whole concept of bioterrain. I say given the right environment, the body knows how to heal itself. This

is where my herbalist training comes in. I could bounce back and forth between the worlds of bio-hacking and tradition. How do we really balance these two things? I've really gotten it down to about three main steps. One is increasing nutrient dense foods and fermented foods are actually nutrient dense foods, it's one of their attributes, but some people can't handle those. That's okay. You can still increase nutrient dense foods.

Then the second one is really just detoxifying the body on all levels. I think that's huge. I think when you get toxicity out of the body, all the organs function better. They do what they're suppose to and when you get the pH up, the digestive organs running properly. That in itself is an antibiotic quality. It will help kill various kinds of bacteria because if you have the right pH in your small intestine, you won't have cipo. If you have the right pH in your stomach, you're not going to have H. Pylori or whatever else is growing there.

If you have the right acidity in the stomach, you're also going to help trigger a big dump from the gallbladder into the small intestine to help get the pH alkaline again so that all the starches can now be digested there in the small intestine. This pH all the way down and really in the colon as well where most of these bacteria are growing, it key for that pH to be right. That's why I miss like traditionalists. I really think that cleansing and detoxing is a great way. That's how I do it with my body. I really focus on that 60 days of basically no microbes except for the ones that came in on the veggies and it was hard, I'll admit it. It was the hardest two months of my life food wise.

Dave: Were you ever a raw vegan?

Summer: I was sort of raw vegan during that time.

Dave: Okay.

Summer: That was sort of the healing guide I used but I wasn't trying to be a raw vegan, if that makes sense.



- Dave: Yeah. I was a raw vegan for a lot longer than a couple months. I think it was almost a year but yeah, it's a big change to eat only raw vegetables like that.
- Summer: No sugar.
- Dave: Certainly no sugar although if you had some fruit you were getting some sugar.
- Summer: I was only doing lemon juice.
- Dave: That doesn't count. That's high on the Bulletproof diet.
- Summer: I probably did like 25 grams of sugar a day max.
- Dave: So you were totally fine on something like that. It's kind of weird because people are like "Dave's against the vegan diet." Actually I'm not. I speak at the largest vegan conference the last couple years, David Wolf's conference and like Dave's a friend. I have a lot in common with vegans because the food purity and detoxing and ecological implications of what I eat, they matter to me. I'm a huge fan of if you want to be a vegan for a month, you want to do it for two months, especially if you're going to be a raw vegan, it's probably going to be good for you. That's a good detox but if you try to do that for a year, you are not going to like your life when you're done with it and your teeth are going to break and it's just not going to end well for you.
- It's totally cool to do that and that's a form of cleansing. I know that I think most cleanses are like I'm going to have 500 grams of sugar everyday as part of my cleanse but as long as I'm not chewing, I'm cleansing myself. There's bizarre stuff out there. You're one of the more sane cleansing people I know so what's a cleanse mean to you?
- Summer: Actually there's some similarity between the Bulletproof diet and the way that I teach people to cleanse. My goal is to have them eat. The only difference is that I have them eat a lower fat content and lower protein content than your cleanse.

Dave: During a cleanse, that makes great sense and the type of fat really matters too. I would be like on a cleanse, if you want to avoid dairy, who cares. It's a cleanse. It doesn't matter.

Summer: I call it building your cleanse muscle. I think people should take that time. I say generally two weeks twice a year is the general totally made up guideline. It helps you practice this process and so generally I have people do something similar to kind of what I talked about. Ideally it's mostly vegetables. I have people do a lot of juice and smoothies because it's going to help increase digestibility. Like a big part of it. That's why you can't be raw vegan forever because you're going to lose your digestive fire over time.

Dave: You mean like a hell of a big blender. I have like the biggest blender ever made. It's like this one gallon Hercules blender thing made by Waring and it sounds like a car starting. Even with that, you're not going to win as a raw vegan. No matter what you do to your food with a blender. You can't win. I tried.

Summer: I really lost it when I saw for sale, and I'm not going to name any names, but when you have the jaw strengtheners for sale because you're just blending all of your food and you are chewing more and you're losing like your mental abilities because part of chewing actually stimulates the brain and there's this like jaw exercises. Kind of like guitar finger exercises. I was like, okay, this is too far.

Dave: Oh my God. I was thinking of just feeding myself through IV's just because they'd be more convenient. Like soylent plus ... I'm kidding. There are problems. I agree with you there.

Summer: Yeah, totally. It goes crazy. I want to make sure I get the last step in rebuilding the bioterrain which is using herbs and some supplements if necessary to help support the natural systems of the body. Again, I really believe the body can heal but here's one of my motto's. I have all these little motto's that I made up at a time to try to keep on track with this. You don't get to decide the order in which your body heals. My favorite example is one of my clients who went to her doctor after doing that rebuilding all of this and he's like reduced her lung meds. She was so

mad. She was like why. Why are you reducing my lung meds? I want to lose weight and I want my gut to be better. I was like you don't get to decide the order in which your body heals. This is actually awesome. This is an amazing moment of celebration. She got it after we kind of talked about it for a moment.

Dave: It sounds kind of weird, but it's a parable that I've heard from multiple professionals over the years of talking with people and my end path. You heal from the inside out. You want to lose fat? You want your skin to look really good? You better get the inside going on that if you want to like just make your skin look good, you can prop it up artificially. There's all kinds of skin care products and things you can do but that if you get it right on the inside, it's going to work. The converse is true as well, which is illness starts from the inside out. I would make that go for people who aren't sick at all but weakness starts from the inside out. If you want to kick more ass, you need the inner self working and by the time you can see it, then it's probably pretty far along and you aren't as strong as you think you are.

Summer: Yeah, absolutely. I want to say one more thing about taste buds and smell. Just kind of back up for one second because one thing that, this is something you recommended and I just wanted to bring it up because it's really cool is the whole HeartMath thing.

Dave: Oh cool.

Summer: I went and bought this on your recommendation when we were hanging out and talking that one day and I have really been blown away. Like totally blown away by these.

Dave: For people listening, this is the HeartMath Inner Balance sensor. We carry it on the Bulletproof store. I don't manufacture it. I'm an advisor to the company. It clips on your ear and it ... I was going to see if mines laying around but it's not. It basically teaches you to control your stress response. Be aware of your stress response and also ...

Summer: This little like thing or app or whatever.

Dave: I didn't realize you were using that thing. Cool. So it's helping you?

Summer: Well yeah. I started actually made a commitment and I do it before each meal and I do it before bed and it is awesome. To go into each meal having taken the time to like kind of talk to my bacteria and be like, hey guys. It's all cool.

Dave: They will cause a fight or flight response, a sympathetic nervous system twitch and once you've mastered that little application, it takes most of my clients like 6 weeks or something of 10 minutes a day. They're like oh, I feel what it's like when the light turns red. I was in the zone and then I got out of the zone and like you can tell when your food does that to you. It's funny you bring that up. I was at Burning Man a couple weeks ago, and I was in and RV with a couple other health celebrities. We were sharing it.

Because what I do when I get down time, I actually love cooking and when I'm CEO and podcasting and being a Dad, I don't always get that so I'm like all right, we're bringing the RV because it has a kitchen and because I can bring lots of grass fed steak and so I made these just like ridiculously good meatballs. Grass fed meat with fennel seeds and I cooked them in bacon grease, because well we had bacon for breakfast for breakfast because hey, it's Burning Man. You have bacon all day long. It's just what you do. So these are just like some of the best meatballs you could ever possibly have and everyone's just loving these things. We put them in the fridge and then we get them out. One of the friends who is coming over to visit pops a few of them in the microwave and I'd been out on the playa all day and I'm like, I'll try one of the things and I took a bite of a microwave meatball.

One of the other people who can decide if she wants to talk about her experience or not. None of us had microwave food in like ten years. It was astounding. It didn't smell good. It didn't taste good. It was not what a reheated meatball tastes like in my world and I'm like, that's just gross. Like there's something weird going on here, but that is one of those things that you want to listen to your smell and your sense of taste and really just realize, okay there is a difference. The difference was very noticeable from where I sat. I didn't feel good after I ate one of them and I tossed the other one so just ate the rest of them cold because they were really good meatballs.

Summer: Nice. Yeah that's really cool. That's such a good example of like intuition. That intuition, it's real. I love the story of the Japanese business man that made all his business decisions after eating a meal. Like he would like think about a big business decision, eat a meal and see how it stacked and that was his deciding factor. I can't tell you how many times in my life where I've, we've all had those moments of like ... Here's the thing that people make a mistake with gut instinct in terms of listening to your body and trusting your body and really being on a healing path. They make the mistake to think that there's a good thing and a bad thing. That there's good food, bad food.

Dave: Yeah, something like that.

Summer: It's always good food. It's always bad food. It's not like that at all.

Dave: Well hold on for margarine, it's pretty much true.

Summer: Okay, yes.

Dave: And MSG and a few others, yeah.

Summer: For red wine, no. I did have a friend who was really sick with like diarrhea for weeks and he drank a bottle of red wine one night. He had a huge craving for it and it like kicked it for him. I'm not trying to say that's everyone's solution, it's not. He was just listening to his body in that moment and I think that really the clearer you get and the better your gut bacteria get, the more you really can listen to that but I mean I've had these moments where I had ... it's not like a good or bad feeling, it's just heightened anxiety. I'm probably like oh I feel that and I've gone into the situation anyway and the ultimate result of that situation was this heightened anxiety that went on for weeks based on the way that events culminated. That same thing with food. I've looked in the fridge before and been like, chocolate, of course, and then kind of felt like this tightness in my head and been like, whatever, eat it anyway and end up with a headache.

I'm not trying to say everybody's psychic per se. I just think that we're like bears. When bears go out after hibernation they do two things. They eat osha root to help clear out all the bacteria. It's a major antiviral,

antimicrobial. They eat osha root and then they go eat moths. Moths are really high in fat compared to any other food source that they have access to at that time.

Dave: It's kind of funny. One of my favorite podcasts is with Glenn Elzinga who's a soil biologist who runs Alderspring farms. This is the best grass fed beef I've had in the US and I've had some pretty epic grass fed beef, but in terms of consistency, he's one of my favorites. I don't know the episode number. We'll put it in the show notes. If you just search for Bulletproof Alderspring, you'll find it. Like Alder, A-L-D-E-R. The reason that he's really interesting is he has hundreds of cattle and a hundred square miles where he grazes them and he talks about how the plants in healthy soil extract the right nutrients and that this tuft of grass over here, has different nutrients than this tuft of grass and that when you allow the cow, his are like semi wild cows, when you allow them to go out, they'll actually eat the tuft of grass that's best for them. The one that has exactly what they need.

We're the same way. We've just lost the ability to do that. Things like the inner balance sensor that you talked about, things like neurofeedback, things like meditation, things like taking a deep breath or just body awareness exercises, all of those can plug you back in so you can just hear the voice that says, "This sounds kind of ridiculous but that chocolate bars the right one and that one's not the right one." It's not a rational, it's actually very scientific. We kind of figure if you're going to evolve or design an ecosystem, whether you're an engineer or whatever else, just a set of rules for maximizing survival, you would put something in that allows any organism to choose the right fuel source that has all the things they need and to avoid the ones that aren't so good.

The idea that somehow we evolved to not have that doesn't make sense and that's one of the reasons we have taste buds is to avoid things that aren't so good for us and they work if you listen.

Summer: Yeah, this is the realm for me right now but if you can look really hard at the food, and a lot of my clients do. A lot of them are nutritioners I call

them. That's one aspect of it but there's this whole other piece that's got to open up for people.

Dave: I have two more questions for you.

Summer: Let's do it.

Dave: The first one is like I appreciate asking guest on the show. This isn't an infomercial or something to sell things on. We're here to share knowledge, but what your URL? I know you have a few things where you teach people how to rebuild their gut and you're pretty good at it from what I can tell. Haven't done your full program but you definitely know what you're talking about. So what's your URL where people can find out more about you?

Summer: Sure yeah, summerbock.com, like the beer, and gutrebuilding.com.

Dave: That's B-O-C-K for those you who don't know that brand of German beer, because I know Bach is this German composer. So summer like the season and bock, B-O-C-K .com. Okay cool. The other one is the question that I ask all the guests that you might have been preparing ahead of time for but I hope you weren't.

Given all the stuff that you know, all these cool little sayings that you've saved up over the years, what are your top three most important pieces of advice for someone who wants to kick ass at everything they do?

Summer: Hmm. Really we covered a lot of them honestly.

Dave: Yeah, the top three. I want you to sort them.

Summer: Sort them, okay. The top three. How do you kick ass? Number one is handle your life. Get your whole life handled. From organizing your desk to like cleaning out your fridge to having if you need to have a personal assistant to help you with all the things that you suck at, like getting your life handled. The second one is clean up your relationships. I think that actually should start with your family, your immediate family. I think cleaning up your relationships with your family is an amazing way to start accessing your own healing, because you're not just healing

yourself at that time, you're healing like I really believe in this thing of like healing future generations and your ancestors at the same time. When we break up the familiar pattern that's like destructive for everybody, you save everyone from it from that point forward and back.

Dave: So shamanic teachings. Got it.

Summer: Yeah I think that ones huge and relationships. Then three I would say surround yourself with people that intimidate the hell out of you because they're so freaking smart and find people that, make sure some of those people are people that you can totally like do a trust fall with and land sobbing. People who can like really see you through some of the hard stuff and not flinch. Those are my three top things and not really food.

Dave: That's a beautiful list and thanks for sharing it and thanks for being on Bulletproof radio. I know you have to go so if you need to hang up, that's cool. I'm going to talk for about another minute or two to share a couple other things with people. Summer, thanks again for being a guest, summerbock.com. Links to all of this will be on the podcast. So thanks Summer.

Summer: Yeah, thank you so much Dave. This was great.

Dave: Thanks again for listening to today's episode. Thanks for listening to all the other episodes and thanks for all you do to share this knowledge with people around you. It pretty amazing what happens when someone in the cubicle next door or your neighbor or your family a family member finds something that totally gives them more control than they thought they had of their biology, and that's what the show is all about. Really really appreciate your listenership. Have an awesome day.

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