

## Paleo Solution – Episode 125

[00:00:00]

Robb Wolf: Hey folks, Robb Wolf here, the heavily caffeinated Greg Everett on the other side of the mountains. This is episode 125 of the Paleo Solution podcast. Greg, what's going on?

Greg Everett: Well, I'm actually mildly caffeinated at this point but my caffeination level will be increasing throughout the duration of the show.

Robb Wolf: Outstanding. Cool, so. . .

Greg Everett: As they do everytime.

Robb Wolf: It's the only way so that we don't pass into a catatonic state which I suspect probably happens to a lot of our listeners to. So . . .

Greg Everett: That's okay.

Robb Wolf: So what's new? What's exciting?

Greg Everett: Well, the little e-book I talked about last time is out. The little e-book [cross talk] Thank you guys very much.

Robb Wolf: Nice. [cross talk] What that is and where they can find it?

Greg Everett: It is the portable Greg Everett suite.

Robb Wolf: Well that's a hard thing to find because you're kind of large.

Greg Everett: It's a collection of articles. Well, yes, that's why we made this little PDF version.

Robb Wolf: Nice.

Greg Everett: Although there was already a joke on Twitter about something, "Is that Greg Everett in your pocket or are you just happy to see me?", and the hash tag was big pockets.

Robb Wolf: Boom. Bing. That was Amy Kubal that did that one, right?

Greg Everett: Was it? Yes.

Robb Wolf: Amy can be a card at times. She's a sharp little biscuit, little biscotti. What else? So by the time this show goes up, theoretically, the new robbwolf.com should be live. We might have this new thing called Robb TV rolling which is a video show. See what type of train wreck that is but...

Greg Everett: Are you going to wear a costume for each episode?

Robb Wolf: You know? I really wanted to do it like David Lee Roth. "Next on Dave TV"

Greg Everett: Oh my god that would be so incredible. Either that or you can go back between Dave TV and Max Headroom.

Robb Wolf: Oh, yes, that would be cool but I just don't really have the depth of bench in my wardrobe. It's pretty much like t-shirts and sweat shirts so that would get boring pretty quick so. . . we'll see but I should have a new site.

I should have that Robb TV thing rolling which should deal more with food politics and kind of newsy pieces so I can be a little bit more reactive and on the pulse of news topics. So, we'll see how that goes and as of yesterday we were 5 weeks out from the Wolf cover writing so you can close man.

Greg Everett: Are you freaking out or what?

Robb Wolf: Alternating bouts of terror and excitement which I hear is a sign of a rational, healthy individual so, yes.

Greg Everett: Yes, I would qualify that as pretty normal.

Robb Wolf: Yes, that's Cool, that' what I've got. I guess we should move to Podcast, huh?

Greg Everett: Let's do this podcast.

Robb Wolf: Let's do this, cool.

Greg Everett: Steve says, "I heard someone once quote you as saying that until one reaches optimal body composition, the fat they have in their body is enough to keep them fuel and this is optimal for fat loss. If that's true, what's the practical application? No additional fats in my diet - olive oil, avocado, nuts, etc.? Do I just eat Paleo but keep everything lean and clean?"

Robb Wolf:

So, yes, you know the deal with this is if you want really quick fat loss this is a good way to go in which you follow that rule of about a gram of protein per pound of body weight which that is going to do is provide enough protein substrate, enough branched-chain amino acids to really minimize muscle lost when you're in a calorie restricted state.

You might even throw in something like some branched-chain amino acids, 30 or 40g a day some branched-chain amino acids on top of that to really make a stop gap of preventing muscle mass loss because when we're leaning out, it's kind of nice to come out the back end to that with as much fat loss and as little muscle loss as we can possibly do and that's why I recommend some resistance training and stuff like that.

But then within that, what this is recommending is not that you have to be totally neurotic about it like if you're cooking some scrambled eggs, you can throw some olive oil in a pan to cook them or some coconut oil or something like that.

But it's just this acknowledgement that we would like a little bit of a calorie restriction. We would like to probably control insulin, pretty powerfully. So we might limit carbs a little bit and that would be based on what your activity level is and some stuff like that but then if we just keep the overall calorie content kind of modest, induce a little bit of a calorie deficit in addition to controlling hormonal balance and making sure that we're in a as anabolic a state as we can by eating plenty protein then we should have this kind of body recomposition gig, to steal one from Lyle Mcdonald.

**[00:05:03]**

Robb Wolf:

Ideally you're maintaining muscle mass as best as we can, losing body fat and this is from inducing a little bit of a calorie deficit and this is in contrast to where you're going to be in kind of a maintenance phase and this is assuming that you're active where you're actually going to increase the level of fat intake potentially carbs but again, this is kind of dependent on your activity level and all that stuff but you're probably going to ratchet total calorie intake up to some degree once you hit your goal weight.

We don't need the calorie restriction anymore. We want to start chasing some performance and stuff like that and so you're going to ratchet the calories up. So it's just being modest with the amount of fat intake so that you can accelerate the fat loss, induce more of a calorie restriction.

I think even Lyle Mcdonald has a really pretty austere program where basically he's recommending, in apologies if I get this wrong, I haven't read this stuff in a bit but where he will recommend a really high protein intake you know that gram gram and a half a protein per pound of body weight or somewhere around there and basically no carbs, no fat in addition to that or very little you know just whatever is flying into the protein source.

And so you're inducing a really severe calorie restriction but you're trying to maintain muscle mass as best you can by a very high protein intake and you're still going to lose the muscle mass and you're going to feel absolute dog shit on this protocol but you can lean out really quickly.

So it's kind of depends on how much suffering you're willing to do and how compelling a situation it is for you to get leaned out or maybe you do that for a couple of days and kick start the process or something like that. It's not something I really recommend for the long haul and if you've had a wacky relationship with food, I don't really recommend that at all. We need to reestablish just some normal eating patterns but that's the story on the "low fat" Paleo.

Greg Everett: Man, that's a little bit skinny. That's like 900 calories a day for me.

Robb Wolf: Yes.

Greg Everett: It's like the zone for a 12 year old girl.

Robb Wolf: Right, it's gnarly but you know it's just kind of a step up from a protein sparring modified fast kind of gig.

Greg Everett: Well, so then, let me ask you this because I'm sure this question will come up. What credence is there to the idea that dietary fat will actually shift you into a better body fat burning setup?

Robb Wolf: You know there's legitimacy to that but when you start consuming fat then you up regulate the enzymes in the cellular pathways that use fat as a fuel source, that's absolutely true but at the end of the day, if you're in a calorie restricted state, and also a carbohydrate restricted state, that's going to happen anyway. There's a great paper and I really need to remember to put this into the science section of the new site.

It is impossible to determine, if you look at somebody in a ketogenic state, it's impossible to tell. You look at blood lipids or what everyone

wants to look at. It's impossible to tell whether or not they are fasting, basically calorie restricted and accessing body fat for energy versus eating an isocaloric or even to some degree a hyper chloric ketogenic diet.

Both of them are going to induce lipolysis that's going to induce fat burning but the reality is that in isocaloric or hypercaloric ketogenic diet, is going to maintain or even possibly accrete say like muscle mass so you know you might have some fat loss under that circumstance but there's no doubt that a calorie restricted ketogenic diet is going to pull fat mass off of people like gang busters.

And there's some arguments back and forth that ketosis isn't the most important that you just need some calorie restriction and then maintain some muscle mass via adequate protein so you can tackle this with a higher carbohydrate intake and I think that that's true. There are different people who will respond to different ways but even then, the Zone is a good example of that. This is a funny thing.

Actually back in the day like there was a website that Mauro Di Pasquale, like all the anabolic diet, metabolic diet guys would hang out on in the Zone nut swingers would hang out on there and they were claiming that the process of going on a calorie restricted zone was a non ketogenic event.

**[00:09:59]**

Robb Wolf:

And the dudes on Mauro Di Pasquale's site, he's the guy that developed the anabolic diet, metabolic diet and stuff like that and those dude knew their nutritional biochemistry way better than Barry Sears and the folks that we're recommending the zone and they established clearly and immediately that even at a carbohydrate intake level as recommended by the Zone, if you're in a calorie deficit state, you're going to be producing ketone bodies and stuff like that and that's just kind of going kind of nuts- o down the rabbit hole but what I tend to find at the higher carbohydrate levels is just that people are hungry.

Where as if we're in a legit ketogenic diet, ketogenic state, people tend to be both calorie restricted and not all that hungry which is kind of this holy grail of getting people to not be overweight and just get them to lean out because it's pretty damn hard to run around hungry and actually deal with all that stuff.

So Mike Eads, Dr. Eads, his website is just thick with studies and commentary on this notion that you can be down on that Ancel Key's

starvation study level of calorie restriction, 14, 1500 calories but its ketogenic and you're not really all that hungry, especially compared higher carbohydrate intake.

Greg Everett: Well, what do you know?

Robb Wolf: Gregs like, "I'm so sad I asked that question."

Greg Everett: Alright, let's move over to a different fat question.

Robb Wolf: Indeed.

Greg Everett: Jeff says, "I haven't Paleo since December 5<sup>th</sup> 2011," that's a very precise date, "I ran across some articles called *Obesity in the Palaeolithic Era*. The article basically compares some skinny and fat artifacts and concludes that obesity existed in the Paleolithic era. What are your thoughts?" and there's no link to the studies.

Robb Wolf: Squatchy gave us the link in the original e-mail and just aside, if you guys have been liking the podcast more, probably mainly due to Squatchy in actually doing a pretty good job sifting through the emails. Greg and I were completely overwhelmed with that and it was kind of a grab bag of stuff and Chris actually reads all of this in thrice to get interesting question so shout out to Squatchy for doing a what I think is a fantastic job on the podcast triage and what not.

So there was a link to that. Maybe we could dig that up and put it on the show notes. It's an interesting research paper looking at these figurines, these penises, they were made from the lower Paleolithic era and they were definitely quite obese and these idealized forms.

My thought on that when we look in the literature with humans, with mice, with most critters there is a certain frequency of an obesity gene that almost regardless of chloric intake, these individuals are quite obese.

So I think that we're just seeing folks from our hunter-gatherer past that probably expressed this very potent obesity phenotype, genotype and phenotype and that was something that was pretty novel in that time and it was held up as this almost miraculous kind of event.

It's interesting when you look through history. I want to say Greg will probably remember this better than me but Julius Caesar was epileptic.

Greg Everett: I don't remember that at all.

Robb Wolf: You don't remember that? Okay, cool. He was epileptic and when he will go into a seizure, they thought that he was communing with the gods and it was held up as a really powerful amazing thing. It wasn't viewed as a disability. It was considered to be this communing with the gods kind of gig and so I think that we can easily assume that obesity was probably not the norm in the Paleolithic for a variety of reasons.

If we look at contemporary hunter-gatherers that seems to be the stuff that we find but I don't think that it's surprising at all that you would see some outliers pop up and if those windows outliers did pop up, that was probably this miraculous event for them and that's where this all came in.

Until obviously those are all reasonably unscientific, there's not a lot of test tube type data that we can support that. It's a lot of opinion but it makes sense as far as I can put together a reasonable argument I guess. Greg, any thoughts on the chubby figurines from the lower Paleolithic?

Greg Everett: Well, yes, kind of, I mean not particularly deep thoughts but it seems to me I guess I'm confused about what this article is trying to prove and I did just find that link. So we'll put that on the notes.

**[00:15:04]**

Greg Everett: Without having read it, are they trying to claim that because there were a few chubsters back then that the kind of eating they were doing is not good? I'm a little confused about what they're...

Robb Wolf: They weren't really drawing<sup>1</sup> any type of conclusion from it other than just talking about the fact that this stuff existed. This was not a – they didn't make any statement one way or the other on that.

Greg Everett: Got you. It was like they were playing magazine kind of article.

Robb Wolf: Right.

Greg Everett: Okay, Behçet's disease and through our extensive research we discovered that that is the proper Turkish pronunciation of this disease.

Robb Wolf: And you know what went down with that was that Greg asked me, "Hey how do you pronounce this?" and I forwarded to him a link to this thing. Let me Google that for you so. That's actually not true Greg actually knew about this cutting edge search engine called Google and even managed

to track one down that had a pronunciation key, one of the search terms on this.

Greg Everett: Pretty good with the old Google machine over here.

Robb Wolf: Amazing.

Greg Everett: All right. Dave says, "Hi Robb, I've been on the Paleo lifestyle for over a year now and it has been life changing. I work at a very active job as an Heleski guide. It's a great job but can be hard on the body. No complaints though. My joint pains have decreases as well. I'm more alert and I don't get sick as frequently as before. Writing you is not for me but it's for my wife. I've slowly been converting my family to Paleo."

"This first step has been getting the family off gluten. I'm wanting to get some information for my wife on Behçet's disease where she has been diagnosed with. There's not a lot of information on it and her doctor is skeptical on the Paleo diet which is quite frustrating at times. I know there's information on your site about auto immune disease but I was wondering if you have any specific for Behçet's such as diet or supplement recommendation as well as lifestyle, exercise recommendations. She has a lot of questions and I'm happy she is open to Paleo but I want to give her as much information as possible to help with her health. Thanks for everything and hopefully you or somebody can help us out."

Robb Wolf: Gosh you know Behçet's is obviously an auto immune disease so there's that piece and this is I don't know maybe I'll throw this out to the listeners like how do we effectively communicate this idea that in like I'm assuming folks who have read the book I feel like I've made this case that there's a common ideology to all auto immune disease.

It's related to intestinal permeability, there's a variety of things that can be involved with that - grains, legumes, dairy, alcohol, acetaminophen. There's a bunch of stuff that can feed into permeable gut.

There's the FODMAP's that leads into a small intestinal bacterial overgrowth and that may be a problem in this too but how do we just as a blanket statement or maybe this is something that we just have to revisit again and again these auto immune diseases have a common ideology related to intestinal permeability, the solution appears to in broad brush strokes be keto auto immune protocol Paleo diet.



I think episode 68, we had Matthew Malone along and we talked a bunch about that. If you go to frequently asked questions, we have a brief description but it's completely adequate. It's brief but it's thorough of what you want to do to modify it, a basic Paleo approach to make it auto immune protocol.

You want to make sure that your vitamin D levels are up, that your sleep is good, that you're not exercising to exhaustion but my thing with this is that we're finding the same results again and again whether it's like scleroderma or whether it's multiple sclerosis, or whether it is narcolepsy.

All of these things have auto immune underpinnings to them. If we can get people eating something close to an auto immune protocol Paleo diet, get their vitamin D levels up, maybe take a little bit of fish oil, get some more sleep. We're finding that this stuff either goes into remission completely or it is dramatically improved and you know like the Dr. Terry Wallace multiple sclerosis talk that she did for the Ted talks.

Like that's an n=1 but we're starting to get thousands of people with these responses and so you know for the doctor in this, the whole skepticism of the Paleo diet, I don't know if I'm just getting older and cranky but I mentioned Dr. Amy Myers on the show last time and she made this point that people who are undergoing -

There are doctors investigating whether or not they are gluten intolerant and the doctor will recommend that they eat gluten so that they can get a positive gluten response on the test and I guess that's all nice for insurance companies and stuff like that but she made the point that she thought that that was paramount to malpractice because we know how incredibly terrible gluten is for people particularly in this legitimate celiac spectrum and I think is pretty terrible for here and everybody.

**[00:20:21]**

Robb Wolf:

And so within all this stuff, if you are a practicing physician and you can't wrap your head around this evolution via the natural selection, Darwinian medicine being a vector in discerning what the heck is going on with people, it's kind of a what the fuck point with this. It's like we need to get a little bit better than this.

This skepticism was born out at a 100% out of ignorance. I know we kind of need to be patient and just keep getting the message out there, and don't burn bridges and all the rest of that stuff but it gets a little

frustrating sometimes. I guess 15 years of hammering, donging on this is kind of like, "Okay folks we can do better on this," especially if what we're recommending is a basic nutritional protocol that involves lean, or grass fed meats, fruits, vegetables, nuts, seeds, it's like so somebody's going to die in a month of doing this and you're skeptical about it?

It's just – It gets me completely fired up. I'm completely rambling here. For your wife all I can say I've been contemplating on a blog post on how do I convince people to eat Paleo? I don't really know how to convince people to Paleo, like the greasy used cars salesman pitch that we have is give it a shot for 30 days and see what happens.

And if the person doesn't have some spark of desire to change that is sufficient enough to get them to eat a damn paleo diet for 30 days then to some degree they are beyond help and for this doctor you know they're super busy. They don't get paid as much as what as they were used to. They've got to deal with a ton of paperwork and so I won't say it's a rare physician that will read this stuff but it's not you know an everyday occurrence and so this is where you guys just have to take responsibility for your own health and you have to decide if you're going to try this thing on and really give it a shot.

I would be shocked if you didn't get some results. I would be really interested to hear what the results are one way or another and for your wife, like again, the greasy used cars salesman pitch is give it a shot for 30 days. How do you look, feel and perform? Track some biomarkers of health and disease before and afterwards and the worst case scenario is that you didn't eat some cookies, and some French bread for 30 days and you're no better or maybe you know who knows you're worse.

We haven't seen that happen yet but maybe that's the possibility but 30 days later we're going to know whether or not this Paleo intervention was good, bad or indifferent for your condition and I guess it just kind of boils down to how motivated are you to actually give that a shot.

I can't think of much more of the sales pitch than that and then there was that original question, "Do we have something specific to Behçet's or Behçet's, what are our standard on this now?"

Greg Everett:

Behçet's

Robb Wolf:

Behçet's. That's right because it's the chet because it reminded me of Chet from weird science so...

Greg Everett: Not that your wife reminds you of Chet from weird science.

Robb Wolf: No just the term.

Greg Everett: So we're clear.

Robb Wolf: Yes, just to be clear.

Greg Everett: So I think, you're right. It's super tough. How do you convince someone to do anything, really? If they don't want to do it to some degree then you probably aren't going to convince them without force but I think the 2 biggest hurdles between the lay person and their doctors are getting over the fear of eating that much meat and the fear of not eating healthy whole grains.

Robb Wolf: Right.

Greg Everett: If you can figure out a way to convince people that 1 month of eating meat and not eating their sprouted wheat toast won't kill them, then maybe they'll be a little bit more open to it.

Robb Wolf: Yes and within that so here's what we're recommending. Instead of eating the sprouted wheat toast which has almost no nutritional content. The main nutrient content that comes from the bulk of that stuff is because it's fortified like we're taking synthetic nutrients and sticking it in there because otherwise we end up with a bunch of deficiency diseases.

Greg Everett: You might as well eat white bread at that point.

Robb Wolf: Exactly but the insane recommendation that we're making is eat some yams or sweet potatoes, fruits or vegetables in lieu of eating that.

Greg Everett: That's crazy.

Robb Wolf: I mean that's the insane recommendation that we're making. This is something that pops up a ton. There may not be a bunch of broad brush strokes way of dealing with this but I just want to put it out to folks. If someone has a condition that is known or suspected to be auto immune, again go back to the Google gig like Google paleo diet and behçet's and see if there's anything.

**[00:25:08]**

Robb Wolf:

Chances are there's not anything yet, like we're in the beginning, the wild west of this stuff. There are not a lot of things that we have something solid on. We've got a little bit on narcolepsy. We've got a lot more on lupus, rheumatoid arthritis, multiple sclerosis and stuff like that but I guess my recommendation is once were on that auto immune realm, I would look at it less as a unique snow flake kind of scenario and just understand there's a common ideology with all this auto immune diseases.

We seem to be experiencing a remarkable improvement in these symptoms of these autoimmune diseases when people follow the standard auto immune Paleo protocol and so what I would I ask you to do is just give it a shot and then give us feedback about what you did and collect much data on this as you can.

Take photos of before and afterwards. Do blood work before and afterwards, and then we've then got a legitimate data point. If Dave, if you can rope your wife into doing this for 30 days, track some really good biomarkers and then we'll know.

Even if this doesn't work, it's like okay we've got some data point that says, "Okay. This doesn't work for this person. What did she do?" well then look like she added vitamin D onto the mix.

The next person, we'll really make sure, we'll really hammer on them to add vitamin D to the mix and then maybe they get an improved response to that. Is that science and a double plan placebo control, crossover, gold standard means? No it's not but I think it's still some worthwhile information. It's kind of like combinatorial chemistry.

We've got a bunch of different reactions going on in a bunch of different vessels and this is a way that we can really accelerate the learning on this stuff and at the end of the day my main thrust on this is just giving people small alternatives for tackling their treatment in an effective way besides methotrexate and the immuno suppressants which will kill you eventually.

You will die from some complication associated with that. Nicky's mom died from complications due to rheumatoid arthritis about 3 months before I met Nicky and since that point we've interacted with literally thousands of people that have put rheumatoid arthritis, lupus, multiple sclerosis symptoms into remission basically just changing their diet, getting more sleep and taking some vitamin D.

And so my main thrust is just getting people to give this a shot and then they say hey if they bump into somebody who's got an auto immune disease. It's like hey there's this website. It's got a free protocol, give it a shot and get the dude some feedback.

That's all I'm asking here is that we create an alternative, opportunity or alternative view on this so that folks don't just have to suffer through the conventional treatment which really doesn't do anything for them.

Greg Everett: Indeed. Okay. Let's –

Robb Wolf: I've managed to put down some more coffee so I'm even more fired up so . . .

Greg Everett: Awesome. I know my cups just sitting here empty.

Robb Wolf: My cups empty [cross talk] you want to run over and fill it up?

Greg Everett: I'm good. I sneaked over while you're blathering away with all this stuff.

Robb Wolf: Perfect, good call.

Greg Everett: I mean the pot is literally 6 feet from where I'm sitting.

Robb Wolf: That's a long walk for an Olympic lifter though.

Greg Everett: Well my chair has wheels.

Robb Wolf: Oh there you go, okay.

Greg Everett: So it's not 6 walking feet.

Robb Wolf: It's 6 linear feet? **[Laughter]**

Greg Everett: It's simple machines, Robb, come on.

Robb Wolf: Nice.

Greg Everett: We may be eating Paleolithic but we are fully Neolithic when it comes to machinery.

Robb Wolf: Good man. Good man.

Greg Everett: Okay Sean says, “Hey guys, insert gratuitous praise and stroking here, seriously though toot toot.” I don’t know what that means, is that good?

Robb Wolf: It sounds good to me. I like toot toot.

Greg Everett: “My wife and I were convinced to attend a “free” dinner at my mother in law’s house, courtesy of salad master. After a couple of hours of semi misguided nutritional advice, paired with an okay meal, the scare tactics made their appearance; they performed a “pot” test. I think Robb performed a lot of those too.

Robb Wolf: I neither confirm nor deny.

Greg Everett: Sprouted some unsupported rhetoric and showed us just how bad every pot and pan that wasn’t made from their titanium was for our health. This was followed by their sales pitch for their exorbitantly priced cookware. So now my question, how close to the truth are these salesmen? I’ve read plenty of bad things about Teflon but what about stainless steel or cast iron? How about porcelain or enamel? Have you done research on the various cookware surfaces? I’m assuming that the more inert is better. So have you seen research that supports one surface over the others? Thanks in advance for hopefully keeping thousand dollars’ worth of pans out of my kitchen.”

**[00:29:48]**

Robb Wolf: Oh man you know when we moved to Reno, prior to that we were just pretty much existing on just a random assortment of cooking stuff. I mean it really looked like a gypsy yard sale or something like that. It was pretty rough. I sort of give in some thought to like the halogenated, hydrocarbons in Teflon peeling off in my food and doing some sort of untoward stuff to me and so we ended up buying some all clad which is in the titanium cookware but it’s pretty pricey cookware. We ended up getting some Le Creuset which is some enamel cookware.

That stuff is pretty nonreactive. People will make an argument that you are going to get some cadmium amount of the all clad which I just kind of shrug on that but here’s the deal, I still have some high quality Catalan, non-stick skillet because when I cook eggs, I just don’t have the patience or the time to every single time I get ready to cook in my all clad, get the oil at the exact correct temperature so that the egg like 80% of it doesn’t glue to the bottom of the pan.

So for me when I cook some eggs over medium which is way my eggs most of the time. I throw some coconut oil on the pan, I cook in a real low temperature and if I'm getting some halogenated hydrocarbons from that I'm just going to freaking deal with it. So for me, if I'm cooking like a soup, a stew, it's kind of acidic I throw it in the enamel Le Creuset pot even then I'm not all freaked out about it.

I'll throw stuff in the all clad even if I had like tomato juice in it and I throw in some vinegar in there to break down the meat a little bit and stuff like that. I'm just not that concerned like the fact that we're driving cars and we have plastic carpet, that's out gassing xenoestrogens.

I think that there's probably bigger fish to fry elsewhere and that's as far down as the rabbit hole as far as neurosis I want to go with my cookware. So I think that you can make an argument to have some high quality Catalan Teflon stuff for the really delicate nonstick cooking and then for the rest of your stuff if you're cooking a steak or something, I would use a Le Creuset or yes, all clad Le Creuset pan for that type of stuff.

You can go Matalan on everything. You cook it in a real low temperature for over a long period of time which I think that that made sense unless you act like Nicky who likes a little bit of a scald on her meat and so low temperature cooking is not going to happen in that case.

So, I don't know that you really need a thousand dollar pots and pans to avoid the worse batties under the xenoestrogens and metals and all that stuff.

Greg Everett: I just microwave everything in cheap plastic containers.

Robb Wolf: **[Laughter]** and then if you just take some aremedex on top of that then it just prevents the estrogen from doing anything to you so you're totally good to go.

Greg Everett: Oh man, see modern solutions, right?

Robb Wolf: Revolutionary solutions to modern problems, yes, something like that.

Greg Everett: Yes, something, okay.

Robb Wolf: That was another good chubby cheese movie, modern problems.

Greg Everett: Man, I miss chubby cheese.

Robb Wolf: He was cool.

Greg Everett: I think honestly that is my earliest Saturday night live memory is him falling down the stairs in the audience. He's the best.

Robb Wolf: Then he got grumpy.

Greg Everett: Well, that's okay. He doesn't have to be nice in the real life.

Robb Wolf: That's true.

Greg Everett: He's just hanging out with a guy just see him when he's doing funny stuff on TV.

Robb Wolf: That's true.

Greg Everett: Okay, Julia says, "Hi Robb and Greg. I'm a family physician and want to thank you for all that you have done to spread the word about the Paleo diet. I've been Paleo for 2 months but I've been recommending the diet to my patients with chronic disease for much longer. I finally took the plunge myself as a new year's resolution to "walk the walk" with my patients and 2 weeks ago I started cross fitting. During the prior 2 years, I followed a gluten free Weston A. Price foundation diet including lots of good meats and vegetables but also salt, grains, slash legumes. The company buys a lot of chronic cardio. I had a healthy baby 4 months ago after my 2<sup>nd</sup> uneventful pregnancy. I feel better than ever since finally making the transition to Paleo and cutting the cardio.

Acne and eczema are gone, nasal congestion is better, lots of energy despite still getting up a couple of times at night to nurse the baby, etc. So to get the point, I obviously no longer follow the Weston A. Price foundation diet but I've been adapting a lot of Weston A. Price recipes to Paleo versions. My question is about the Weston A. Price recommendations to use to montmorillonate clay."

Robb Wolf: Azomite.

Greg Everett: "Also known as azomite powder, as a mineral supplement and sports drink after exercise. I've always been intrigued by the sports drink recipe in Sally Fallon's nourishing traditions."

[00:34:59]



Greg Everett: God, when I trip up on one word, I can't read for the rest of the question but I never made it because frankly eating clay seems completely unnecessary and more than a little risky. I know geophagy is common in other cultures particularly in pregnant women. Dr. Google says that clay taking – I'm totally stealing that from you by the way –

It's that clay taking internally is said to have potent detoxification properties given its high cation exchange capacity. Man you're killing me on this one and also it's rich in trace minerals but I have yet to see an evidence based source for this information.

We are of course talking about medical school that pica in a form of clay or soil ingestion is to be strictly discouraged particularly among pregnant women given the risk of heavy metal poisoning. However the fact – I don't know why the term heavy metal poisoning always makes me laugh. It sounds like a big show.

Robb Wolf: Yes it's like the Day on the Green, Metallica, Guns and Roses and Body Count which one's amazing by the way.

Greg Everett: Oh, man. "How are the fact of the practice exist in so many traditional societies makes we wonder what the real benefit to risk ratio is and if geophagy have a place in Paleolithic times as well. I'm aware of the research showing that dietary clay combine to aflatoxin in animals and humans as well as studies that have found heavy metal contamination in clays in certain geographic areas but I'm unaware of any studies showing clear benefit from a detox or mineral supplementation standpoint.

"But on the flip side, showing clear in vivo toxicity from ingesting clay. Are you aware of any additional research supporting or discouraging its internal use?" Alright guys, one more paragraph I'm sorry.

Since starting cross fit diet I've been looking for a post work out recovery drink and was reminded of the Weton A. Price sports drink. The recipe calls for 8 ounces of filtered water mixed with the juice of 1 lemon, a quarter teaspoon sea salt, 2 to 4 tablespoon whey and a half teaspoon azomite powder."

"Obviously, the whey would not be Paleo friendly but I'm mainly interested in what you think of the azomite. Do you think it is safe daily or every other day consumption? Is there potentially any added benefit to post work out supplementation of the trace minerals in azomite in addition to electrolytes particularly in a context of an already mineral rich

Paleo diet or would you recommend it as a cheap easy homemade recovery looking forward to hearing your 2 cents and keep up the good work.”

Robb Wolf: Dude that was a whole podcast in 1 question even though there were more question.

Greg Everett: I don't know why I struggled so much on that one. You know what it is? When you have this huge paragraphs, it all just blends together while I'm trying to read it.

Robb Wolf: Yes, it's true.

Greg Everett: It's probably why eyeglass prescription updated one of these days. It's only 10 years old.

Robb Wolf: Details. Details. Let's tackle the easy stuff. What I would recommend for post workouts beverage? Totally depends on what your goals are. We've talked about that type of stuff a ton. If you're super charging athlete you want to do some post workout whey or whey plus carbs. Go for it. Just keep an eye on inflammation and gaining fat through the midsection and all that sort of jive.

I think that's kind of the outer edge of performance when you start doing that sort of stuff. I'm doing fine in old do jujitsu when I get done on my session. I've got a baked yam or sweet potato and I've got a little hunk of chicken and I'm doing great on that and seems like when I start going down the road of liquid nutrition post workout that's when I start getting the acne, getting a little chubby and all the rest of that but play with it.

That's kind of a either do or don't. Play with it. See what the results are, can't say too much more than that. As to the azamite powder, honestly the doctor Julia did a phenomenal job even delineating all the different factors here if we have time, we're going to talk about micotoxins in coffee here in just a little bit.

So there's definitely some indications in the literature that some of these clays can have some - I wouldn't call detoxification. The way that the hippies view this is that you've got toxins loaded in your body and then you're going to eat some magical food and it's going to pull it out.

Our system is very good at doing that if we eat a little bit of fiber, if we eat adequate protein, if we manufacture glutathione and our normal different phases of detoxification pathways in the liver functioning. We

do a pretty well on that if you are hammered with heavy metal, then you might seek out a functional medicine doctor and do some sort of a halation therapy to deal with that.

Otherwise, this detoxification thing makes me a little bit nervous because I think that people don't really get what that means and they're kind of building it up to be bigger than what it actually is.

**[00:40:00]**

There are situations say like in food poisoning we're taking charcoal, possibly taking something like this azomite powder can be really beneficial for actually binding to bacterial toxins or micotoxins that are actively trying to make their way into your person via the gut. But that's an entirely different gig.

So I just want people to be really clear about that. There seems to be some benefit from this stuff with regards to like an anti microbial effect particularly with certain gut parasites. If you think about it if the gut parasites were used to just kind of dealing with protein, carbohydrates, fat and stuff swooshing through the intestinal track and then you get some sort of grainy high silica content paste pumping through the intestines that might actually be pretty irritating for a parasite and that seems to be the indications from traditional cultures when people would use this stuff.

There definitely be situations where these minerals do have some heavy metal content whether or not that heavy metal would actually make its way into the system is not real clear like there's just not a lot of data on that stuff.

It is interesting like animals, traditional cultures all seem to ferret out these beneficial clays, these beneficial soils. When people need them there's also the deal with the homeostatic soil organisms which is a whole other topic but there might be some benefit to this but I see it so far down the road relative to eating a gluten free, dairy free Paleo diet, green legume, dairy free, get plenty of sleep, take some probiotics, make sure your vitamin D levels are good, get some exercise.

I don't really see this just like being an award winner with regards to a trace mineral supplementation standpoint and that's just based off some of the reading that I was doing a lot of these things that being kind of pour like chromium or selenium and the other things that we want.

I think we'd be better off just looking towards some variety on your diet to get the bulk of that stuff and then as far as like some specific therapeutic potential I guess I could see that for some kind of point, issues, like some food poisoning or some things like that but then beyond that I'm just not really sure how you would tackle this stuff.

I definitely don't see it as being like a daily use kind of item. Truth to the degree I would use it I would use in a very punctuated fashion. I think Julia's description on this thing was probably better than mine was but there's just not a ton of stuff out there other than just some very observational type things.

And then it really depends on what the source of the clay is to be able to comment on okay this one's safe and this one's not. Maybe one of them has a bunch of cadmium and lead and then the other stuff doesn't so it's really difficult to comment on the specifics cuz I don't know what specific clay somebody might be using.

Greg Everett: Yeah don't dig up the clay right next to the mine.

Robb Wolf: Or next to the gas station. That might be a bad idea.

Greg Everett: Yes. Okay. David says hi. Just to be clear we rugby players consider ourselves real men because we don't use pads or helmets but clearly if I can't outsnatch the top 48 kilo women or Greg's wife I am not a man.

I was wondering if working on my shoulder mobility so that I can snatch deep and heavy will be counter productive towards my goal of not getting shoulder dislocations or injuries playing rugby. I just played on amateur level and haven't had any serious shoulder injuries in the past but here in Australia there's 100 kilos Samoan on every team.

Other information: last year I got a niggling rotator cuff/front of my shoulder injury. I love that anatomical description.

Robb Wolf: Indeed.

Greg Everett: But I want to wait after resting it. Currently I can power snatch but I'm not very comfortable on the deep overhead squat position. I really want to get better at the oily lifts with my new shiny weight lifting shoes and hopefully compete some time soon.

I've been doing mostly the power lifts for the past 18 months with lots of power cleans and snatches during rugby season last year.

Stat: 171 cm tall I presume, 86 kilos, 75 kilo press, 105 kilo bench, 170 kilos squat, 185 kilo dead lift, 90 kilo power clean, 67.5 kilo power snatch.

Well Robb do you want to kick this one off or shall I go for it?

Robb Wolf: I think one of the big questions was would increasing shoulder mobility predispose one towards shoulder dislocation and I would probably argue the opposite.

Greg Everett: As would I.

**[00:45:00]**

Robb Wolf: If you buy some normal range of movement that is healthy then I think you're actually gonna be immunized against shoulder dislocation relative to if you're so tight, if the serratus and pec minor and all that stuff are so tight that you have a very limited kind of range of normal movement then I think the dislocation potential is much higher.

This is where I really like some of the basic gymnastic stuff like the skin the cat and front lever, back lever progressions and this is something that I've got out of the practice of doing when we moved out of Chico because I didn't have access to a gym everyday.

I've noticed that my thoracic spine is mobile, my shoulders aren't as healthy and that front lever, back lever skin the cat stuff is just amazing for improving shoulder range of movement. You need to ease into it and there's bunch of other stuff that you can do in conjunction with this.

But you're really strengthening both the muscles and the connective tissue through a really therapeutic full range of movement. I think it's one of the most important things like for me doing jujitsu and constantly facing being in a shoulder locks that are either an internal or external rotation lock and to the degree that I can kind of immunize my shoulder on that then it buys me a little bit more time fighting out of holds and also is definitely an injury preventative and we're working take downs and stuff.

If I land a little weird then my shoulder is kind of immunize against that. So that's my thought on that stuff. Gregg what do you think in here? I definitely see a disparity in the power output given the size of this dude.

Greg Everett: I would agree. With the improve shoulder mobility should decrease your chance of dislocation to a point. Obviously we're talking about hyper mobility. You want to establish that normal full range of motion and then not go beyond that. So that's an important

distinction because a lot of people have gotten super pumped on mobility lately and to a point though that they're crossing that threshold of normal healthy full range of motion and going into that range of hyper mobility.

Generally I would say not as problematic as hypo mobility but it still presents a lot of problems. So first thing I would say after that is you shouldn't have to really get your shoulder mobility to any crazy degree.

I would check like Robb kind of alluded to, check your T-spine mobility. That's a huge one that people overlook. And also your ankle and hip mobility. And I feel like I see it more and more people say well I can't do an overhead squat, I can't snatch cuz my shoulder mobility isn't good enough.

So okay I say well do a squat and they can't even squat properly in a nice upright posture and so basically what they're seeing as inadequate shoulder mobility there might be some of that but a huge amount of it too is coming out of the lower body. They can't even get into a squat posture that would allow them to hold the bar over head safely and comfortably.

So the point of that is check all that stuff ankles especially. They're overlooked a lot, get the hips mobile, make sure you can sit into a full deep squat with an upright chest and then take up the slack with the shoulders. And so again you shouldn't be getting into any kind of hypermobility there. That should be total normal range of motion on. You should feel a lot better.

And then beyond that just make sure that your supporting any increased mobility with increased strength and stability. So do all your rotator cuff exercises. You said you have a little rotator cuff thing. I don't know exactly that was and front of shoulder injury. Just wild ass guess you probably had some biceps tendinitis since that seems to be super super: common.

And so both those things: make sure you are getting mobility work in there but getting the strength work in there, support the joint and then doing all your full range of motion pressing and pulling exercises definitely make the pulling volume a little bit higher if not significantly higher than your pressing volume especially with the weight lifting stuff.

Make sure you're getting some good horizontal rowing movements and then beyond that I mean I would work into it real gradually. Don't expect to be snatching 150 kg anytime soon. Work the positions first, get really comfortable in the bottom with your overhead squats, with your snatch balance variations, all that kind of stuff before you really start pushing the snatches.

In that way you're gonna get into it in a more gradual kind of conservative manner and not push it to the point of opening yourself up for potential injury and setting yourself up to get totally destroyed by 110 kg Samoan.

[00:50:15]

Robb Wolf: Which nobody likes that.

Greg Everett: No. 110 kg is a lot of weight no matter where it's from.

Okay. This would be a great one to finish an episode on.

Robb Wolf: I agree. Anything with the explosive diarrhea potential is a great great finish. It's like heavy Farmer's walks. It just finishes you off right.

Greg Everett: Oh man. Sam says hey Robb and Greg love the podcasts. I have a quick and urgent question. I was wondering what are both your thoughts on sodium bicarbonate loading leading up to a competition. I've heard that it helps to stop the production of lactic acid and "engages beast mode" for a short time.

I've heard it heard 300 milligrams per kilo of body weight split evenly over 3 hours leading up to the competition will workout. I also heard that if you go about sodium bicarbonate loading incorrectly explosive diarrhea may occur and I like that explosive diarrhea is capitalized as a proper noun.

I Cross Fit five times per week and I've Paleo for a little over a year now with great results. While uncomfortable around my fellow athletes I'd really rather not have any problems with anything being explosive whilst in the gym or at all for that matter. Your help is much appreciated guys.

PS I don't know how long it may take for this question to be answered so I may just go for it. If you see an awesome YouTube video of a guy shitting himself during cleaning jerks I did it wrong.

Robb Wolf: Are there any types of videos?

Maybe I'm navigating to the wrong stuff. So the sodium bicarbonate loading just as on the side this was a fantastic reader submission. We should start doing some sort of reward for the outstanding reader submission of the week. We'll have to give that some thought.

Greg Everett: We'll send this guy a big box of diapers.

Robb Wolf: Yeah it could be situation specific but based on need the sodium bicarbonate loading like it definitely can improve performance typically in more aerobic or kind of anaerobic activity like anaerobic enerbolt type stuff. I wouldn't see much benefit from like a weightlifting, kind of power lifting, I wouldn't see any benefit from doing it in that situation.

It's definitely buffering the pH change in the muscle. It's not specific to just lactic acid but just general hydrogen ion accumulation that happens in the cellular matrix and can start impeding muscle contraction.

The deal with this stuff there are two pieces. One is that if you overdo the intake I see it more as explosive vomiting, like projectile vomiting is what I've seen in the literature more so than the explosive diarrhea but...

Greg Everett: Wait what's more intimidating to your competition than explosive vomiting?

Robb Wolf: Really that's getting your game face on. There's no doubt about that. So maybe it's not a problem but that is a potential on this stuff. If you overdo the dose then you've got that problem.

The other side of this is that when we think about the training stimulus part of what the bicarbonate is doing is buffering the pH change which is actually a major driver of that hormetic stress that causes an adaptation.

So you don't want to use this stuff as a general purpose supplement because you're actually blunting the adaptation to the stress. This is the reason why taking really high dose antioxidants or vitamins right around training is a bad idea.

It seems like coffee and green tea and stuff like that is fine because those things act as hormetic stressors and although they maybe quenching some free radical activity it's not doing it in a way like taking a big dose of vitamin C is just basically neutralizing all free radical activity. You're like the bulk of the free radical activity.

So you need to be really clear about what you're doing with this because if you overdose on the bicarbonate or if you use this too frequently you're actually going to impede progress because you're not getting a stimulus.

If you want to use it for an event then that's an entirely different story but then you obviously need to field test this stuff enough to know what the appropriate dosage is, what this does with regards to like fluid balance, the GI status and all the rest of that stuff.

So the back and forth that you're gonna play with this is that you are going to burn some of your training sessions learning how you can use this and they're not going to be productive from an adaptation standpoint.

[00:55:02]

This is I think a large part of why the bicarbonate like it was real hot. I



don't know. 12 to 15 years ago.

Greg Everett: Yeah I remember it as being all the rage like with rock climbers and stuff many many moons ago.

Robb Wolf: And then almost nobody uses it anymore. So I see this a little bit like the caffeine ephedrine, the ECA stack.

Greg Everett: Which was awesome.

Robb Wolf: Which was awesome. It seemed like a really good idea but then at the end of the day the collateral damage and side effects are not really all that great. So that's kind of my big picture thing on this.

It might be beneficial for an event. You need to figure out how to use it for the event in the process of figuring out how to use it you're burning some of your training adaptation and then at the end of the day if your fluid status that day is off.

If some little parameter changes then what was a safe dose for you the other day on game day maybe the thing that gives you the thoughts or you end up vomiting if it worked. So I don't know. What is it cavet, impetur or whatever? Buyer beware. I would use this with reservation.

And I think that there's a lot of other things - DMG, dimethylglycine can kind of enhance oxygen transport, corticepts is kind of an adaptogenic, mushroom extract. I think there's a lot of other things that could get some legitimate mileage out of your training versus the bicarbonate gig.

Greg Everett: So all right. Well I feel like we answered some questions today.

Robb Wolf: We did.

Greg Everett: And I think I learned something. Not sure what yet. It will sink in.

Robb Wolf: I think you learned that you want to move your coffee pot to within arms reach of the place where you're working.

Greg Everett: Certainly true but I've got too much other stuff over here.

Robb Wolf: Sweet.

Greg Everett: So any new projects that we will out besides the website?

Robb Wolf: We've got the website. Oh we have the budget e-book that's gonna come

out and that thing is actually -

Greg Everett: Yes. There we go.

Robb Wolf: Thanks for the prompt on that. Amber had an idea about addressing this whole Paleo is expensive gig and I did a blog post on that and it's one of these things a little bit like saturated fat like it just never comes away no matter how much data you put to the contrary.

So we started working on this budget e-book and it ended up being this massive project. It has cooking techniques: how to use a pressure cooker, how to use a slow cooker, knife cutting, techniques for cutting veggies and meat and how to shop, what the preferred cuts in meat are.

It's not just localized to the US like we've kind of addressed some more global markets and everything. I think it's really solid and so that should be rolling out with the new website. We're still hashing away on the details of the certification that we've got rolling out.

But it looks like we are going to have a legit academic wing to this. It looks like when people do the certification we're going to have probably evolutionary studies minor as a part of that in addition to like the nutritional biochemistry and pathophysiology and all that sort of stuff.

It's kind of looking like we're gonna have three different flavors to it. Probably something for the general public which is more a tell me a little bit about this stuff and then how to actually eat Paleo and implement it and then we're gonna have two other flavors.

One for strength coaches, trainers, maybe kind of nurse, physical therapy area and then the other piece is gonna be more like MDs, DOs, researchers. Obviously folks can kind of take any of those but the higher level course is going to be very very demanding like if you don't have a good stepping in biochemistry, pathophysiology, basic cell biology and everything.

Like if you don't have a basic biology or biochemistry background you're gonna have a rough time in there.

Greg Everett: So you're telling me my English degree will not prepare me for this?

Robb Wolf: Well the fact that you're a genius might actually buffer you a little bit but if it was me with an English background I would be -

Greg Everett: Robb I barely know what cells are.

Robb Wolf: Well I'll argue that but that's the other stuff that we have cooking. We're getting the details and all that hammered out. Gosh. There are some talk behind the scenes related to the ancestral health symposium folks and the Paleo physician network trying to get some formalized kind of governing body dealing with that.

There's a lot of good stuff going on, a ton of really good stuff and just trying to keep all the plates spinning and then amidst doing all that screaming towards having a kid.

So we'll see how productive I am after the kid arrives. So I'm trying to get all these stuff done before that happens and then I could be on coast mode for a couple of months while we're dealing with a little one arriving.

Greg Everett: It's gonna be a good lesson in time management.

Robb Wolf: Indeed it is and I've already been pairing back my Facebook stuff a lot. The switch on Facebook to the new timeline made it easy for me to extract myself out of there.

So cool. So yeah that's what I've got cooking and then we have the pocket grade Everett available so folks check that out and I know you guys are doing some side updating so we'll just keep folks posted on the new stuff as they roll out.

Greg Everett: Cool.

Robb Wolf: Sweet. All right G we'll talk to you soon.

Greg Everett: I'll talk to you soon.

Robb Wolf: Bye.

Greg Everett: See ya.

[01:00:58] End of Audio