



Transcript of “Bulletproof Radio Q&A”

Bulletproof Radio podcast #148



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Dave: Hey, it's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is about that ten percent of your brain that you're supposed to only use. It's a total myth and it probably started because of psychologist, William James, who in the preface of *How to Win Friends and Influence People* wrote that you only use ten percent of your brain, but he never really actually said that. He said, "People use a small percentage of their potential, not of their brain." He wasn't talking about the brain at all. That explains why you've never heard a doctor say like when you have a brain tumor, "Oh, don't worry it's in the ninety percent of the brain you don't use."

Today's episode is one of my favorites because we're going to just talk about biohacking. My buddy, Zak, is on and he's going to ask me questions that have been submitted on Facebook, on the Bulletproof Executive page so this is a chance to just hear what you guys are interested in and then provide some answers. This is going to be fast moving and I'm going to share as much information as I can in a small amount of time. Zak, what's up man?

Zak: What's up, Dave?

Dave: Have you been doing any cool biohacks lately?

Zak: Yeah, actually I have. I had this idea about using the upgraded focus brain trainer to track my focus while I'm playing the piano. I was interested to see what was happening there, so I did a couple of tests, and I put on the strap and measured the blood flow to my prefrontal cortex, which is an indicator of focus, and played piano. I was a little surprised because it actually went down quite a bit, the focus did, and I did a couple of tests. One where I did the training for five to ten minutes using the feedback, and then played the piano. Then I, also, played the piano first and then did the training. In every scenario, the focus went down while I played.

The other thing that I did was played a song that I had memorized that was an actual song versus just an improv, and when I did improv they went down even more. Thinking about that and about what Steven Kotler talks

about around flow states in his book, *The Rise of Superman*, made me understand that when you're playing music and if that gets you into that state of flow you actually don't use as much of your focus part of your brain. It just becomes automatic, so that was kind of cool.

Dave: I think any experienced musician will say that they're not thinking about their music, they're feeling about their music. What we're doing in the PFC is we're making that focus, that attention happen and maybe you didn't want to have a lot of thinking about your music because you're thinking it's way too slow for you to move your hands at the speed that a good musician can move, so it's kind of cool that you experienced that. I've never even thought of that experiment and I'm actually [inaudible 00:03:09] you told me about it because it's making me think.

Zak: Yeah, it was interesting. I definitely didn't get the results that I expected, and that's what's fun about biohacking is you learn things that just ... Also, on the way that you create your controls and how you do your biohack, so that's one of the things that I love about it.

Dave: Awesome. Let's jump into questions from the forums on bulletproofexec.com/forum, and on Facebook which is where most of these came from.

Zak: All right, so first one is from the forums, and the person, their handle is I need a new screen name.

Dave: Love it.

Zak: The question is, is there any risk of racetam use in neurodegeneration and he says if you look at how ampakines work, they bind to particular receptors in the brain, and boost the activity of glutamate. This sounds great, but is excitotoxicity, when these receptors are over stimulated is that possible that it can cause neurodegeneration?

Dave: It's an interesting question. I've not seen any evidence that you're getting an increase in glutamate activity from racetams. If somebody has a study on that or some other comments there, I'd love to see it. I am very

concerned about over activity of the nervous system and what glutamate and aspartame do when you get excess amounts of them. In the synapse, your body can't reuptake and fasten up so the cells fire until they die. This is one of the reasons people complain of all the symptoms of Chinese restaurant syndrome at all.

What I have seen though is that with racetams they're neuroprotective. They actually can protect against neurodegeneration and they do this by raising oxygen levels, but not changing blood flow in the brain.

So I don't think there is evidence that you're going to be getting excitotoxicity from the racetams. If you're concerned about specifically glutamate over activation, certainly avoiding MSG is a good idea and you should check out some of the studies on the upgraded aging supplement we have.

I'm very sensitive to MSG, I have been for a long time. If you google the active ingredients in that and glutamate, you'll find some fascinating studies on what those ingredients do in the brain, in the presence of glutamate.

Zak: Awesome. Okay. Moving along, this question comes from Justin and it was on the blog. "I was hoping you could explain why it is a bad idea to consume fruit in the morning in terms of [inaudible 00:05:41] mental clarity and other problems that arise.

Dave: There's this thing, it's a new word in the English language apparently, it's called "fruitandvegetable" and it actually goes together. People assume when they both come from plants they must be the same thing, but fruit is and I'm sorry to say is generally a bag of watery sugar, especially the kind of fruit that we've modified overtime just through selected breeding to be incredible sweet.

So getting a hit of a high fructose source, even with some fiber in it, which fruit does which limits some of what that fructose does to you, you're still going to get a rise in triglycerides, fruit still does make you gain weight and worse of all, fruit causes food cravings later in the day.

When I was a raw vegan, I didn't really get a lot of food cravings from fruit because I ate every two hours. So what you're trying to do in the morning is you're trying to basically get enough food to be full and have all the energy you want and to not go up, down, up, down.

Fructose is also the most glycosylating agent. What that means is that causes advance glycosylation in products in your tissues. This is when the sugar fructose binds to protein in your arteries, in your skin, it causes wrinkling. It's the same thing you can brown onions in a pan, you'll see that process in the pan as part of what happens when you caramelize your sugar. You don't want that going out in your body and that's why I recommend on the Bulletproof Diet, in the new book specially, a very maximum twenty-five grams of fructose a day and that you should really keep it as low as you can and still be happy. You have a bowl of berries, whatever; but if you're eating a couple of bananas or a bunch of other things, you can very quickly have a lot of fructose.

In the morning also, fructose could be alkalizing. I have some news for you, your body is not [inaudible 00:07:27] to the alkaline. Different tissues are a different PH, you're more like a battery than anything else, but there is a circadian rhythm to what happens when you're waking up, when you're going to sleep, so there's an acid balance and an alkaline balance.

In order to wake up and feel good in the morning, you need acid. So if you already bounced out of bed and you're super ready to go, you're already probably acidic and you might be able to handle a little bit of fruit; but if you're like most people when you wake up, like I really want Bulletproof coffee, well then you're probably too alkaline, you have more fruit is going to make you more alkaline and it's going to make you slower. Now you're slower and you got more fruit cravings and on top of that you whack yourself with potassium, which is one of the micronutrients that fruit actually has.

The potassium in fruit without salt on it actually causes more adrenal stress. In the morning, when you've raised your cortisol, your adrenals are working hard your body craves salt and that's why so many people really feel better when they take up to a teaspoon of salt in a glass of water when

they first wake up. This is originally used for people with adrenal stress, but even before that it's been used in [inaudible 00:08:33] as a way of strengthening people. If you go to India, it's very common to put salt on fruit to balance the sodium and potassium.

If you're eating the amount of sodium that's recommended right now by the US Government, you're getting actually below the level of sodium that's good for you. There's a window that's good for you and our recommendations have gone too far down and we change that ratio, not so good.

So those are few of the reasons why fruit in the morning is a bad idea. If you're going to do fruit, do it after dinner for dessert where you might get some benefits from a little bit of fructose causing in the liver a little bit more storage of carbohydrate, which may stabilize blood sugar all night long, although raw honey works about twenty-two percent better than fruit for that.

Zak: Okay. Fair enough. So no fruit in the morning but salt, yes. Love it. All right. Next question is from the forums, this is from the username Bowl of Heaven, "Dave, do you track everything you put into your body? How important is tracking the food and supplements once put into their body? Should it be a lifelong goal to track everything on most days or just intermittently depending on particular biohacks?"

Dave: Tracking everything that goes in your body would be a terrible waste of your life. Track what you're hacking. If you do that, it's great. So if you think it's variable like I'm trying to pay attention to my attention, have everything affects your attention, so then tracking a lot of things or at least paying attention to them even if you don't write them all down is a good idea; but if you're looking at sleep then you track your sleep.

The only things I track very regularly are things I can track effortlessly. Tracking supplements and tracking things like, (ahh!) pain; but for instance, on my sleep tracking app, I use actually Beddit, I love on my bed, that's built in, I don't have to do anything it just works; and also on my iPhone, I have Sleep Cycle.

Sleep Cycle lets me enter a bunch of extra data, so every night before I go to bed, I check off the supplements that affects sleep. Did I take GABA? Did I take GABAwave? Did I take theanine? Did I take ornithine? Did I take magnesium? Did I use electro stimulation and all the other biohacks that I might have done that day, that might have, I think, impact a sleep quality and overtime I'm getting a signal from that. It'll tell me yeah, these ones did help. Did I use a sleep induction mat? Yes or no. Did I get more deep sleep? So that means one time before bed, yes, no, yes, yes, no, no, yes, takes me about ten seconds.

The more time you spend tracking the less time you spend living, so over tracking isn't good, use systems that track without you paying any attention to it, that's the trick.

Zak: Oh, that's great advice, the same thing at night when I use the Sleep Cycle app and check those things off. I actually also check off things that don't necessarily affect sleep because I know that it's tracking the data and it saves it; and if I want to go back and look at that later on, I can. But like you said, it's effortless and it's there if you want to use it and then you can go back in time and check those things.

Dave: The other thing, Zak, that's kind of interesting, look at my wrists, I'm not wearing a tracking device even though I was CTO basis, [inaudible 00:11:49] basis. It is one of the more advanced wrist tracking things. [inaudible 00:11:53] device, it was actually really cool because it could get blood oxygen levels and it fit on little watch, in your pocket; while all the rest of the pocket-based ones it disappears within two weeks of use and most of the time they end up in the washing machine and even [inaudible 00:12:09] this is an ongoing problem.

I'm kind of a fan of effortless tracking, but if I have to charge and I have to find it and take it on and put it off and change settings before bed, it rapidly loses appeal. The Nike band was probably the coolest one and that's in a drawer somewhere. The [inaudible 00:12:26] and I've like a drawer full of these tracking devices and most of them are more work than I was getting value from the data, but it's kind of cool to wear one if you're on a I-got-to-



move-more-kind-of-kick so you can track it. But will I wear one of those devices everyday for the rest of my life? Nah!

Does my Sleep Cycle app track, as long as it's on my phone and my pocket, does it track the number of steps per day? It does. My phone is always on me. So if it's here, I'm going to do it; if it's somewhere else, not sure.

Zak: Fair enough. I got and it is nice to be able to track the steps and I got on the treadmill for my standing desk, which help activate the thought thinking about moving more and it was helpful but now my is broken because it ran out of batteries and the night it won't charge and all that, so okay that was cool, I got some information there but I'm not going to [inaudible 00:13:19] over hacking and all that stuff.

Dave: I've got a standing desk in front of me from my buddies over at StandDesk. I love these things because it's electric, I can stand up and sit down, but I don't have a treadmill here and I'm probably not going to. What I do instead, is I just step over to my whole body vibration platform, which is on the floor over there and I do that every now and then just to shape things up and I'll do a couple of poses on it and I feel like just kind of doing this, walking back and forth all day long, I'm not sure that will be the right move for me. I'm still a little skeptical there. I want lymphatic circulation but sometimes I just don't want to be walking.

There's another couple of new like undercover tech devices from friends just specifically designed for standing desks, which affect your posture, so I'm really stoked. I'll be talking about those as soon as I'm allowed to because I think there's a whole world of standing adaptation that we're going to get to.

Zak: Awesome. Okay, moving on. This next question is from Facebook and it's a good one. "What are your thoughts on personal care products and all the chemical ingredients? Do you have any personal care hacks?"

Dave: Wow! I could like write a whole chapter in a book about this. Oh, wait, I have, it's called the Better Baby Book when I was writing it with my wife, Dr. Lana. Personal care products absorbed through your skin just like the

new MitoQ products that we've got, which also absorbs through your skin. Your skin is a flexible barrier. It has a layer of dead skin cells on the outside but things can absorb, whether they're chemicals or not, and you also breathe them.

In one of the many books on detoxing and on your body's detoxification pathways and allergies, I remember a story and I'm sorry I'm not quoting which book, I just don't remember, about a guy who's having all of these symptoms and they've been going on for like fifteen years, muscle weakness, pain, [inaudible 00:15:14], it was his aftershave. When the doctor he was working with figured this out, he changed aftershave, got rid of the chemical synthetics in it and like within two days he's like, "Woah! I got my brain back, I'm good to go."

It's profound what breathing these chemicals does to you. Pretty much the rule in my house is if you wouldn't put it in your mouth, don't put it on your skin, it's that straightforward. It might not taste very good in your mouth, but if you will be unsafe to ingest, you probably shouldn't be smearing on your body.

Maybe something like rubbing alcohol, all right, fine, you put that on the outside because it evaporates; but even then some rubbing alcohol does absorb and your liver detoxes it but it evaporates so quickly I don't worry about that.

Other things, deodorant, particularly important. If you're using antiperspirant, you've got all these nodules for your lymphatic system right here, so you don't want to be clogging those things up. There are links with breast cancer in doing that. So I use a coconut-based deodorant. In fact, the one that's works best for me has been Aubrey E Plus High C from Aubrey Organics. It doesn't smell like much. It has a very slight rose smell that goes away after you put it on. It doesn't stain your shirts. And if you're eating the Bulletproof Diet after a little while your body odor should drop dramatically like even if I sweat a little bit, there isn't the strong stink like I used to have when I ate the standard American diet or even when I was a raw vegan. Body odor went down but there's still some kind of stank there, like I burn



cleaner now, so I don't worry as much about deodorant. At least I like to tell myself I do, hey, I'm the one who matters, right?

Zak: There's also a great toothpaste that I use, it's called Earthpaste, and it's got 4 ingredients - water, salt, reddening clay and essential oils or something for the flavor. I take that and I actually use upgraded activated charcoal on the toothbrush as well, and I use that to brush my teeth.

Dave: Oh yeah.

Zak: That works really well and there's no chemicals in that. So there's usually an alternative out there but beware, especially with the deodorants because the "natural deodorants" that are in the market usually contain some form of zinc oxide or some other chemicals and even though it says it's natural or it's organic, don't trust it. I also use the coconut-based one as well and they may not be as strong and powerful as those chemical-based ones but you're not going to run in to those other health problems if you use that.

Dave: The other thing that annoys me is those crystal rock deodorants. It's aluminum. You don't really want to rub aluminum there, whether it's natural aluminum or unnatural aluminum, it's kind of still not something to put there.

Earthpaste, my kids use it and they fight over who gets what flavor. What I do is I actually have a bottle of mouthwash, because probably most toothpaste and most mouthwash changes the biome in your mouth negatively; earthpaste isn't going to do that; so I'll take a swig of hydrogen peroxide and I'll brush with an electric toothbrush with that like the Braun and that's what I used most nights.

There's no polishing agent in there at all but I'm getting rid of the bacteria, I wake up without dragon breath or anything. And then a couple of times a week I take 4 drops of the Upgraded MCT Oil and some of the activated charcoal and I brush my teeth, specifically for stains, with that and it's shocking what that does if you do that for a couple of nights. Really noticeable difference and it's like a polishing agent like if you did one of the things that they use at the dentist that actually grinds the enamel. What

you're looking to do there is just to bind to the chemicals on the surface of the enamel because charcoal's such a good absorbent agent.

These are all non-toxic things. They work really well. Apple cider vinegar plays a big role. And here's the cool thing, put less crap on your skin. You probably don't need half the stuff you're using. I use soap to shave with. You don't need a can of special chemical shaving cream. You can lather it up with a brush if you're into that. It's just most of that stuff you just don't need.

Zak: It's fair enough. Since we're talking about teeth, this leads to another good question that came from the forums from Randy and his question is, "Should people get amalgam fillings removed?"

Dave: If you can afford to go to a mercury-free dentist, you absolutely should get your amalgams removed. There's a couple of reasons for this, one is that mercury is actually bad for your body and we know this. There are videos where they have used special film and you can actually see the fumes coming out of it, basically the mercury fumes; and they call it silver fillings, it's not silver, it's mercury.

It causes brain fog. It causes your body to allow candida, the yeast that can live in your gut that causes immune conditions and brain fog; it'll also bind your mercury. Your body will allow the yeast to sequester the mercury rather than putting it in the liver or your brain, so there's no good reason to have it.

The other reason is that if you have [inaudible 00:20:18] amalgams made at different times, you have a slightly acidic saliva and now you have battery effect between two different amalgams, so very tiny amount of current across the palette and the tongue, which has some of the highest nerve density and the most acupuncture and acupressure points in the body. Do you really want to have electricity going there that you're not controlling? I'm fine with sticking electrodes to the roof of my mouth, but at least I'm in charge there.

There's just no good reason to do that. If you can afford it, don't do it and for God's sake, do not make the mistake of having them removed by a normal dentist because then when they grind the thing down to fill out, you get basically spatter all over the mouth and actually can make like a tattoo along your gum line of little bits of mercury and then you get a ton of this.

When they do right it though, you're actually breathing oxygen through your nose, they put a dam in your mouth and they're sucking the air out so you don't get any of those mercury, basically, dust things into your lungs or swallow them. That's really bad news.

I know several people who've been quite ill after they had their amalgams removed by a dentist who didn't know what they were doing, so be very careful about that and do it right.

Zak: Okay. Good information. The next question is from Facebook and this is a funny one. "Should you periodically stop taking caffeine?"

Dave: If it makes you feel good to periodically stop taking caffeine go for it. I used to do that. When I drink normal coffee, I would do this ramp up, coffee once, I'll just have one more cup, one more cup and so overtime it'd be like one, two, three, four, five; woah, five cups a day I guess I should stop, like I could have headaches for three days. And then one, two, three and you just sort of add this back up over the course of weeks. This was my cycle for a long time even back when I drink soda.

I'm stable now. I drink a cup Bulletproof coffee in the morning and sometimes I'll have another shot of espresso made with Bulletproof beans or another Bulletproof coffee around lunch and unless like I have a conference I need super high performance, that's it. And if I did have another cup after that I'm good to go and I just don't want anymore, so I'm stable on it and I typically don't do this, the only time that I stopped caffeine and I'm not talking megadosing of caffeine, I'm just talking normal amounts from coffee and whatnot.

When I stop it is [inaudible 00:22:34] 40 years of Zen training and the reason is that when you're actively working on an intense meditation

practice, if I was doing Vipassana or something, I would also stop it [inaudible 00:22:23]. And the reason there isn't that caffeine is toxic, it's that you're doing things with your alpha brain waves that are harder to do as a training exercise, to hit new levels that are harder to do with caffeine because caffeine is documented to have limiting effects on alpha waves.

It's not a strong one and it's one that you, with training, certainly can overcome; but if you're basically trying to run a marathon, you're not going to do anything that makes you even a tiny bit slower and if what you're doing is focusing all of your energy and effort on raising alpha brain waves then you would also stop caffeine, that's the time when I do it.

Zak: Okay. Fair enough. There's another question that's related to coffee and I think it's a good one. This question comes from the blog, from Anna53 and it is, "Do you have any suggestions for making Bulletproof coffee when you're camping or at work? How do you whip the MCT in butter without electricity? I can't bring a blender to work, the butter floating on top at a blender is awful."

Dave: Butter floating on top of coffee is just not acceptable, it's gross. There's two things, I just went camping with my kids two weekends ago and we made Bulletproof coffee; number one, you got a butter, so there's various ways to bring butter with you. I usually bring it in a piece of technology called the ziplock bag, that way if it melts a little bit you don't really mind. If you're going to be fancy about it, you can actually put it inside a soap dish holder, which makes it even more likely that no one's going to ask you about it at the airport.

I've carried a stick of butter on to the airplane with me hundreds of times. If you're using Kerrygold Butter, it's eighty-four percent saturated fat, which is solid at room temperature, so it's not a liquid or gel; and if it's a warm day and they say it's spreadable you simply explain it it's a medical food and they'll swab the outside of it with their little chemical detector and lets your through and they should; and I they don't, you just be really polite, don't be angry and just say, "Look, I totally appreciate the work you're doing to help protect us, I really do need this. It really is a medical thing and I'm totally happy to talk with you about this. This is a food that helps my body work



well and when I don't have access to this then I don't feel, I don't do well and I work with a nutritionist on this." If you're polite and respectful, you shouldn't have a truck of problems and usually if it's in a soap dish like I'd smear it on my skin as my soap, whatever.

The other trick is one of these, and I wasn't planning on showing this so I pull this out of my bag. Well I got a part of it. There's a variety of little collapsible blendery things. They're like three box on Amazon, there isn't a brand I can recommend because they all break after three months, but they look like this, and it's a little three or five dollar thing. You turn it on, I don't know if you can see that, it whips up coffee very nicely. Put a little napkin over the top, fill it up only halfway.

The other thing I do if I'm not going backpacking is the Bulletproof coffee mug here. Put the coffee, the butter, the MCT and the [inaudible 00:25:41] if you're using it, shake. Keep shaking. You don't get quite the foam that you get from blending, but it's really that close. So basically, shaking is one, blending with a little buttery powder thing is another and those are the only two that I know that work.

If you're make it at work and they have styrofoam cups, don't put fat in the styrofoam, it's bad for you. The shorter chain the fat, the more it attacks styrofoam. A low quality like Chinese-made styrofoam cup will be more permeable for MCT or for butter than a higher-end cup with a liner; but use paper cups if you're going to make Bulletproof coffee in them. Don't use styrofoam and honestly, don't drink out of styrofoams, it's bad for the ocean, it's bad for the environment, it's bad for you, it's just not a good choice.

Zak: I use that portable stick blender as well.

Dave: Yeah.

Zak: We'll put a link in the Show Notes for those who are listening. There's another product that I got from Amazon that we can put a link to as well, which is a reusable pour over filter that has three little plastic legs that you can attach to any sized cup that you're using, whether it's paper or the



Bulletproof travel mug, and it's a mesh material that allows you to bring pre ground coffee, which by the way, we're going to have some pre ground Bulletproof coffee in the stores soon so I know people are excited about that. when you bring that with you, you just pour some in, pour your hot water over and you got it in your cup, you can use a [inaudible 00:27:12] it works, perfect. So camping, that's my go-to.

Dave: I don't have your filter, which I was kind of interested last time I saw it. I've a collection of, I'm guessing twenty different pour through filters that I travel with at different times a year. I've traveled with an AeroPress and I finally settled on something that was the least amount of mess.

I just realized we have time to demo this right here, so I'm going to set my headphones down for just a second, I'm going to take this beaker, I didn't plan this so I may have to grind the beans but my setup for espresso is right behind me.

I'm just going to take a beaker, I'm going to do something really simple and you can do this at actually any coffee shop. You tell them you want a large cup of water with a double cup and then you literally, put the ground coffee in one of these cups. What I normally do is I pop open a couple of our little [inaudible 00:28:03] compatible cartridges and the coffee is already pre ground, they're all sealed, you just have to pop them open, dump them in, so you just have coffee grounds and you add hot water, you stir it up; and then magically, four minutes later, all the coffee settles to the bottom and you decant it.

I'm just going to grab another beaker, give me one sec and the espresso machine is already warmed up so it'll make hot water. This should take ten seconds, so hang on. So what we're going now ... I feel like I put too much in here; this is just a beaker with coffee in it. I just now added some water that's about two hundred degrees, the hotter the better from Starbucks or wherever you're going to get hot water. Just go in there and be really polite, make sure you tip them at least a buck if you're on the road and you just literally stir a little bit.

If you're looking at this, there's a cross on the top of the coffee like you'd have with have with a French press. I'm just stirring this with a little plastic thingy that I found on my desk and I'm about to burn my fingers doing it. So here we go and what you'll find is that there is coffee on the top and it's just going to sit there.

Now what I'm going to do is I'm going to let it just sit over here while we answer other questions. In about four to five minutes, I'm just going to tap it a few times, I'm going to set it down really hard a few times, which is going to cause all the little gas bubbles that came out of the coffee, because our coffee is very fresh so you tend to get carbon dioxide that comes off of it. They will sink to the bottom and then you just decant the coffee off the top and ninety-nine percent of the grounds are gone, no filter required.

It's a super cool trick. I kind of call it redneck French press. I don't know what to call it. So my kids were in here helping me make Bulletproof coffee this morning so my beakers are all over the place. I use beakers because much like wine glasses they're made of borosilicate glass and we have very tightly packed glass molecules, things like coffee and tea actually taste better just like wine does in a proper wine glass. I learned that from one of the world's top sommeliers years ago who was teaching the very fine art of tasting wine. I'm not particularly a wine consumer but it was really interesting to learn from someone who just have the nose and all that because [inaudible 00:30:08] of that wine tasting and coffee tasting go together. It was really cool to understand the impact of the type of glass you get.

If you're like super Bulletproof, you actually drink out of either beaker or Bodum makes a double-walled borosilicate glass wine, they're very fragile but they're insulated so your coffee stays warm and it just tastes good and you can actually feel a difference from the material the glass is made of versus a ceramic cup. Sounds weird when you try it and you pay attention, especially with black coffee or just a fine green tea, like Yerba Maté, either way Tim Ferriss recommends it. I feel the difference although I just learned from Tim this last weekend. He's talking about how he drinks it through a

traditional straw so I realized I need to learn more about the traditional way of ingesting that, my [inaudible 00:30:52] substance. Anyway, your glass matters.

Zak: All right. The next question comes from Facebook and this person would like to know what your thoughts are on supplements for children.

Dave: Supplements for children. All right, I'm going to get in trouble for this but it's all right. If you're not supplementing your kids diets, you're not doing everything you can to help them grow into the people they're capable of becoming.

It's also possible to over supplement or to supplement improperly. So you don't want to go crazy on it but my kids get a magnesium supplement at night because basically, everyone's low.

They get vitamin D on a regular basis based on their body weight and based on the amount of time they spent outside. We have very long summer days and my kids have this habit now of going outside in the morning after they wake up even before breakfast wearing just underwear and they'll play outside for very long periods of time and they have these amazing tans and they've been sunburned exactly zero time. I'm totally happy with the situation they don't need much vitamin D in summer.

They get vitamin K2 on a regular basis for strong bones and properly formed dental arches. They get vitamin C on a daily basis. They get desiccated liver. They get krill oil.

If you want your kids to kick ass they better be getting a source of DHA. They really need DHA and then they get a lot of nutrients from food. We have a big garden that they take care of. They eat things like kale and we cook our kale and we dump the water so they don't get excessive oxalic acid, which do bad things to you, and Kale tends to be high in it.

We also have the kind of kale, dino kale, which is lower on oxalic acid than lacy kale and I've referenced all these studies on the website, so if you haven't heard about that or read the whole thing about why you should

cook your kale, there's a pretty good argument for it. When I say cook it with water, I don't mean just bake it because when you bake your kale, you have an [inaudible 00:32:46] a chance to get rid of it and you can also do calcium loading with it where you pre-precipitate the oxalic acid.

So food matters. Proper cooking of food matters and those are major source of nutrients. [Make 00:32:57] liver, I tried my best. They'll eat it sometimes, they get desiccated liver capsules instead, the same way I take it.

So yeah, basic supplements like that and even the basic multi-vitamin without folic acid unless you know your kids can metabolize it. I give my kids stuff with folinic acid in it; and I believe, based on all of the studies I've read, all the things I've done, this is an optimal path to helping them just grow into the people that they're capable of being. They should have the raw materials there, so I you can't afford to supplement your kids, vitamin D and magnesium are dirt cheap and vitamin K2 is just a requirement and just go thought the list of ten things. They don't need smart drugs or anything like that at this age and that would actually be a random experiment I don't recommend anyone do. But should they have the nutrients to help their brains form properly, hell yeah!

Zak: And how have you found it easy to get them to take these choice [inaudible 00:33:52] they're swallowing pills or is it chewable form or these gummies?

Dave: It was actually really, really easy. When they're pretty young, they just so desperately want to see what mommy and daddy do and I take supplements with every meal. I take betaine HCL. My hydrochloric acid production has been low for a very, very long time. I used to take six of them with a meal to digest my food. I'm down to two or three, but three is about my number and I talk in other podcast and on the blog how to know how much stomach acid do you need for optimal absorption. As you get older, you make less stomach acid, I don't like that so I just keep my stomach acid where I want it.

So they see me take these with meals and they're like okay, it's a normal human behavior to take pills. They both said I want to try and take a pill, I'm

like all right. Well there's some important rules here, number one, you never take a pill ever unless an adult gives it to you because it's just not okay to take a pill [inaudible 00:34:45] I think of taking their own vitamins unless someone hands it to them; and then you start with super tiny, round gel pills. In our case, we use small krill oil capsules or there's a vitamin E-delta fraction, which is also super tiny. You give it to them with a glass of water and you say, "Good job!" And you know what, it's painless just follow one of those.

So both of my kids can take two full-sized like 500mg capsules at a time and don't even blink, they don't choke, they've never choked, they've no fear of capsules or whatsoever. It's just a matter of learning and overcoming that fear and just starting with the tiniest vitamins. Oh, vitamin D capsules also can be super small. Vitamin K2 capsules are super small. Just let them do that, praise them and it's never been a problem. If that doesn't work, you have a blender, toss them in there.

Zak: Awesome. That's really good advice. It could be difficult getting kids to adapt to new things like that, especially when swallowing a pill can make you gag.

Dave: Yes. If you hear that tapping and you're in a car, I'm tapping the [inaudible 00:35:48] precipitated out, it's a small container I'm using but I'm just letting gravity do its work to drop all the coffee grounds to the bottom of this cup.

Zak: All right. While you're doing that, there's another question from Facebook that is, "I love all of your podcasts, but I you had to choose five to recommend to a new listener, which would you choose?"

Dave: Wow!

Zak: If you have one or two, Dave, that come off at the top of your head then let's hear them. I have a few that ... and since I actually saw this questions before that I thought of.

Dave: That's a great question. In fact, I would love to feature our tops ones. One that was really surprising was the Peter Sage podcast, because Peter Sage is just an amazing guy and he's a super high-performance business person but I didn't think that that podcast would go in the direction it did and I was motivated after it. I thought he just did a great job of sharing high-performance techniques, a lot of the psychology of high-performance. He's a legit. So that's one that stood out.

I love the podcast with Tim Ferriss. I've been a Tim Ferriss fan for a long time and some of the hacking he's done is just remarkable and he's popularized some of the ideas here in biohacking and even used the term in his book and I just love that. Getting to talk to him live on the podcast was really cool and I just thought that we shared a lot of super good detailed knowledge for people.

Arianna Huffington, she's a super high-performance business person and I was incredibly honored that she invited me to her studio in New York and we actually got to shoot the podcast on her set at HuffPost. This is almost surreal, it's so cool and she was so down-to-earth and so honest about sharing struggles with overworking and restaurant recovery and trying to keep that balance and that's something I've worked with in my whole career, is that balance, sometimes I have it, sometimes I don't. So to hear someone at her level of success just laid it all out there in her book Thrive was also really informative.

From there, there's just some amazing ones like Steve Fowkes has shared so much stuff that people don't know and Steve, honestly, I credit him with my being here today because when my brain stopped working in my mid-twenties, it was his writing from the early 90s on smart drugs that got me on this path like oh wait, I can do something to prop up my brain so then I can fix my body. So Steve is just a wealth of knowledge and is [inaudible 00:38:32]. I don't know, that was four.

Zak: He is so much a wealth of knowledge that we actually splitting the two episodes, so a really good one.

Dave: Yeah.

- Zak: Another one that I'd recommend, especially for beginners, is the one with Dr. Tom O'Bryan.
- Dave: Oh, yeah. Tom's the man.
- Zak: He talks about gluten sensitivity and that is a big topic in society today and there's a lot of people questioning the reasoning behind that for whatever reasons and Dr. Tom, he does an amazing job of breaking it down and explaining exactly why a gluten is such a problem.
- Dave: Zak, that's well said and that one thing about the recent study about well maybe it's not good, maybe it's FODMAP, some of the sugars that are in there. No. There's a multiple set of reasons and Tom has spent a lifetime of treating people and looked at autoimmune reactivity that is not celiac and just the overwhelming evidence. When you hear the interview with Tom or you check out his gluten summit ... I've gotten to be good friends with Tom, I've spent some serious time with him and the evidence is so complete at this point that if you just want to take a gamble, honestly, I don't know maybe she just starts smoking, too, what the heck!
- I think the coffee is about ready here. I'm going to hold this up. I don't know if the cameras going to get this with lighting. See how there's a line at the bottom there, that line is where the grounds have come out and what I'm going to do now, you got to focus, you could start to see right here is where all the precipitation has happened. I'm going to just pour this stuff off the top. I'm going to try not to pour it on my keyboard, you're going to see that.
- Zak: If your listening, Dave took grounds, he put it in the bottom of a glass beaker, he pour hot water over it and it has set for like four to ten minutes now and he's just pouring it off. There's no filter. All the grounds sunk to the bottom, he's pour it off into another glass.
- Dave: So what's in one of these beakers, the one that held the coffee and the grounds is basically sludge and I'm swirling it so you can see the grounds are all stuck through the sides in here. The other beaker which would have been the second cup at any place where you can get hot water, when I swirl

this around, no grounds stick to the sides at all. It's basically like a French press coffee.

If I look in the very bottom, there might be a few tiny bits of sediment, but it's perfectly drinkable, well-made, very much like a French Press and I didn't have to carry anything. I just walked in to the coffee shop, I put a buck or two in the tip jar and I said, "Please can I have some hot water, I don't like paying for tea." And then they gave me hot water and two glasses, make the coffee in one, pour it in the other, add butter, add MCT, blend it, drink it and I'm good to go.

If you ever see me walking around with a coffee cup with a big green logo on it, I guarantee you that that's what I did. I carry my coffee with me when I travel so I can consistently feel what I do.

Zak: Okay. You got time for one more question before we wrap this up. This question comes from the forums from Jason Miller and the questions is, "What are your thoughts on Keto rash and it's causes or processes. It's not everyone, so why some and not the others. Is that genetic? And is the only cure carb consumption. It would seem as though waiting it out as if it were a detoxing mechanism is risky, as it can cause scarring."

Dave: I'm not familiar with Keto rash causing scarring, it doesn't mean it can't or it doesn't, I've not heard of that. I'm guessing if it did cause scarring it'd to do with sun exposure, not actual keloid formation scarring. Honestly, I'm not certain of that answer so I don't want to guide you in one way or another.

When your body starts to burn fat, you can seriously dump amazing amounts of oxytocins. If they biopsy your fat, you find mercury, you find DDT, you find [inaudible 00:42:30], you find estrogen disruptors, so fat is basically a dumping ground for toxins that your liver can't handle right now. And this is one of the reasons that I've written this Rapid Fat Loss Protocol that is now on the front page of the site, you have to dig around because the subtitle's How to Lose Weight Faster Than You Should; because it's much safer to lose weight just a half a pound a week or whatever. A pound a week and it's just kind comes off after that first few days where it's really easy to lose a few pounds. And if you're actually burning that much fat,

your liver and your kidneys have to take that burden and you need to basically excrete it, if you don't, it's going to go somewhere else. It's going to go to your brain and you'll get brain fog from it.

That's why on the Rapid Fat Loss Protocol you usually take in stuff to help your liver, calcium D-glucarate, glutathione; you're going to be taking charcoal to help bind stuff in the gut and you want chlorella maybe, anything you can think of to help you excrete toxins faster. But honestly, it's not maybe a good idea to lose weight that fast unless like you have a wedding.

If you do it the wrong way, you're going to have a cold and maybe really tired with dark circles from all the toxins at your weddings. So be careful, be responsible, it's your body, you own it.

Keto rash though can come from those toxins coming out. It can also come from what happens when you have yeast or certain bacteria in the body. Those yeast and bacteria when they don't get food or when they're getting things that basically are bad for them, they get stressed and when bacteria or fungus is stressed it pumps out a lot of toxins. It does that as a survival mechanism to tell all the other bacteria or fungi, hey, this is my fuel source, this is my food, it's not attracted to you. Even alcohol itself, is an attempt by yeast to tell other stuff don't eat this, I'm putting out alcohol so it's not good for you to eat. There's this constant competition and this is going on in your gut and you're getting these things in your body that can be one of the things that causes a rash.

If you eat carbs, the fungus and the bacteria don't like the carbs, relaxes. When it relaxes, it makes less toxins, therefore the rash gets better. So one of the things you can potentially try is binding toxins with some of the things I talked about before that may help.

You can also try maybe taking an antifungal like some of the natural ones. Grapefruit seed extracts can be extremely powerful for that and that may have an impact on it as well because then instead of allowing things to be alive and stressed, you just whack them. Other things like berberine can be particularly helpful and even garlic.



now, if you're meditating, you might not want to be using garlic because garlic has a much stronger inhibitory effect on alpha brain waves and it makes you more angry and it's harder to relax and meditate and to be centered, even more so than caffeine. But using garlic as a medicinal herb, yes, do it. You're going to have body odor again and you maybe a little bit cranky, but let's face it, you have keto rash, you're cranky anyway.

Zak: Awesome. Great answer and thanks, Dave, for your time today to answer the questions from the community.

If you guys have questions, please submit them on the podcast Q&A form that's at the bottom of each blog post. You can also ask them in the bulleted forms and look out for a periodic Facebook posts each month, asking for questions there as well and if you enjoyed the show, please tell a friend about it and if you would be so kind as to leave a review on iTunes it really helps.

Dave: Thanks, everyone. Have an awesome day and what Zak said, please leave us a review. Reviews actually help other people find the show. I put a lot of energy. I schedule my whole week around getting time with people who are not going to waste your time. We've got 7.5 million downloads and we're consistently number one ranked in health and fitness on iTunes; maybe number forty-seven for all of the health category, which is a giant one, but around health and fitness, that ranking matters because a lot of people through the podcast there is a ton of knowledge and when I divide 7.5 million by the number of hours people are awake, it's multiple lifetimes a time. So if I put bad content out here, the way I view this, is it's like I basically killed about 30 people, so I feel a responsibility to bring the best people and the best knowledge out here. Otherwise, I'm wasting enormous amounts of human time and that's not okay.

So I love these Q&A sessions, I love the feedback on Facebook and I'm grateful for it. If you enjoyed this, just leave us a review on iTunes and it can make all the difference. Thank you.



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