



Transcript – Live from London: Tech Hacks, Gut Bacteria, Positive Energy & More - #324



Warning and Disclaimer

The statements in this report have not been evaluated by the FDA (U.S. Food & Drug Administration).

Information provided here and products sold on bulletproofexec.com and/or upgradedself.com and/or betterbabybook.com are not intended to diagnose, treat, cure, or prevent any disease.

The information provided by these sites and/or by this report is not a substitute for a face-to-face consultation with your physician, and should not be construed as medical advice of any sort. It is a list of resources for further self-research and work with your physician.

We certify that at least one statement on the above-mentioned web sites and/or in this report is wrong. By using any of this information, or reading it, you are accepting responsibility for your own health and health decisions and expressly release The Bulletproof Executive and its employees, partners, and vendors from from any and all liability whatsoever, including that arising from negligence.

Do not run with scissors. Hot drinks may be hot and burn you.

If you do not agree to the above conditions, please do not read further and delete this document.



Announcer: Bulletproof radio. A state of high performance.

Dave: You are listening to Bulletproof radio with Dave Asprey. Today's cool fact of the day is that every day British people drink about 165 million cups of tea. That's a lot of tea. What you don't know, though, is that that tea should be protective against stomach cancer except it's not because stomach cancer rates are higher than it should be given that amount of tea consumption in Britain. There is a reason for this. The reason is because of the British habit of putting milk in tea. It turns out that milk protein called casein sticks to the antioxidants in tea and coffee called polyphenols, and when milk interacts with polyphenols it inactivates them so your body can't take advantage of it. Even though Brits love their tea, if they would just put butter in their tea, the way Tibetans do, instead of milk, they would have less stomach cancer. That said, if you like your tea, go ahead and drink it. No one's going to hold it against you.

Are you looking to eliminate the feeling of being stuck in your life? You'll want to check out the Unmistakable Creative podcast. They recently talked about the power of experiential learning and how it's important to learn things by doing rather than just learning about the theory. To get creative, go to podcastone.com or download the free mobile app now.

Today's podcast is going in a different direction than what you used to because it's actually me being interviewed live in London by Tony Wrighton and from Zestology. What you will find is a really cool interview. There was an audience of about 200 people and we had more people outside who couldn't get into the venue. It was a really cool chance to just chat about things that you might not often hear on Bulletproof Radio. If you have a chance to watch this one on YouTube, definitely take it. If not, that's all right, listen up and you will hear an awesome interview.

Tony: Ladies and gentlemen, the founder of Bulletproof, the man who is a New York Times bestseller, and more importantly than that, he's got us all putting delicious, big blobs of butter in our coffee. Ladies and gentlemen, give it up for Dave Asprey.

Cool, you get to make the entrance right from the back and make it a bit more dramatic.

Dave: I feel like I'm on a talk show. This is awesome.

Tony: Did you realize how popular biohacking is in this country and in this city? We probably could have filled this three or four times over and we've been turning people away over the last few days. Did you have an idea of how big your movement and the movement of biohacking is becoming?

Dave: I know it's getting bigger globally, but I haven't seen this much interest in the UK so far, so thanks for showing up. I'm honored. It's cool. This is our movement, anyone's a biohacker when you start paying attention to stuff. I pushed the button on the word, but there's a lot of personal work that people are doing.

Tony: Yeah, the word and also, I think, any great movement has to have a good gimmick. Let's start by talking about the coffee. There's been, I think it's fair to say that Brits are slightly more skeptical than Americans in general, and there has been some skepticism. Is that fair to say in general? We're slightly less willing to adopt things. There has been some skepticism in the press, The Guardian said it tasted bitter and oily, but there's a lot of people here who love it as well. Is there a sense that this is now almost becoming mainstream do you think?

Dave: It was The Telegraph who said that the Bulletproof Diet was "everything wrong with America in a diet." I thought that was a better quote. That's because the British press is very trustworthy and credible, right? When you're a skeptic, it's very funny what some of the latest neuroscience shows, about 2% of the corpus callosum, that little network of nerves that connect the two halves of your brain, you have the logical side and the emotional, intuitive side, when you're a skeptic you've taken the 2% of those that are really good for going back and forth and you've trained them as a firewall to block any interaction between the two house of your brain. The rest of us who are actually getting shit done, we've actually paid attention to those nerves and uptrained them so we have better interhemispheric conductivity so we can actually sense whether something is working instead of being afraid that it might not work. I love skeptics because what you do is you make them a proper cup of Bulletproof coffee, which means it's not bitter and oily because they made it right, and then they drink it and you go, "How do you feel?" A half-hour later, 95% of the time there like, "Oh my God," and 5% of the time like, "I've got to go to the bathroom." I'm okay with either one for skeptics.

Tony: Who here has tried Bulletproof coffee before? Who here hasn't? Ha-ha. We are serving it. If you're a bit worried about being totally wired, then we are serving decaf as well a little bit later on, as soon as our urns heat up.

What about Bulletproof coffee for athletic performance? Is that starting to take off? I'm thinking, obviously, we love our sport here in the UK, might we see the likes of Chelsea and Arsenal football club following a Bulletproof Diet or at the very least drinking Bulletproof coffee in the morning?

Dave: I don't really follow celebrity people that much, this last weekend I got a picture from the Bulletproof Coffee Shop in Santa Monica from this guy, I think he is well known, it was David Beckham. He came there twice. He came there one day, and came back the next day, so I know he's tried it and he was cool with having his photo taken. Unfortunately, I wasn't there to meet him. Also, we sponsor the LA Galaxy where most of the UK soccer pros when, I guess, they're done here.

Tony: Yeah, when their past it a little bit.

Dave: Yeah, but it's a start. It's American soccer, it's got to happen.

Tony: I'm thinking in terms of high-performance, I know some of these endurance athletes now are switching ... Obviously, 20 years ago the thinking was "You've got to load up with extra carbs." Now, is there a sense that the athletic community following high-fat diets as well? Does that

work if you are trying to break records, for example?

Dave: It's still controversial. I think for certain types of endurance sports you want to start out in fat burning mode, you want to be fat adapted, but you might want to switch to carbs at a certain point. There is a wall, but Bulletproof and these kind of techniques, it moves the wall way out, but you can still hit it. I don't have any problem when someone's like, "I'm on 75 miles of running," I don't know what that is in kilometers, sorry, but, "I've run a lot a lot, more than a marathon. I think I want to have some sugar now." I'm like, "Good, go for it. There's nothing wrong with that. You might want to put some things that add exogenous ketones in so you can have both energy pathways going at the same time."

I'm convinced that, right now, Brain Octane, or in the UK, thanks to the regulatory people, High Octane Oil, is the number one source of exogenous ketones in the world's diet right now because it's the oil that converts most quickly to ketones. Of course, athletic people want to do it in a big way. Surfers are all over the stuff like, "I can get more energy per cycle out of my mitochondria," which might matter when there is a wave of holding you underwater for a while and things like that. I'm seeing it in strength athletics, I'm seeing it in endurance athletics.

the mistakes that some people are making, in my opinion, is they're going into ketosis and staying there forever. The cyclical ketosis approach that I outlined in the book seems to work better for most people. If you have cancer and if you're one of those genetic people where you just love it and you feel that you're never good on carbs, that's cool, but I think that that's the exception, not the rule.

Tony: It's obviously getting bigger, isn't it? You've got a lot of people in here who come to see you today. Any plans to open a coffee shop in London?

Dave: Absolutely I have plans to open a coffee shop in London.

Tony: That would be quite popular.

Dave: Just one?

Tony: A couple of other London-centric questions. Am I right in saying you don't like taking the tube?

Dave: Does anyone like taking the tube?

Tony: It's very quick, it's an easy gateway to get around. Tell us about your experiences going ...

Dave: I have a unique radar. I'm one of the 28% of the world who have genes that make us more susceptible to toxic mold. In fact, it causes mitochondrial weakness in me. When I'm in a place that's moldy, sometimes within seconds and always within minutes, I'll feel it, I'll feel it in my brain.

I used to commute out here a lot, like once every month for about two years. I worked in Cambridge so I would fly, I'd get a couple of extra days in London. I remember one day I took the

tube to go see the British Museum. Like, “All right, this is going to be really fun.” I’m on the tube and I’m starting to feel really, really weird, like seeing colors kind of weird. I walked down this long, tiled, dank hallway, the ones with white tiles on them that are just nasty. By the end of it, I’m like, “Okay, I’m getting tunnel vision,” so I was like, “I’ll just hold my breath.” It started to go really fast. I will say I was really not happy, and people who’ve been exposed many times, like I have, to toxic mold they know this feeling. You’re like, “I have to get out of here.” I’m taking the escalator stairs two at a time, and this very polite gentleman comes on overhead speakers and he’s like, “Would the gentleman charging the escalators please stop.” I’m like, “Charging? That’s using a credit card.” I couldn’t process what he was saying, and I’m sure I scared people running up the escalators.

I went outside and breathed and it took like eight shots of coffee to turn my mitochondria back on because caffeine changes this thing called cyclical amp, which is an enzyme that helps you make your ATP work again. Basically, I felt crappy all day. I can tell you, as a matter of fact, that the air in the tube is absolutely horrible. You’ve got pollutants, you’ve got chemicals, and you got this environmental thing going on because it’s always wet and it’s always dark. If they did air quality monitoring in the tube, no one would take the tube. It’s that bad for you. My wife, Dr. Lana, who does fertility coaching for global clients, including a few people who live in London, flat out, if you’re trying to get pregnant don’t take the tube. It makes a difference.

Tony: Who’s getting Uber on the way home?

Dave: Just hold your breath.

Tony: Let’s talk about supplements, then, Dave. I know you’re not always willing to exactly talk about what supplements you’ve taken, but tell me what you’ve taken today.

Dave: You’ve just reminded me, actually. I need some water, though. I have a little baggy.

Tony: We’ve got your bottle of water here.

Dave: Excellent.

Tony: This, presumably, isn’t all of your supplements for the day?

Dave: When I travel I do, basically, three bags a day. I need a spoon, a lighter, and a needle. Let’s see if I can figure out what’s in here.

Tony: It’s quite a lot in there. It looks like there’s probably 20 pills in there or something like that.

Dave: Something like that. This is relatively light.

Tony: This is a live pill-taking on a podcast. Don’t know whether that’s been tried before, I don’t know whether we should ever try again, but we’ll see.

Dave: Let’s see, I don’t know if I can tell you what all the white ones are, I know there’s some

Aniracetam in here, that looks like gamma-Linolenic acid ... No, that's actually vitamin E, mixed tocopherols and tocotrienols. There's an adrenal extract, astaxanthin, which is really important when you travel, Brain Octane capsule, which helps absorption of everything else, adaptogenic herbs, turmeric, there's an upgraded aging in here. That's bilberry, I'm really working on eye health because it runs in my family to get macular degeneration and because I have light sensitivity.

Tony: What's that half a pill there? What's that?

Dave: The half a pill right here? That is one of two things, let's see if I can tell you which one it is. It is either an aromatase inhibitor, which prevents testosterone from converting into estrogen, which tends to happen a lot in my family just historically. I used to weigh 50% more than I weigh, my body will always convert testosterone to estrogen more aggressively than normal so I cycle on and off of these on occasion. It's either, that or it could be cortisol. If you don't want to be jetlagged and you get a prescription for cortisol, take micro doses of cortisol and you don't get jet lag. It's awesome.

Tony: Wow. As you start to take your pills, I just wonder ...

Dave: I'll just do it like this, watch.

Tony: No way.

Dave: It's not that hard.

Tony: Did you throw it in your shirt? It's like magic.

Dave: Didn't you learn how to drink a pint?

Tony: I was never good at that, downing a pint at once.

Dave: It's the same technique just drinking a lot of beer

Tony: Good effort. Did anyone here recognize everything that Dave called out? Anyone? Okay. A few, she pitched half-half. Come on, put your hands up and give us a proper ... Yeah, okay, a few of you. That's pretty impressive. Quite a few of your smart drugs in there. What would you say to people who are well up for taking anything natural, which is most of what you recommend, but obviously, smart drugs are not necessarily natural in the same way that chemical compounds?

Dave: Nootropics are an interesting category because they include natural compounds, but they also include pharmaceuticals. In the States, to get [parasitin 00:13:53], when I first started taking it, which is technically a pharmaceutical, even though in the US it is one of those "does not exist," it's not in the book for doctors. If you go to a normal doctor and say, "I am taking this," and they can't find it. There's a blind spot. They consider it an orphan drug in the US, which is funny because it's been around for 60 years, it's made by Sandoz Pharmaceuticals and is anything but an orphan, it's a very well-studied drug. It's just ... It's impolite, and it's actually not Puritan,

going back to the US sort of thing, to take drugs that make you better. You have to be sick to take a drug but if you're already well and you take a drug, clearly you're a bad person and you probably also have sex.

Tony: There are also people that say, "I don't take drugs, I just get everything I need from my diet. I don't believe in all this extra stuff, I just believe in getting the nutrients that I can from my diet and I eat well." I kind of know the reply that you're going to say but I wanted to ask you that anyway because I feel that that's a common complaint of people who take a lot of supplements like you just have.

Dave: When someone says that, the easiest thing is I just say, "How's that working for you?" The reason they're asking me these questions is because it's not working for them, and sometimes you can say, "Your pants are too big, sorry." Like it's not working for you, you can just point it out for them. "You look like crap," is another way you can say that without meaning to be rude or anything, but you're like, "Let's talk about this." The real point here is, look, if you're only going to get your food from mother nature and your vitamins from mother nature you, should receive all of your toxins from only mother nature. No EMFs, no junk lighting ... Let's see, you should no petrochemicals, no plastic, no plasticizers, no endocrine disrupting chemicals, no coal dust, no mercury at the levels we have today, and the list goes on and on. No stress, like modern stress. Basically, go put on a toga and live in the hills.

By the way, you need to grow all of your own food because the food you're eating now has nothing to do with the food that would be coming from your own garden because a lot of it was picked a year ago and it's not fresh and it doesn't have the nutrients in it and it's been hybridized. I would say that they're living an absolute fantasy. These are hard facts. You should counteract all this crap that comes into your body with just natural stuff. It's like I like to run marathons wearing high heels and my hands behind my back. Why would you do that? You could if you wanted to.

Tony: That's a pretty comprehensive answer. What about in terms of people living in this city and are keen to make it as London-centric and is British-centric as possible? I, personally, feel the cold a lot, much more than I ever did in my early 20s. I feel like today, the middle of summer pretty much here, and it's pretty cold, it's not a particularly warm country. Are there any supplements that we could take, firstly, to alleviate that, and secondly, I'm sure a lot of people have really been given pause for thought by what you said about the tube. Are there any supplements that they could take in terms of offsetting those symptoms? the answer might be no, but I guess it's worth asking.

Dave: To stay warm, there's an interesting amino acid called L-Tyrosine that up-regulates your thyroid function a little bit. You can take 500mg in the morning, and if you don't feel super ampy and jittery it's probably going to help you that. Green tea extracts could make a difference, L-Theanine could potentially make a difference, and anything that upregulates your mitochondrial efficiency or mitochondrial function is probably going to help with that. I would also say, if you're cold all the time, have you had a comprehensive thyroid panel? It is so common for people to have a thyroid that isn't working very well, even in their mid-20s. If you go to the normal physician here they're going to give you a test for TSH, which is one of seven different

ways your thyroid can break. If that hormone is okay, they're like, "You don't have a problem." You're like, "But I'm cold, and my skin is dry, and I am tired all the time. Those might be problems, Doc." Then you have to arm wrestle them until they agree to order a comprehensive panel, and it's like, "Oh, you're not converting T4 to T3 the way you should, it's not a hormone issue it's a conversion issue." I would say, if you're cold all the time, it's worth really digging on thyroid first and foremost. You may be able to help with just iodine. It's really hard to say until you have the data.

Tony: Okay, I will. I guess there may be an adrenal component of that as well.

Dave: There can be an adrenal component and in Chinese medicine they'll just tell you this amazing thing, drink hot tea, green tea not black in China, and wear a jacket. There's actually a belief there that if you're cold all the time, especially when you travel, that it depletes you and that you actually work better when you're a little bit warm. One of the Chinese guys I work with who is trained with ... He can actually sit in the snow and melt a circle around him kind of guy, he was like, "When I travel I always have a jacket and a little cap stay warm especially on airplanes." I like, "You could melt glaciers, dude." He's like, "Yeah, but I don't want to waste my energy on that." So you might just dress warmer.

Tony: Yeah, that's not quite the advice I was looking for, but if it's all warm. What about mold? that was the second part of the question. Is there anything that we could take to alleviate those issues, bearing in mind sometimes it's the only way that you can get across London and that is to take the tube.

Dave: Sure. What I would look out there is glutathione which is one of the major detox things in your body, can be very, very powerful. If you can't get glutathione, just vitamin C could make a difference, alpha lipoic acid could make a difference. Those are very limited as to how they'll help you, but they can help you. I prefer ... I make glutathione, you can tell I going to be biased in that direction, but I make it for a reason. Then activated charcoal, which is another thing that I manufacture, is shown, in fact it's in the US military protocols for dealing with people who've been exposed to mold toxins, is one of the things that can bind them. So does bentonite clay, and so does a prescription drug called cholestyramine. I don't think you need to be fearful because that's also not so good for your performance.

What you want to do though is recognize, If I get in the tube and I come out and a half hour later I have really weird sugar cravings that I'm not used to, there's a reason for that. Those sugar cravings are happening because your body is like, "I need to oxidize a lot of really bad things that just happened to me," and it's basically calling out for energy. When that happens, and this is going to sound crazy, have some sugar. When I came out of the tube and I had my eight shots of espresso, I was putting sugar into them. I don't like sugar, I don't even think it tastes good in coffee, it ruins coffee, but I wanted the sugar as a medical substance to give me a short burst of ATP. It makes you feel better, and you have to deal with the side effects of the sugar later, but it's a lot better than feeling crappy when you come out.

You may also be like, "I ride but you but I feel just fine." What's happening there is you're one of the people has really good genes and you don't get an inflammatory response. Here's the

problem, those toxins, they cause damage to your DNA, like oxidative DNA damage. There's two kinds of stress for the body what is called hormetic stress, what doesn't kill me makes me stronger. Remember the Princess Bride in that movie, a little bit of poison every day so that you'll be immune? Mold doesn't work like that. Unfortunately, it causes damage.

If I'm the canary, I'm one of the one in four, and you're the non-canary we both come off, and I might be like, "God, I feel like crap. I want to take a nap and I want to eat a cookie," and you're like, "What's wrong with you?" Well, you're still paying the biological cost for those specific mycotoxins. You're not playing the inflammatory cost that happens because my immune system recognizes things that yours doesn't, so you have an advantage except that you're not aware of it, so you might expose yourself to it every day, which ... I have 1200 studies on the website about OTA and stuff that's found in coffee, and another 1400 about aflatoxin, and there's a whole bunch of other molds. We know these things, that is a technical term. I always want to say bollocks here, but I don't know how to use it so would make no sense. It bollockses you up. See I misused it entirely, but basically, it's bad.

Tony: I'm glad you mentioned charcoal tablets because one of the things that is Brits really like, we really, really like it and our social life is based around it, is going to the pub. We do like the booze up, most of us. Who here drinks at least very occasionally? Who here doesn't drink at all? Okay, probably 70 or 80% of the people do drink.

Dave: This isn't representative of the UK at all

Tony: No, most bars ... Yeah, exactly. If people want to go to the bar without feeling too guilty what is the most Bulletproof drink that they could have?

Dave: You want good quality vodka, and you can have that with lime or lemon and a little bit of sparkling water or club soda sort of things, you don't want the sugar. Here's the magic thing about good vodka anyway, it's distilled and charcoal filtered which means instead of having your liver and kidneys do all the work, you outsource the work to technology and then you've got the pure substance that came out as a result of that. Unfortunately, it's not all foamy and amazing looking in a big mug, I don't know how to make that happen with vodka, but I suppose you can put it in your Bulletproof coffee.

Tony: Obviously some vodkas are distilled from wheat. They say all the gluten is gone out of it, but some celiac's won't have wheat distilled vodkas anyway. What would you say about that?

Dave: I recommend potato vodka for that difference, but here's the thing. 20% of people are sensitive to nightshade vegetables and potatoes are a nightshade vegetable. If I eat potatoes the muscles all along my spine get knotted up and my joints hurt for a week, so I generally don't eat them because the nightshade family has these things called lectins. Many foods have them, but the ones that are particularly aggressive, and lectins are proteins that stick to sugars in your body. The sugars that line my joints are the kind that potatoes like to stick to. When I eat those I'm like, "Wow, I feel like I did when I was 22. Everything in my body hurts all the time." For me, maybe a potato vodka isn't a big deal, except I can drink either kind of vodka and I just got a little drunk from them because, really, they're highly distilled. Unless you are extremely

sensitive, I don't think anyone is going to feel the difference there.

Tony: I was under the impression that tequila was actually potentially purer than vodka. I don't know quite why I thought that, but what would you say about tequila?

Dave: Tequila is made from agave which is the sexiest new vegan thing. Agave nectar, which is basically high fructose corn syrup for hippies. Here's the problem, these are giant cacti. I grew up in New Mexico, they grow right south of the border there, and there is something like 200 species and only one of them is really fit for human consumption, but they keep overgrowing and overharvesting them. They take all the other species that weren't even that well recommended for it, so when you're getting your agave nectar, blah, tequila, bottom line, it's not really going to matter. What really matters though was the worm organic.

At a certain point, we're talking distilled and filtered beverages, the reason I say vodka is better is they've actually taken more out in the distillation process because there's no coloring left some of the trace compounds aren't there, but for the average person any of the distilled alcohols that are distilled and filtered, pick one you like and you're going to be so high in the Bulletproof spectrum compared to, say, drinking beer. I don't like that answer, that's just how the biology works out. You're lucky here, red wine still has issues with ochratoxin A, the same stuff that's in coffee, but the European limits on the good stuff here are pretty decent. If you were to drink a dry white French wine, or even a French red, the limits are 2 parts per billion, if they actually test the wine which a lot of it isn't. If you're drinking from a high-end vineyard, especially one that uses old world techniques, you're probably going to be okay unless you're allergic to yeast, which tons of people are and don't know. If you drink wine and you normally don't feel quite as good as when you drink vodka, you're always going to have less biological work when you drink vodka.

Tony: Yeah, you cover alcohol drinks in the Bulletproof Diet Roadmap as well, don't you?

Dave: Yeah. It's actually a whole separate roadmap, it had to be that big. It's all free on the website.

Tony: Did you test it all yourself?

Dave: I did. I went to university in ... I remember at least two or three classes.

Tony: It's actually really useful, the Bulletproof Diet Roadmap. I, yesterday, was feeling great, and generally consider myself to eat quite healthily, and stopped on the way to work at Sky and treated myself to some hummus. Within about 15 minutes, I felt the inflammation. I thought, "I'll check the Bulletproof Diet Roadmap," and you talk quite a lot about chickpeas and how inflammatory they can be. I know it's quite random, but a lot of people would consider hummus to be relatively healthy, why is it so inflammatory?

Dave: Okay. There's two plates in front of you one is full of guacamole and one is full of hummus, why would you ever eat hummus? I would say go for the guac. The reason is these are legumes, they're full of these lectins. They are actually different lectins than the nightshade ones, but for a lot of people, way more than is acknowledged, they cause problems. The other issue is that

they have storage and contamination issues. When you take something like a relatively high protein bean and you soak it, like you would in order to make hummus, what happens during the soak time? Normally, you get microbiological activity. You get bacteria, and you can get a yeast or a fungus growing. One of the things that is a well ... Isn't even talked about in the wine industry or the coffee industry, but it is something that I do test for, is called biogenic amines.

These are things like histamine, is a biogenic amine, tyramine is one. You've heard of cheese migraines? that comes from tyramine. For some people getting a little bit of that, because you've soaked these things for a while and then you blended them up, and then if you're getting them from a container in the grocery store, after you've made a perfect Petri dish, you got some bacteria and all from the air, you've got some moisture, you've got some ... You blend it up and then you just let it sit there for a while. It's not surprising you get that effect.

Same thing, you go to one of these raw vegan restaurants ... Here's what I always do when I go there. If I'm going to eat one of those desserts that taste delicious but probably have agave and honey in, like I'm not having any carbs today or whatever but it's going to taste good, you just say, "Did you make it today?" If you eat that you're going to feel great. If they made it two days ago and you eat it, you should expect to feel a little bit zombified and to have food cravings afterwards and it's because of what happened between when it was made and when you ate it. This whole food safety thing, it actually really matters.

Tony: Just one more question on food. I think for a lot of people it would seem to be a small leap between putting butter in coffee and eating cheese, but cheese is, on the Bulletproof Diet Roadmap, pretty much the worst thing. Tell us a little bit about cheese. I ate quite a lot of it last week, and then afterwards I thought, "Maybe that didn't quite agree with me the way I thought it did."

Dave: You could eat American cheese which would be even worse. Processed cheese food. "Cheese food product" it's called on the label. Truly. That's just weird chemicals and whatever residue is left over after real cheese. Here's the main ingredient of cheese, it's casein, which is milk protein. That stuff is highly inflammatory, and it does correlate with levels of liver cancer, and I generally recommend most people avoid casein as much is reasonable. There are trace amounts in butter, some people who are truly sensitive have to have ghee instead of butter to remove casein, but when you minimize the amount of casein you get, you feel much better.

There's also ... This is what happens in cheese. You have a set of nutrients here, there's milk, and you have some enzymes, and then you have some bacteria, and then some yeast or some fungus, depending on what kind of cheese you have, this nice blue veiny thing. And then warfare starts. Since neither one of them has knives and guns and things like that, what they do is they start making chemicals to basically kill the other one and then you eat what's left when there's smoking rubble and one side is left. There's a lot of weird compounds in there that aren't well-recognized. One of my favorite ones is Roquefortine C, Roquefort. There's actually a mycotoxin called Roquefortine C, and we know it's bad for you. It's like, "You can handle it," and actually, you probably can handle it.

Dependent on your biology, you'll handle it better or worse, but I have this crazy idea with

Bulletproof that handle as few things as you really need to handle, so why do you want to handle that? it could be because I like stinky cheese on my salad, at which point, great, acknowledge that you're not only doing something good with the cheese and say, "All right, fine, I'm going to deal with it. I will take some charcoal, or I'll just be tired, or maybe it'll have no effect at all because I've identified that stuff isn't a suspect food for me, I'm totally fine with it." Most people I know who give up cheese for a couple of weeks, they think clearer, they have fewer food cravings, they have less muffin top, their skin looks much better, you can see it in the skin most of all, and it's a subtle thing. It's like, "I had this cheese, I feel fine," and then check yourself one day, two days, three days, four days later as different layers of inflammation unveil themselves.

I will tell you, I have kids and I live on an island where literally the cows that I eat, eat the grass from the front part of my farm, so I'm as local as you can get. Maybe once a month, I'll make Bulletproof pizza. I will use grass fed, local cheese, and I'm still somewhat sensitive to it, but I can tolerate that reasonably well, but every time I do it, the day after my thinking isn't as good. It's not like my thinking isn't pretty good almost all the time now, I've dialed that in. I used to have brain fog all the time I couldn't remember words, what was I going to say, why did I open the fridge, where are my car keys, all that stuff has become effortless for me. It just doesn't happen even if I only got three hours of sleep or something, actually, like I did last night, I'm totally fine. I can bring it. If I have cheese, a couple of days later, I'm just not ... I'm 80% there, but I'm not 100% there.

it's that nuance, when you start paying attention to, "Wait a minute. Why do I feel like this right now?" That really can instruct you a lot. No one told me 20 years ago, when I started taking notes on this, that what I did four days ago could have an impact on me. It drove me nuts for years. I thought I was fine on gluten, so I would eat gluten on one day and the next day I was really fine, but the day after that, I was really not fine. To know there's a lag time when you eat cheese is kind of important knowledge that hasn't been out there.

Tony: That's quite hard to track isn't it? I did want to ask about tracking. Who here tracks in some way some aspect of their lives? just put your hands up. Okay, so most of us. Who here is wearing a tracker? Not that many. It's quite hard to track, as far as I have found, I'm a bit of a tracking geek and I've got a feeling my obsession with tracking isn't necessarily healthy. In terms of being able to track something like, "I ate cheese and a two days later I felt bad," I haven't found anything that does the job particularly well. Have you got any recommendations for tracking?

Dave: There's a free app called Food Detective, it's one that Bulletproof developed, and it's free because it's actually important stuff. What you can do with that is shortcut a little bit. If you're truly sensitive to a food, you use this app in the morning, it gives a baseline heart rate. Not heart rate variability, just heart rate. Then you tell it what you ate, and you get your heart rate before and after a meal. If there's something in a meal that you're sensitive to, it's going to raise your heart rate by about 17 beats a minute within 90 minutes after you eat. You could use this, which is maybe less of a tracking thing, but maybe more of a detective thing.

I advise people to track what you hack. There is something called exposome, and this is a word that was invented maybe seven years ago. This is a set of all the environmental things around

you that you're exposed to over the course of your life. It's thousands of times bigger than the human genome. Because I have no idea if the planetary alignment really makes any difference or not, but it's something you're exposed to, and if you want to eliminate that variable, you might want to pay attention to that.

The idea of tracking could be really misleading. You know why cholesterol is so feared? because it was one of the first things we could track in blood, so we obsess about cholesterol even though it turns out it wasn't that terribly useful after all. I get these, going back to the skeptics, "You can't change more than one variable." I'm like, "That's a laughable statement. Everyone is changing tens of thousands of variables a day, you just don't know what they are. What path did you take to work today? does that affect your drug trial outcome? no one knows because no one ever tracked it, but it wasn't the same every day." This idea of only changing one variable at a time is laughable, and it doesn't work when you're testing supplements. You want to be paying attention to that when you're tracking.

It's better to pick a goal and say, "What are the variables that I can think of that might affect the outcome?" and just focus on that one outcome and change all of the variables that might do it until you get what you're looking for. Then you can zoom in and change five or ten things. If you were to try every supplement on the market for one month to see which one worked, two things would happen. One is you would die before you tried them all. The second thing that would happen is that you would probably miss a lot of the things that are multifactorial.

The biohacking approach is, "I wanted to change X. Why don't I take every supplement that, in the study, can change X and see if I get where I want to go and then back off?" My first several years of trying to change things biologically, only one variable at a time, and it's a hopeless, fool's errand. It doesn't work, and it's a lie to yourself because you're already changing every variable every day. You just aren't paying attention to them.

Tony: I tend to think that some of the tracking devices that are coming out now actually would almost have a detrimental effect on your life because of the lack of focus that comes from wearing an iWatch that tells you every time you get a Whatsapp message when you could be going more in depth into whatever you're doing you agree with that

Dave: Absolutely. I was CTO of Basis, a wristband company, the first one they got heart rate off the wrist the way that Apple watch does now, and Intel bought that company for \$100 million. I can tell you categorically that the type of information that you're getting from those watches is very suspect. It's suspect because, calories burned, I read a post naming studies. 50% of the calories you burn have nothing to do with how much you move, so how are these watches doing that? What is useful is did I move more or less than yesterday? that's a useful data point, but the calorie count is just pure fiction. It has no basis in reality. If you look at the cost of interruption, I spent 10 weeks of my life with electrodes glued to my head doing the 40 Years of Zen program and things like that, I've had my own EEG at home since 1997. When the phone rings you absolutely see, you go straight into fire or flight, you go into beta right out of alpha, right out of theta, all the places where intuition, and creativity, and calm focus come from. Every time an alert comes through, it basically kicks that part of your meat operating system, what I call the Labrador brain in the book. It says, "Look, threat, right now," and this takes you out of

productivity mode, out of focus mode.

I turn alerts off on pretty much everything I think I get text message alerts but almost no one texts me and I would turn those off if everyone started to text me. I don't get any email alerts. If my phone rings, I will get that alert although I probably won't answer it because I'm likely on a call already. When I'm not on calls, I put my phone in airplane mode because I really ... If you don't have an appointment, you probably can't reach me unless you're my wife.

Tony: It's just good for the important parts of the body to have it in an airport mode isn't it?

Dave: It's certainly not going to harm them to have it in airplane mode.

Tony: Let's just check has anybody got their phone in the pocket and it's not an airport mode at the moment? just put your hand up. It's okay we won't judge.

Dave: Here's the thing, look where my pocket is. Notice my pocket as far away from the important stuff.

Tony: You buy trousers, that's good.

Dave: Hashtag biohacker pants.

Tony: One thing I've asked everyone on this podcast is what is one book that you would recommend that's had a really profound impact on your life, and one tip for living with more energy, vitality, and motivation. One book and one tip.

Dave: One book and one tip. It's hard to pick just one book because I've read thousands, and a lot of them are boring biological books, but let me go back to the book that I read when I was 16 called Think and Grow Rich by Napoleon Hill, kind of a classic. The reason I'll go back to that is they tell you to set goals and focus on them every day, real basic biohacking stuff. It's not biohacking at all, but I wrote this goal down and I said, "By the time I'm 23, I want to have \$1 million." Why? Because I thought \$1 million would make me happy. Turns out there's not much correlation there. No one told me that. I can tell you it categorically didn't work because I made \$6 million when I was 26, but I didn't make \$1 million when I was 23. Still, I thought it was a good book. It actually really affected my career.

I would just say if you're reading that book, or any of the other books like that, the latest book that's worth reading is the Code of the Extraordinary Mind which just got published by Vishen Lakhiani. A really good book that has some of that kind of stuff and some more modern stuff in it. What will happen is you can get what you ask for, and the same thing goes when you're tracking yourself. If you're tracking calories, "I'm going to eat less calories today," you're going to get what you ask for. You're going to have less energy. Just make sure that you're very, very conscious and aware in the language that you use when you're setting a goal because if you set a biohacking goal, or a life goal, or a success goal, or whatever it is, your body is stupid and it might interpret those goals very literally. Make sure you run it through the logic filter as well as oh-that's-what-I-thought-I-meant kind of filter.

- Tony: What about one tip for living with more energy and vitality?
- Dave: Probably the easiest thing to do is to get higher quality sleep. This is going to sound a little bit weird, but healthy people need less sleep. If you want to get good quality sleep, doing anything that makes your biology work better is the right approach. If you need 10 hours of sleep at night, your chances of dying of all-cause mortality are much, much higher than someone who sleeps six hours a night. That actually is a symptom. It's okay that you're getting 10 hours of sleep to recover, but you need to start looking at that really carefully. If you just have to have eight hours of sleep, maybe that's all right, but actually, a need for lots and lots of sleep, unless you're doing something like heavy workouts every day, you're a professional athlete or something, there is something not right in your biology. Pay attention to the quality, not necessarily the length of your sleep. That's probably the biggest thing you can do.
- Tony: I'm sure I've heard you say before you only sleep six hours a night or less?
- Dave: Let's see, I do track that, it's probably the one tracking thing that I do that's pretty straightforward.
- Tony: What do you use to track it?
- Dave: I use an app called Sleep Cycle. In the last 1178 nights, my average time was six hours and one minute. It's trended up by one minute in the last year.
- Tony: I feel like there's some sleep experts who would say it's not enough.
- Dave: Do they look tired?
- Tony: Ladies and gentlemen, we're going to take a little break there. Think of your questions that you would love to ask Dave. Obviously, the bar is open for vodka and tequila, but not beer. You can also mingle at the back, we've the stalls you can obviously go and collect your Bulletproof goody pack whenever you like, they're all at the back. We'll come back in 15 minutes time with the Q&A. Give it up for Dave Asprey, ladies and gentlemen.
- Tony: We are ready with our second part of our podcast. Who has a question for Dave? I feel that this man with a red shirt has been so enthusiastically sticking up his hand. Shout out your question and we'll go for it.
- Ocant: I will stand up and shout it out. Dave, you talked about high-performance could you say ...
- Tony: Okay it's a question about low performance and how to react when you don't feel like you're acting optimally at high-performance, and what's your name?
- Ocant: [Ocant 00:42:58].
- Tony: Ocant.

Yani: My name is Yani.

Tony: Johnny?

Yani: Yes, close enough.

Tony: Very polite as well. Dave?

Dave: Recovery is one of the highest performance activities you can do. If you're postsurgical, or you have something you're working on and you have massive adrenal fatigue, the state of high performance you're going after is high-performance rest. Sleep quality is high-performance sleep versus low-performance sleep. If you are in a place where you hurt yourself in an athletic event or something like that, the exercise recommendations are going to change, and this is going to sound a little bit weird, but working out really hard when you're sick or when you should be recovering probably isn't going to help, so number one back off. Number two, that whole thing about cyclical ketosis is really important. You probably are going to benefit from having moderate, non-sugar carbs at least some of the time, and there's good evidence for that. There are people who recover just fine on pure ketosis, however, I think if you test them both you figure out which one works pretty well.

Some of the supplement things are very different if you're dealing with injuries or post surgical stuff, depends on where the surgery is. A lot of the stuff that I like turmeric, vitamin E, fish oil like DHA or EPA or krill oil, they make you bleed. That's a good thing if you're four days after a surgery or six days after, depending on how deep and what they did, but if it's right before surgery I don't think your surgeon's going to be that happy when they poke you and you leak everywhere. What I think you want to do there is look at recovery and rest as some of the most important things where you can modify your performance. Those are not low-performance states at all. Performance doesn't mean you're moving, it means you're doing whatever you're doing better. At that point, all you're doing is getting unsick or recovering from a major trauma, which is surgery or something else.

Tony: Super stuff. We've got three or four seats here and two there if anyone is milling around and wants to come and sit in the front, you're very welcome to come down here. The chap who is perched on the table thing over there with a black T-shirt. What's your name and what's your question?

Francis: Thank you, I'm Francis. How many times have you been asked ...

Tony: That's Francis asking the top three things for high-performance.

Dave: I've never heard that question. The top three things to kick the most ass. I actually give different answers each time because you've got to mix it up a little bit. This will be a funny answer, I've never answered it this way, but there's three voices in your head and there's one answer for each of those. The three voices in your head are there to keep the species alive forever, and if you were to design an animal that wasn't very smart, you'd just have to have these three things

in there and you would have a species that would go on until the meter strikes or something.

The first behavior is run away from scary things that might eat you, and that's pretty good. The second one is eat everything so you won't starve to death. The third thing is have sex with everything possible to make sure the species reproduces. Now, this is the Labrador brain, if you've read the book, and these are the core operating principles of your meat. The very fiber of your being, that's what you're wired to do because you don't need your monkey mind in there at all to survive as a species. We can have all sorts of bad things happen, and we'd still probably have really stupid humans a while from now if we could just do those things right.

That means that the top three things you can perform better is to own each of those voices in your head so that instead of having the dog that jumps on you and humps your leg and slobbers on you, you have what's more of was a service dog inside of your head where it sits and it behaves and you put a piece of popcorn on its nose and it won't eat the piece of popcorn until you tell it to eat the popcorn, and it doesn't hump anyone's leg unless you tell it it's okay and it's going to be fun, and things like that. It comes down to understanding that those three urges are actually not you, those are your meat. Having that perspective really gives you that ability to say, "All right, that's a behavior, it isn't a weakness. It's actually a built-in behavior that automatic. Now that I have awareness that it's automatic, I then can take control of that behavior and I can train my nervous system the way you would train a dog." When you do that, you'll find that you can perform better at every single thing you want to do and you don't even have to drink coffee to do it.

Tony: I know you mentioned heart rate variability, you did that today, is that something that can help with that?

Dave: Yeah, for the run away from scary things heart rate variability training is one of the ways to do it. For the food thing, all you need to do is get your blood ketone levels up to 0.5 and your ... There's two hormones that change. One is called ghrelin, which is I'm hungry all the time hormone, and the other one is called CCK, which is actually by Calvin Klein. CCK is the fullness hormone. 0.5 is below nutritional ketosis. Can Brain Octane oil, in most people, bring your levels up that high before it causes disaster panics? Yeah, because Brain Octane actually doesn't cause disaster panics very easily. NCT oil does cause disaster panic quite easily, but Brain Octane has a very different effect and it's much more ketogenic. If you can get your ketones up just enough, there, the dog stops trying to eat everything because it's like, "I'm too full to eat everything." It stops running away from everything because you've trained it to sit. All you have to do is deal with that third one. That's a longer discussion.

Tony: What questions have we got here? Lady in the front row. What's your name and what's your question?

Kate: My name is Kate and I don't tolerate caffeine very well ...

Tony: The question is Kate doesn't tolerate caffeine very well. She is wondering if she can get the same benefits from decaf as from the normal Bulletproof coffee.

Dave: I would have phrased that as, “Kate is weak.” Just kidding. In most of the studies about the benefits of coffee, they are based on polyphenols, decaf works just fine. In fact, what I’ve been doing for about the last year, I was going to talk about this at the conference, but I’ve intentionally upped my coffee dose. Bulletproof coffee has different it’s called pharmacokinetics, which is the delivery system for trimethyl xanthine caffeine. When you mix it in with Brain Octane, with butter, when you blend, it you’re doing all sorts of things that affect how that is absorbed by the body. It turns out that if you do that with just a normal coffee that’s caffeinated, you’re going to want less coffee than if you drink normal coffee where you drink it and you crash, then you drink it and you crash all day.

I could drink 5 cups of regular coffee because I had to, but I don’t really want to drink 5 cups of Bulletproof coffee even if I’m drinking a black because it’s just too much for me. I usually have two good size cups of coffee. I’ll have one in the morning and a couple of shots of espresso. At lunch, I just pour Brain Octane on my food if I’m going to have lunch. On a day like this where I’m traveling a lot, I might have two Bulletproof coffees, but at home, I have three more decaf coffees because the benefits stack up in studies from decaf.

The problem with the decaf is that, even here where there are some standards, they’re not that tight, but there are some standards around one of the 25 molds in coffee that I test for. They’re twice as high for decaf coffee, and because decaf coffee is always moldier because they would never use good coffee to decaffeinate it because it ruins the flavor. When I make decaf, we use lab tested coffee and then we use a Swiss water process and carefully control humidity. The Swiss water plant is very near to where I roast so we can do this high quality, low toxin decaf.

I actually react really poorly to decaf coffee, much more so than caffeinated coffee when it’s just run-of-the-mill. Even if it’s really good tasting, high-end coffee I get a lot of anxiety from it, physical anxiety, from the mycotoxins in it. I would just say be careful with the decaf you drink, but you get more benefits and more polyphenols.

there is emerging evidence you need two grams of polyphenols a day, which is quite a lot, and I actually can’t tell you off the top of my head how many grams of polyphenols are in a cup of coffee but it’s on the order of 100mg or something like that probably depending on brewing technique.

Tony: Good? Great. Right, who’ve we got? Lady there with her hand up.

Natalia: Hi, my name is Natalia and I would like to know how to ...

Tony: Natalia wants to know how to maintain positivity or and you said a positive charge.

Dave: I had to determine whether you are talking about electrically grabbing myself, I want to keep a negative charge by my side, I don’t want to keep a positive energy to get you there. There’s something I do with my kids every night, and it’s really, really important. What I do is I sit down, they’re six and nine, and I say, “Tell me something you did today that was a win.” A win is something that you actually worked on that happens and then I go, “That’s awesome. You did it.” The next step is, “Tell me something that’s a fail.” A fail is something you worked on that you

didn't get, and we celebrate that even more because that means that you learned something because you were pushing yourself because if all you have is wins, you're not trying very hard. That completely removes the fear failure from my kids because they actually get praise for failure. I do the same thing with my employees, not quite at that level, but even in my own internal dialogue it's like, "This didn't work, won't do that again."

From there I go on to, "What's your act of kindness for today?" You find one thing that you did that day where you were actually kind to someone. I met some homeless person in France yesterday. She was out at 11 o'clock at night with the baby. She could've been out with a baby just because she knows she'll get them a sympathy, I don't really care, it still sucked. I gave her whatever, I don't remember what currency was in my pocket, but it was a lot more than she was expecting. It didn't change my life, but it might've changed hers. There, I got my act of kindness. I also tip heavy because I'm in a place in my life where doesn't matter if I throw in an extra couple of whatever the local currency is, but it actually matters to the person serving the food. Or you hold the door, or you put someone's luggage out, it doesn't really matter. Just recognize that you did something kind every day.

then we do three gratefuls and these are three things that happened that day that you are grateful for that just happened that you didn't plan, you didn't strive for, you didn't try for. I don't believe it's possible to have a negative attitude on life if you focus on gratitude every night, and maybe every morning if you're feeling really crappy. If that doesn't work, heart rate variability training. For me, 10 weeks of having electrodes on my head during 40 years of Zen style training learning when I'm lying to myself, pretty much anytime it's a negative thought I'm like, "There's my ego again. Go pump that leg over that ego, I've got shit to do." You just recognize what's you and what's not you. The negative stuff that you're recognizing as, "I'm not feeling positive," that's actually your meat operating system betraying you. That's my perspective.

Tony: Awesome. Who next? This man here.

David: David again. You push a higher fat diet and as there's a lot of debate ...

Tony: It's David asking about high-fat and recent debate over ...

David: APOE4.

Tony: Yeah, that one.

Dave: I would say that the science isn't in on APOE4 but there's some really interesting discussions. When people talk about high-protein or high-fat, it doesn't mean anything. The same thing as plant-based and vegetable-based. For instance, my favorite animal-based protein is snake venom, so clearly all protein is deadly and you should never eat at. My favorite vegetable protein is sarin nerve gas, which is actually a lectin, so you should never eat those either. When someone says high-fat diet, "that's a high-fat diet fad," they almost never talk about specific fats, and when talking about high-protein they don't talk about specific amino acid ratios or di and tripeptides, but that's actually where the metal hits the road.

I would say if you're dealing with that, look at your inflammation markers which are really, really important. Look at the other markers that you're paying attention to. Experiment, but one of those types of fats that gives you the most ketosis more than any other fat is Brain Octane. That stuff isn't going to have the same effect on cholesterol, in fact, it has almost no effect on cholesterol in the studies that I've seen. You can push one sort of fat, maybe you want to push olive oil, maybe you want to push only DHA, but until someone looks into those things, I think it's dangerous to say you should be on a high-fat or a low-fat diet. Because, actually, high amounts of the right kind of fat is what I recommend for people, and even then it's a pretty big range from 50 to 85% depending on what your goals are. Without lab tests for you, I think it's going to be a very long time before we can say, "This is one genetic marker," ignoring the other million of them that are out there, that "everyone should do this." Well, this is a directional thing for you with APOE4 but what do the labs they with your own thing.

And speaking of all the genetic things, in about a month I'm doing this thing called HLI where I'm having my entire genome sequenced and doing IBM Big Blue kind of data analysis stuff on it, so I'm hoping to learn a lot more very interesting things you don't get from 23andMe. Eventually, we will do that for everyone.

Tony: 23andMe is the sequence of finding out much more about your DNA than you've ever been able to before if you're just a normal person.

Dave: It's a partial sequencing for 99 bucks, thanks for pointing that out. The full human genome was \$100 million that Craig Venter spent to do his and now I don't know how much it costs because I worked a deal, but it's still pricey.

Tony: Has anyone done 23andMe? Useful, just I'm waiting for the results. It takes ages to wait for the results. Good. Anyone at the back want to ask a question? I am aware that ... Lady in black.

Actia: My name is Actia. I wanted to know if you could comment on the effect ...

Tony: Great. Actia asking about Bulletproof coffee specifically for women and hormonal.

Dave: There is a great blog post on this called something like Bulletproof Fasting and Women and I go into a lot of detail on this. My first book, the Better Baby Book, had an enormous amount about female hormones, infertility, and things like that. The people who are saying, "You shouldn't have coffee because of hormones," are concerned about cortisol from coffee whereas many of the studies, in fact, almost every study of coffee and cortisol is using instant coffee because scientists don't know there's a difference. In Europe, where there is a standard, it's much, much higher for what they call soluble coffee or instant coffee. They're actually testing things they don't know the testing, and it's usually not stored very effectively. It's in a lab, there's humidity, and it's not very well-controlled but they don't quantify what's in the instant coffee before they test it because, in their mind, coffee is coffee. I find that there's a difference and that there is a likely difference in cortisol, depending on whether there are compounds that directly attack the adrenal medulla, which mycotoxins that are found in coffee do actually do.

I would say purity of coffee matters, and timing of coffee matters. For women, I suggest protein in the morning, especially if you're having a hard time with your hormones, and you might actually need to not drink coffee or only drink decaf coffee. It happens. It happens with guys, too. There's nothing wrong with doing, say, green tea, but I know women who can't tolerate green tea either for various reasons. There are also weird things that happened when your cortisol can convert ... What's the one ... There's an Eastern European one where your cortisol converts to one of the ... To testosterone, I think, if I'm remembering what this pathway was. It was completely bizarre. It was 1 in 400, globally, who have it but 1 in 40 Eastern European women have it. You ran into things like that where it's very, very individualized.

if you're having issues with hormones, a high-fat diet is a very likely a good thing to do, Brain Octane is very likely a good thing to do, and if you're like most people, coffee, one cup in the morning, maybe when you first wake up if you wake up like a zombie, or an hour or two after you wake up if you wake up happy and bright early in the morning like those people we all hate. The timing could matter, and you might need to have it with food. There are some people where, even if they put protein in the coffee, it's not enough. Your mileage really can vary and there's nothing wrong with saying, "I don't want to do coffee," but I still would encourage you to play with Brain Octane, and you can always use chocolate.

Tony: Good stuff. Right, who have we got? The chap in the pink shirt.

Henry: Hi, Dave. My name is Henry. What is the most ...

Tony: Henry is asking what is the optimal amount of exercise for someone to do who just wants to be healthy and wants plenty of time to rest as well?

Dave: The New York Times called me "almost muscular," which is the best quote ever because if you want to live a long time, that's how you want to look. You don't want to look like a balloon animal, no offense because if you want to get swole, that's cool, that's biohacking and that's where you want to take your body, but your [altodine 01:00:43] go up substantially if you're carrying too much muscle mass. That's an interesting thing. If you're too lean, that's another issue. Going down below 10% body fat for men or women, it might look hot according to the current standard, but it is not the look of a healthy animal that's going to live to 180 the way I'm planning on. You actually need to be a little bit heavier than that, I'd say probably like 14% as long as the fat is composed of good stuff, it's got adequate amounts of DHA and EPA and not lots of Omega-6 and things like that.

it also is going to depend on your own biology. Some people respond very differently to exercise. I can put on muscle very easily, it's in my genes. Andy Hnilo, who is a friend, he runs Alitura, I had him up to the lab on Vancouver Island. He's like half my age, he's 30 but younger than me, and he is a cover model for Oakley, dripping in veins and just absolutely ripped, but I outperformed him on the ARX machine doing chest presses. He was pissed, you could tell. It's a genetic thing there, he's clearly in better shape than I am. You have your own genetic differences. I respond very well to weight-bearing exercises like that.

if you look at what your body does, look at where you want to be from a fat perspective and do,

I would say, the minimum amount of exercise you require to do that, and then, and here's where it gets really weird, move a lot. This means go for a walk, I like the Bulletproof Vibe because it's kind of like a walk but in a lot less time. Sometimes you just don't have time for a walk. Do yoga, do stretching, but just don't count that as exercise. Take the extra time you have and apply it to movement, which is neurologically beneficial. It raises something called BDNF, brain derived neurotrophic factor, which causes you to actually grow new neurons and you're going to get the most benefit from that. You could probably, if you're younger, push yourself harder, "I'm going to work out four times a week, I have extra time to sleep." You could. You could also meditate in half that time and probably get more benefits.

Tony: Great. Let's come down from the chap in the stripy shirt.

Mike: I want to ask about protein fasting. I haven't been able to find much information other than what you've written on it ...

Tony: Mike asking about protein fasting, how you managed to find that much information about it out and about, and is it a good thing if you're training a lot.

Dave: If you're planning to put on a lot of muscle, and you're training a lot to just put on mass, you might want to skip it for a while. It's really important to allow the cells in your body to clean themselves out. There is good studies, I cited several of them in the diet book, this is not something that is commonly understood. How many of you here have tried one day a week protein fasting? Now leave your hand up if you notice a difference from it. Almost all of the hands stayed up. It is kind of amazing what it does. You're like, "Why would that make sense that I am thinner right here after I did that? I got the same amount of calories, I actually ate more carbs than I did which means I'm putting in glycogen. Something is happening here." As an anti aging, high-performance, I want to live a long time, I want to feel good while I'm living a long time, I think there's really a role for it, but if you're really working on a protein bulking phase, don't do it for six weeks. At the end of six weeks, you might really want to do that because your cells are going to benefit from that.

It's really tough like for the Hollywood people with they're expected to look chiseled muscle with no fat, but they're also supposed to look good when they're 60. Those two things actually are opposite ends of the teeter-totter. Be careful where you're going because you're looking for something now, but you want to look at the long-term effects on that depending on what your goals are.

Tony: Tim Ferris wrote about the Four-Hour Body, which is obviously such a famous book in the diet space, and he talked about a cheat date, didn't he, where he would just go out and eat absolutely anything. Is it fair to say that even Tim Ferris himself might offer slightly different advice now?

Dave: Tim can speak for himself. He is putting Brain Octane oil in his tea and coffee when he was on the podcast he was talking about he's putting better in his coffee and he's doing more cyclical ketogenic stuff, which he's written about. That was one of the diets he talked about, it was one of the more extreme diets in his book, the Four-Hour Body. I've emailed him pretty regularly,

and I have great respect for him. I also think he just had Lyme disease, which he was pretty public about, and that also can affect your mitochondrial function, and it affects your body's desire for fat and the amount of neurotoxins that are still circulating. I imagine that he will modulate and change his program over time for him.

I know lots of people who really benefit on the low-carb diet. There's nothing wrong with it if it works for you, and that's the biggest thing about biohacking. When I saw that I was like, "Beans? why would you choose beans for core density? that's why white rice is there because white rice has less crap in it." The Bulletproof perspective is avoid the things that cost you and don't provide any benefit, and that's why on a cheat day ... I used to do cheat days back in 1997, '98 when I was really trying to lose weight. I was like, "I'll do this Atkins thing." The problem with cheat days is they cause cravings for four days afterwards. I don't want to deal with cravings. I have stuff to do, cravings take energy away from you and I have no desire to ever feel a craving again, and if I do it's my fault. I did something to cause the craving either I know what it is or didn't. I can tell you, if I went out and did a cheat day like that, my performance is going to suffer and I'm gonna have lots of cravings. I think that's true for most people unless they're young, exercising all the time, getting lots of sleep, and super healthy. When they hit 30, and when they hit 40, the cheat days become more and more expensive, and the recovery from the cheat day is an expensive thing.

I recommend something kind of similar. You have a high ketosis but you don't intentionally ingest margarine, gluten, and all sorts of other MSG, whatever fake colored candy sprinkles in your ice cream those things actually have no benefit, there's no reason to put this in your body. The opposing argument there is, "Yeah, but people like this, so not having to be strict this makes it easier so people will have more willpower." My will power equation is it's a limited thing, and cravings suckle power more than anything else so I will do everything in my life to eliminate craving.

I would say read Tim's book, it's a really good book. I've read it and there's all kinds of good information in there especially bodybuilding, putting on weight, high-intensity kettlebells, you want to swim a lot, total immersion. There's all kinds of good stuff in there, it's just different approaches and he does write about cyclical ketosis, which is the basis. It's like a low toxin cyclical ketogenic diet is what the Bulletproof diet is.

Tony: Good. Who have got?

Abby: Hi. My name is Abby. I have ...

Tony: Okay. Abby has been on the Bulletproof Diet for a year and finds at times you plateau a little bit. What would Dave recommend for pushing through the plateau?

Dave: If you are plateauing one of the things that I didn't write about in the book that's really helpful, is an actual real fast where ...

Tony: Please don't hold the speaker like that.

Dave: No, it wasn't that. It was starting to do the reverb thing where it was resonating with power, and was going to be bad.

A full fast of 24 or 36 hours. You take it easy, you want to do it on a Saturday when you're not working and things like that, that can sometimes be really amazing. It's hard at first if you've never done it, but that can help. If you're in recovery from something or you're super tired and getting over being sick, don't do it. For women, it matters where you are in your cycle when you do that. You don't want to be super bloated, and swollen, and cranky because that's not a good time to fast.

Tony: Great who else? Hello, what's your name?

Monica: Hi. My name is Monica. I've watched your documentary Moldy. Do you have any tips ...

Tony: Monica has watched the documents Moldy and is looking for tips on how she can clear her house of mold herself without calling in the pros.

Dave: If you can figure out how to remove mold from your house without calling the pros you will be a very very wealthy person. It is difficult. You can buy commercial grade ozone generators that can break down some of the toxins, but you need to know what's in your house and you need to do a before and after test. I use Homebiotic, the natural bacteria that comes from soil that competes with mold, and I spread that around my house as more of a preventative thing. I just had a big leak, up on Vancouver Island my ice bath overflowed. Happens to all of us, right? It went under the floor, it was really bad. I pulled out some of the floor tiles, put in big fans and misted a gallon of Homebiotic, which is way more than any sane person needed to use. I dried it out, though, very quickly so I didn't get any mold. If I did have mold, I would want to physically remove the mold. What I would do is you bring in contractors, you scrape it, and you don't want to be the one doing that if you having symptoms.

When we filmed Moldy, the documentary, the whole camera crew and I put on these spacesuits, tie back everything, duct tape for wrists, respirators, and goggles, and Kenny hoods, and all that kind of stuff. Even the camera crew who weren't particularly sensitive were completely zombified. They were like, "We didn't believe you until today."

We went into this really badly water damaged house, and you see the footage where I'm pulling off perfectly normal looking drywall and on the back of it is black slime. You can't see it, is the problem, but you can measure it in the air. The first thing to do is actually determined that it really is a problem by measuring the air and work with an inspector to tell you how big of a problem you have. If it's a small thing you might be able to do it, but it's hard to do.

I would look at things like ozone and natural cultures to approach it. I don't think you're likely to get all the way well. One of the guys in the documentary, his house had been hit by one of the hurricanes. He was in the medical profession, and he hadn't taken out the drywall in his basement. He was like, "We had the house remediated," and I'm like, "I'm not walking into that house, sorry. I will feel like absolute crap," but my producer, Kiki, she didn't know she was mold sensitive when we started filming the movie, I was kind of guessing that. She walked into the

basement to look at it, and she came out and she had a full-blown panic attack. As in curled into a ball like, “I don’t know what’s happening but I feel like I’m dying,” and, literally, I just hold her while she twitched. That’s not an uncommon response when someone who’s been exposed before goes into a moldy building because your biology is like, “Oh my God, there’s something in here that’s going to kill me. I don’t know what it is,” but you feel it. That guy was not well. He was not well because he didn’t remediate it right. This is one of those things where often times the best way to remediate something is arson.

Tony: We’ve got time for a couple of more questions. Chap in the black T-shirt, and then will come to the guy in the front with a red shirt.

Tim: Hi Dave. My name is Tim and I wanted to ask what is your opinion on hacking ...

Tony: Tim wants to know about hacking your gut bacteria.

Dave: I have spent probably \$100,000 on gut bacteria. I took pig whipworm eggs about 10 years ago, which is one of the more aggressive ways of hacking the bacteria. In fact two weeks ago I took some rat tapeworm larva. I’ve been doing those for the past six weeks or so. I just did a podcast with Dr. Sid Baker about that, they’re delicious, a little crunchy. Just kidding. They’re invisible, just tastes like saltwater.

There are things you can do, the vast majority of them don’t stick is the problem. You’ll get some benefits from *saccharomyces boulardii*, which is a kind of yeast that eats candida as a fuel source, that works for most people. Some of the soil-based organisms can work, Primal Defense, cryptococcus, there are some species of clostridia that actually fight *clostridium difficile*, that can make a difference. The problem is that so much of the time, especially when you have an overgrowth in parts of the gut called SIBO, you’re just not going to get what you want. Most of the things that are commonly recommended like, “Oh, eat yogurt,” lacto bacilli can actually cause a histamine response. I wrote a blog post, if you’re interested in the gut you have to read it, it’s called Why Yogurt Makes You Fat and Foggy. I’m like, “Here’s the species in yogurt, here’s the studies that show what those species do.”

The problem is you have not a lot of knowledge of what’s in your gut, and you have, within 24 hours of taking a test of what’s in your gut, it will shift depending on what you eat. If you don’t have an overgrowth in your small intestine, you would want to eat more prebiotic’s. If you do have an overgrowth, you don’t eat zero fermentable carbohydrates whatsoever, and maybe even take an antibiotic that’s not metabolized to kill things and then rebuild them. It’s very customized, but the one thing that I do know is very important is that the family, you can’t supplement those but they grow when you feed them polyphenols. It’s one of the reasons that brightly colored vegetables, and dark leafy greens, and blueberries ... What are the other two big polyphenol sources?

Tony: Chocolate and coffee.

Dave: Those feed as probiotics, those kinds of bacteria. Soluble fiber is important. Turns out coffee has about a gram, you want to have 2g of soluble fiber in a normal sized cup of coffee and that’s

actually a meaningful amount of it, especially when it comes dozed with polyphenols. People don't generally recognize that. When you combine it with fat, like butter and Brain Octane, those are suppressive of bacteria in the gut, but if they suppress everything and then you feed it you'll shift the ratio. I've seen a few results and things like that that show that effect happening, but not enough that I can guarantee it. These are mouse studies results that I'm talking about. Someone actually tested butter and coffee in mice in China. Cool.

Luca: Dave, you talk about technology hacks, I think you said 40 Years of Zen is probably ...

Tony: Luca asking about technology hacks. What are the best ones, apart from 40 Years of Zen, and what's coming up in the future? what can we expect? Technology and health innovation is moving so fast, isn't it?

Dave: It's amazing. Both innovation is happening, and our ability to change our environment is remarkable. In about '96 I was following all of these crazy brain hacking groups on Yahoo Groups, if they even still exist, I don't know. This guy figured out that if you shine in infrared LED, this is one of the first infrared LEDs ever made, it'll go into the brain and it'll turn on mitochondria in a very meaningful way. I bought this device, it was handmade in a pill bottle, and he was like, "Don't use it for more than two minutes because you might cook your brain." He had had such profound effects that over the six months when he was marketing this as a homebrew thing, he actually turned his brain on to things like, "I'm done. I'm going to med school now." Completely changed his life.

For years this was one of my most precious biohacking tools because it made my brain turned back on. Let me just tell you really quick, this is a fricking infrared LED for 20 cents. I put it over the language processing part of my brain because, unlike Tim Ferris and speaks like 15,000 languages and learns them in five minutes, I actually don't process sound the way most people do. This is probably something that's from just the way my brain formed in the womb, something with the brainstem. I process sounds one level up in my brain compared to most of you so you filter sounds out better than I do, it takes you less effort than it does for me. When my wife speaks Swedish or French, I hear, "blah blah blah," and I try and pronounce the words back and I don't say the same words they say to me. I genuinely don't hear it so it's really hard. I'm like, "All right, I'm going to hack that," so I put the thing here and shine it for two minutes. For the next six hours, I spoke in garblish. I couldn't put my words together. I tried to speak and other strange sounds would come out of my mouth. It's a 20 cent piece of technology, maybe two bucks with a heat sink and a power supply. That's interesting.

there's a whole new wave of light based technologies coming out. There's stuff around ultraviolet B, which has been filtered out of like these windows filter out UVB. In fact, none of us receive ultraviolet B, but if you listen to my podcast with Stephanie Seneff, we need ultraviolet B to activate vitamin D to get vitamin D sulfate, and UVB has a direct effect on our mitochondria, it's part of our hormone signaling system. Infrared light is also important for that. You're going to see huge innovations in specific frequencies of light and what they do to the body. In fact, when I introduce the new stuff, I've got some new things coming out around that that are really cool, but there's a wave of innovation that no one's ever even imagined because we couldn't do it even five years ago. It's all LED and laser-based.

Tony: I used one of those devices that shines light into your ears to get over jet lag. Have you use that?

Dave: The human charger?

Tony: The human charger. Not really. I stayed up slightly later but I still woke up early the next morning.

Dave: It's a cool idea. There is a nerve there, and the nerves are light-sensitive. I've used a laser on a nerve in the ear and on the trigeminal nerve that seemed to work, but I know people who love the human charger.

the one that I found was more effective for me for just activating the brain was actually a nasal light. The human charger was dorky enough on an airplane, try sticking a flashlight up your nose. Actually, they're designed for it, they have a little clip here, and there's infrared and Ruby one, and those shine just on the base of the brain going up through the very thin part of the skull back there, so I think there are ways to get light into the brain and that could be a good way to do it. There's debate in the community. Whenever you innovate, there's always going to be these professional skeptics and haters who make up a bunch of crap, and sometimes they're right, but if their gut response is immediate skepticism, they're just like fundamentalist people. They're not going to think, they're the people who always say no, and I tend to respond to them the way I respond to my two-year-old, who also always has no, you're like, "Good for you," and then you go about your business.

Tony: We have time for one more question. Who's got a really good question? No pressure. You seem confident.

Christian: It's a good sciencey kind of ...

Tony: Science. We might have one afterward.

Christian: My name's Christian and I was wondering to get back to the APOE4 issue

Tony: This is a really good question from Christian, by the way, guys. It's going in-depth with fat again coming back to that and how we deal with it and process it.

Dave: There's a supposition that if you have APOE4 and you have any kind of saturated fat, the LDL particles will go out. That is not a true statement. Saturated fat includes C8 and C10 oils which are, technically, saturated but do not behave like saturated fats unlike the other MCT oils that are saturated and do behave like long chain fats. That's one of the reasons I recommend the stuff that I do versus MCT which includes some things that behave like long chain fats. What I think you mean is if you eat a long chain saturated fat, the LDL particle count will go up. If those go up, but your HDL also goes up, your triglycerides drop, your homocysteine drops, your LPPLA drops, and your C-Reactive protein drops, does that not play into the overall risky equation that we get from looking at LDL-C? it does because if the LDL-C is damaging arteries, by definition, you'll have an enzyme, Lp-PLA2, is the enzyme that will be expressed from the damaging of your

arteries.

If you're worried about that, and I know some people who are very focused on that, look for Lp-PLA2. If you have damage, you have damage. If you have high LDL and you don't have damage ... Did you know high LDL makes it easier to put on muscles? It makes you more resilient to certain kinds of poisoning, there are actually benefits to LDL. It's not a bad thing as long as there is an inflammation and damage, so show me the evidence. If you have the APOE4, you have high LDL, show me that it's causing damage then you need to change.

Tony: Good stuff. Thank you, Christian. One more. Who have we got? Hello.

Jenny: I have a nine-month-old baby ...

Tony: Jenny. Just to repeat the question for everybody listening and everyone here, you've got two kids under the age of three and you're wondering what to feed them for breakfast and what the levels of protein and fat and carbs and everything else should be.

Dave: Kids benefit from a few more carbs than adults. I don't give my kids carbs, I don't give them any carbs in the morning especially fruit because it turns them into whiny, crankypants. They get protein and fat in the morning, and cucumber if they want some veggies. At lunch, they may or may not have Bulletproof style carbs, not sugary things. Than at dinner, there is usually carbs. Timing seems to matter, and this really affects their behavior. They each to get an espresso cup full of Bulletproof coffee made with lots of Brain Octane and some collagen, and that really helps them stay calm and focused because their little meat operating systems which say, "Eat everything, especially if it's sugar," they shut the hell up and then the kids can focus on being kids and playing and not hitting each other and things like that. That's a big benefit.

for variety, avocados can be really good, and there's a ton of things you can do with vegetables and you really want to work vegetables in. If it's fats, good but the prototype meal for the Bulletproof Diet is cover a plate and vegetables, add a moderate amount of high-quality protein from animals, and then cover it in fat. If you skip the veggies, it doesn't work as well. If your kids ... The magic is steam the veggies, take a third of the veggies, toss them in the blender, butter, Brain Octane, collagen if you want, a little bit of vinegar and some spices, whatever you want want to teach them to like later in life, and some salt. Blend the crap out of it until it's creamy and really good, and then spoon it back over the veggies. Even kids who don't eat vegetables that come to visit our house, they take one bite of that and they're like, "Give me more." That becomes one of the primary things on their plate, and then you can add in whatever the protein is. You'll find that kids thrive on that because they get way more fat in that way, and it gets them to get their veggies in every day.

Jenny: You would do that for breakfast too, then?

Dave: Absolutely. Especially if you're running out a variety.

Jenny: You wouldn't feed porridge? What I've done sometimes when I have that



- Dave: If you're doing porridge, I would definitely include fat. Kids don't do too well on straight carbs. I'm a fan of the rice porridge is versus the oatmeal ones. There are lots of problems with oatmeal, but if it really works for you and for your kids, oatmeal is fine just get organic. It's really important, especially it's not grown here. American oats are terrible.
- Jenny: Ideally I should move away from that?
- Dave: Yeah. By the way, my kids eat mochi, white puffed rice, you bake it. It's interesting if you made porridge or rice, and you refrigerate it, it forms a lot of resistant starch. It's one of the reasons sushi is good, you get a lot of resistant starch in cooked and cooled rice. The same also with porridge, if you cook and cool it, it totally changes the amount of beneficial probiotic starch in there, prebiotic starch, so that's a neat trick.
- Tony: Awesome. Dave, this has been fantastic thank you so much. It's been brilliant. Thank you all for coming. The podcast will be published this weekend. Give it up for Dave Asprey. Thank you very much.