

Paleo Solution – Episode 146

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Robb Wolf: Hey folks, Robb Wolf here back and better than ever feeling bright eyed and bushy tailed from wild wild times on vacation Greg Everett. What's going on dude?

Greg Everett: Oh man. I'm equally bright eyed and bushy tailed to be sure. This is starting off to be one of the most phenomenal podcast we ever recorded.

Robb Wolf: Indeed.

Greg Everett: As they all do of course.

Robb Wolf: They all start with good potential and then they deteriorate immediately.

Greg Everett: Then start to immediately falter.

Robb Wolf: Oh dude.

Greg Everett: Oh boy.

Robb Wolf: So what's new with you? What's happening?

Greg Everett: Let's see here. What is happening? We've got hosting a little invitational weightlifting meet here next weekend so everybody's getting ready for that, gearing up for some -

Robb Wolf: Doing some curls and some tricep extensions.

Greg Everett: Definitely some beach workout.

Robb Wolf: Sweet.

Greg Everett: What else? Got my 23andMe Kit in the mail today.

Robb Wolf: Oh sweet. Maybe mine's out there too.

Greg Everett: Yeah they offered to have us check that out so took them up on it. So let's see what kind of horrible things I have to look forward to for the rest of my life.

Robb Wolf: This'll just validate that I'm from the shallow end of the gene pool. So I'm incredibly excited for that.

Greg Everett: I don't know that I really need confirmation for all this kind of stuff but oh well. I'm a curious person by nature so we'll see if that's in my DNA profile.

Robb Wolf: Perfect. The curiosity gene.

Greg Everett: Yeah and man that's about it. I've got a couple of fairly major projects cooking right now but it's a little premature to be announcing them so I may sneak out some previews here and there in the coming unspecified near future.

Robb Wolf: Perfect. It's about as ambiguous but tasty as a morsel that you can offer up to us. So perfect. Cool. So let's see here. What have I got here going on? We just wrapped up a two day four seminar series for the Reno Police Department. I did that with Specialty Health folks basically going through my warrior athlete talk talking about nutrition, sleep, supplementation, training, really well received.

Greg Everett: I know before you guys ask Lt. Jim Dangle was not in attendance.

Robb Wolf: He was not there. He was on vacation himself.

Greg Everett: Disappointing.

Robb Wolf: Yeah. Dan Silver asked me that immediately when I tweeted that. That was like oh god. So yeah that was cool. That was super cool and I was invited to go out and start doing a little bit - they've got a jujitsu program at one of the local schools here so I'm gonna jump in with the cops and get the tar beat out of me so should be cool.

Greg Everett: Nice.

Robb Wolf: Yeah.

Greg Everett: You have a little extra tar. You won't miss it.

Robb Wolf: I've been smoking non filtered so that it's been accumulating a little bit so yeah.

Greg Everett: Oh well. You know what they use to call a guy who smoke black tar heroin right?

Robb Wolf: No.

Greg Everett: Poo heads.

Robb Wolf: Oh okay. There we go.

Greg Everett: Ah that's completely irrelevant but it just tickled me as being kind of funny.

Robb Wolf: I like it.

Greg Everett: All right. Well let's get on with this show.

Robb Wolf: Let's get all this train wreck and try to finish it.

Greg Everett: Way worse. Let's see here. Heather says hello. I just finished Robb's book which was awesome and I have a question about my son. Forgive me if the answer is here, I have scoured this site as well as the forum and couldn't find what I was looking for.

Anyway, my son who is 10 has vitiligo, was diagnosed about a year ago and we are getting ready to begin the whole 30 program, as well as eliminating some other foods that can be problematic for those with autoimmune - nightshades, etc. My question is, if we want to slowly introduce some foods when the 30 days is complete, how will we know which foods are a problem for him.

Someone with rheumatoid arthritis will notice pain fairly quickly and be able to see which foods give them problems and which ones don't. For someone with vitiligo, the pigment doesn't disappear or reappear that quickly. I don't want to eliminate any foods unless they absolutely cause problems for him, just not sure how we can determine which foods those are since the process I think would be so much slower for someone with vitiligo.

Thank you so much for any help you can provide.

Robb Wolf:

Oh. That's a thorny question that I actually just bumped into a new doctor that's joining that Specialty Health staff here in Reno and she has vitiligo and we were chatting about that and so she's gonna start an autoimmune Paleo approach and see if we can get this thing going into remission which we've had historically really good success with.

I think that you could assume that wheat is definitely a factor; wheat, rye, oats, barley, millet - all that sort of stuff. I would probably put corn and rice in occasional category.

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First thing obviously is to get the vitiligo reversed and then I think the kid could probably get away with doing corn and rice occasionally and probably be okay, probably even tomatoes and be okay.

But it's a really good point that the way that the vitiligo comes on it's slow enough in both resolution and when it starts becoming active that you don't get an immediate feedback on this and we don't yet have good enough testing to be able to say okay this thing definitely causes gut irritation and leads into systemic inflammation.

You might be able to tract C-reactive protein as a baseline marker of inflammation but then I don't know that you what to be jabbing a needle on your 10 year old kid once a week to see the C-reactive protein levels.

I guess if I were to say anything in this it's that the foods that you were typically removing are not really that nutritious to start off with like the grains. Hopefully we're on board on that relative to fruits, vegetables, roots, tubers. Mat Lalonde is gonna have a talk available via the Ancestral Health Symposium website that really compares these things side by side looking at caloric content and nutrient content.

So it's not like the kid is gonna be missing something by largely forgoing grains. Same deal legumes, dairy - if the kid's not eating dairy he's probably not gonna have acne so I don't see a really bad downside to that.

Tomatoes are yummy particularly when you slice them and throw them to guacamole but the bulk of these things I just don't see that gnarly of an argument. If you can get the kid generally eating Paleo and you guys are eating Paleo and you can reverse the vitiligo I'm just not that sold that it's a big deal to reintroduce these stuff.

Unfortunately I'm afraid I'm gonna fail you in giving you a concrete answer in what you can do to know exactly which food is the causative factor in this other than an experimentation but I guess what I would fall back on is just say that the foods that we are shifting towards are better foods, more nutritious foods and the kid's probably gonna be healthier overall avoiding them anyway.

The little bit of tinkering that you can do with say like tomatoes and stuff like that like cooking them better tends to decrease the leptin content, the alphetometin and all that stuff. So that should help a significant theory but you're just gonna have to get in and play with and see.

I mean the first thing is really just can an autoimmune Paleo approach reverse the vitiligo. I'm pretty sure it can and if you do that and if you get good results, even if you don't get good results I'd really like to hear about that but unfortunately I don't have a concrete answer on how you could tackle that.

Greg Everett: All right. Fair enough.

Robb Wolf: Failure for question one.

Greg Everett: It's not failure but this instance here that kind of stands out to me is I don't want to eliminate any foods unless they absolutely cause problems for him. You said if he switches over to Paleo it's not like he's missing something from his diet that he needs.

By and large everything's gonna be more nutritious, more nutrient dense so I guess I don't see the resistance other than for the sake of convenience of just eliminating the stuff and then not worrying about it.

Robb Wolf: And to dog pile on that a little bit - the kid's got one -

Greg Everett: Go get them Robb.

Robb Wolf: He's already got one autoimmune disease. He's likelihood of developing type 1 diabetes is much higher. He's likelihood of developing multiple sclerosis and rheumatoid arthritis is much higher.

Once you have one autoimmune disease the likelihood of multiple autoimmune diseases is dramatically increased so I would just weigh that relative to what the perceived benefit is of consuming these foods which we already know that we can consume more nutrient dense varieties of food.

Hopefully that's helpful. If it's not then we'll chalk up question one as failure number one. So hopefully we don't have a string of failures here.

Greg Everett: It's not number one. We know that for sure.

Robb Wolf: I think it's number 147. Oh no 146. That's the number of this episode.

Greg Everett: There you go. All right. Acetyl glutathione – rocks or sucks? Ben says hi Grobb. Is that like what is it?

Robb Wolf: We've been amalgamated. Yeah. We're a chimeric organism.

Greg Everett: Awesome. I don't know what that is but it sounds sweet. Yep I've listened to every podcast, you guys are the greatest, etc. etc. etc. etc.

[0:10:00]

Short and sweet. Recently seen acetyl glutathione advertised as actually bioavailable and effective for oral supplementation. Searched pubmed/Dr. Google and ended up more confused rather than less.

Bottom line 1. Is this an effective way to supplement glutathione?
2. Is it even advisable to supplement glutathione at all, given the poor showing of other antioxidants in non-food form, or at levels beyond what's found in foods?

Go!

Robb Wolf: Good questions. Art De Vany has claimed that glutathione is a critical part of his anti-aging regimen. He's been using some sort of glutathione multi pack for ages like literally 20+ years, maybe longer than that - 30 years.

It's this guy Dimopoulos that developed it and they've got -

Greg Everett: Sounds like a bad guy from a Superman movie.

Robb Wolf: It does at the very least.

So the literature on whether or not you can get glutathione - glutathione is a small peptide and typically we break small proteins down and they're either single amino acids or maybe two amino acids in size that go through the guy lumen and they get restitched on the other side of the gut.

So historically people like say Mike Eads and Protein Power Life Plan - he simply recommended eating the co-factors that go into glutathione productions and some sulphur rich amino acids, generally high protein intake, selenium, alpha lipoic acid and stuff like that.

It basically provides the substrates for making glutathione and I think that that's a pretty good argument. I haven't seen a ton of literature still that really paints the glutathione supplements as being legitimately deliverable in the full format.

It seems a little bit murky, some of them seem to indicate this others don't. You've got the same form that's being used frequently so it's a little bit back and forth on that and even if it does deliver it it just raises some questions about how is it getting through.

Is it increasing intestinal permeability, you get stuff through? That's some interesting questions. Out of anything that you could potentially supplement glutathione might be an interesting one to do something with - all that stuff said we do not tend to see really great outcomes in supplementation with super high vitamin C doses and stuff like that.

But there had been some studies where critters like fruit flies end up producing super high levels of superoxide dismutase which is

another antioxidant enzyme system that play synergy with glutathione.

It might be beneficial to supplement with this. Art De Vany claims that it helped reverse some of his gray hair. He really feel like it reversed all his aging but Greg I'm feeling like it might be a little bit almost failure number two on this. I can't give a concrete answer.

Greg Everett: Well I doubt. I think that's fair cuz the reality is this stuff you can't give a concrete answer. It's not a yes or no sort of question, something that's been proven one way or the other.

Robb Wolf: I think that we could really easily get behind the idea that eating a protein rich diet, getting plenty of sulphur-rich amino acids, methionine and stuff like to help support glutathione production and then also the other co-factors that are involved in production in selenium and all that stuff.

Maybe using milk thistle extract is an adjunct to promote glutathione production. I think all that stuff is totally legit. I think that we could grab some articles that shows some improvements in oxidation state because of propping up the glutathione production.

These other questions are good but I don't see enough literature one why or the other to really hang my hat on them but the second question is a good one like does it even seem advisable to supplement glutathione. Like out of the mix of stuff that you could supplement I could maybe make a strong argument for glutathione or if we could ever get a legit delivery system for superoxide dismutase. That can be one that might legitimately forestall aging and show some benefit.

Greg Everett: All right. Coconut oil not optimal for absorption of plant nutrients?

Gwarm says - as this is just a weird one. I'm gonna warn everybody beforehand. If I sound like a complete moron while I'm reading this it's only partly my fault. And there can be benefits to eating fat with carotenoid rich foods like sweet potato. [Link here.](#)

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Just jumping right in. I believe it takes only 8-12g total fat for the most carotene absorption, and 40g is required for proper lutein absorption. And coconut fat is probably not ideal fat for proper carotenoid absorption because "It was postulated that carotenoids are kept in the enterocyte and not released until long-chain fatty acids from a subsequent meal enable carotene packaging into chylomicrons. No secretion of chylomicrons was observed after consumption of a medium-chain fatty acid-containing meal."

And then there's a link to whatever it was that quote came from.

The subject line is a question in a sense that it ends with a question mark but there isn't really a question in this.

Robb Wolf: It's like you're coming in in the middle of a statement.

Greg Everett: It's like I wandered into someone's meth bender.

Robb Wolf: Which could be fun.

Greg Everett: He took a break from taking apart the TV to go do some searches.

[Cross-talk]

Robb's gonna tackle this one for you.

Robb Wolf: What about carotenoids? One thing to keep in mind with this is that even though medium chain triglycerides are not transported via chylomicrons they do absorb fat soluble vitamins, fat soluble nutrients and then these medium chain triglycerides are trucked around the body via the albumin.

They associate with the blood albumin and get delivered to the cells and get metabolized and so I can't imagine that they wouldn't deliver these things to the tissues in the body. So I don't see any type of a need for just simply having chylomicron delivery, be the sole means that you can chip this stuff around.

Butter's butyric acid is a short chain saturated fat and you tend to get a ton of betacarotene and mixed carotenoids delivered with butter which also has some longer chain saturated fats but you seem to get some really solid carotenoid delivery with that stuff.

It seems as wacky a proposition as the question was wacky. So how about that. I would venture that the delivery of carotenoids is just fine as well as other fat soluble constituents so I don't see any problem with that.

Greg Everett: All right. Well I don't understand the question. I didn't particularly understand the answer so I'm gonna continue to not worry about whatever the hell it was you guys are just talking about.

Robb Wolf: Perfect.

Greg Everett: I'm definitely not losing sleep over that. All right.

Misconception about all oil? Matt From Brooklyn says thanks for making my time on the subway so much more pleasant. It's fun to be the only person, or at least I think, not playing fucking video games or listening to music really loudly and actually doing something with my time.

Guaranteed everyone else on that train is thinking the same thing about everyone. Look at all these assholes.

In 'Super Immunity' by Dr. Joel Furman, he has a section entitled misconception about olive oil. I will keep the quote short, but he essentially says ALL oil fats are bad - coconut, olive oil, macadamia, etc.

I quote When you consume oil, any type of oil, there are no fat binding fibers remaining from the original oil source, that means all the calories are absorbed rapidly and stored away as body fat within minutes. He also calls all oils processed and says that when you extract the oil, you lose the vast majority of micronutrients and are left with 'empty calories.'

Thoughts?

Robb Wolf: Joel Furman one is really prominent in the whole vegan avenger scene and so I'm just not a big fan of the dude to start off with. Is it true that fats are going to enter your system more quickly because they're not of whole food?

Yeah. The processing is going to change that. You lose some of the nutrients when you eat macadamia nut oil versus eating macadamia nuts. Yes. That seems pretty straight forward but if

we're talking about having some salad dressing or something like that.

I really don't see that as being all that big of a problem. These guys are for me in the complete lunatic fringe where they're pushing a Puritican type thing where they're recommending less than 10% fat in your diet. They are fucking nuts in my humble opinion and this is said -

Greg Everett: Well you can't help it. They're brains aren't growing.

[Cross-talk]

Robb Wolf: Not functioning yeah.

Greg Everett: Cuz they have no fucking fat in their diet.

Robb Wolf: Yeah exactly. It's accurate in the yeah it's gonna enter more quickly in this whole thing. There was a study god maybe three or four months ago. It was published in a big UK newspaper picked it up and ran the thing around and it was shocking.

When you eat fatty meal it's stored in your hips almost immediately. It's just so ridiculous and I wish I can use a different word that starts with an r and ends with a d but whenever we do we get in trouble and so I won't use it.

Greg Everett: Red?

Robb Wolf: Yeah red.

[0:20:27]

So red. It's so bloody red. It's like the safe word. So red will now be our safe word for an unspeakable word which always sends some people into a blind panic when we use it.

Greg Everett: Yes. With all of our malicious intent.

Robb Wolf: Yes with all the malicious intent there implied.

So a study basically was saying you eat food, it has fat in it, it gets stored in your waist immediately and they did some radioisotopic

labelling of some foods so that they could track where this fat ended up on your body.

Well no fucking shit Sherlock. When you eat food it needs to get stored. If it's just running around in your circulation then it's going to cause oxidized LDL particles and then piss off the immune system - do all kinds of other stuff.

So we store nutrients after we eat it and fat typically gets stored both as triacylglycerols in the muscle and also triacylglycerols in the adipose tissue and depending on what your insulin sensitivity is, depending on what your work output was then you're going to either partition it into your muscle or into your fat.

But if you store some fat in your fat cells it's not the end of the world. We have a dynamic process that goes on where the fats that we pull in via the diet today are replacing the fats that are exiting our fat cells today and our muscle cells.

So that is just kind of a ridiculous statement like it's kind of a loss of understanding of the dynamicism of our tissues turning over and all that sort of stuff. It's just this weird unsophisticated scaremongering. Do you lose some nutrients from processing oil?

Yeah you do but typically we're not recommending that people are just upending olive oil canisters and if people are doing that they're typically on a ketogenic diet which is completely safe and not a big deal and interestingly they don't balloon up, become enormously fat or inflamed or anything.

The interesting thing and this is the stuff that what such an interesting feature of the ketogenic diet is that you're awashed in fats and ketone bodies but you're systemic inflammatory markers all completely plummet.

So this is where the firming diet - I'm really trying to play nice. I'm trying to create actually some community shall we say with some people in the vegan scene so that it's not like an us versus them kind of gig. Let's look at sustainable agriculture and agree on the points that we can agree on and all that.

This thing from Furman is pretty uneducated and not very sophisticated and largely wrong other than the point about if you

ate whole macadamia nuts then on a calorie per calorie base that you can probably get more vitamins, minerals and stuff like that relative to just eating oil that was pressed out of macadamia nuts.

Greg Everett: Cool. All right.

Robb Wolf: That one got me fired up.

Greg Everett: That one got you pretty fired up. I like it. You did some energy on this one. Unfortunately it's usually negative energy. All right. I can't really read the subject line and have it make sense but you'll get it once I read the whole thing.

"Tick"-ing Meat Bomb. Mike says hey Robb, Greg & Squatchy faithful listener to the podcast here since the beginning. I would say religious, but that would imply I only listen once per week and there's some sort of emoticon in there.

Since you guys did such an awesome job answering my MMA training question back on 123, I figured I would pick your brains on a current news nugget – the recent upsurge in tick-vectored alpha-galactose allergy which causes anaphylaxis approximately 6 hours after eating non-primate meat not that I really want to eat primate meat.

Given that grass-fed ruminants and pastured pork - bacon makes the world go round - play such a huge role in most successful Paleo templates, how would you adjust recommendations provided most mammals were no longer an option on the table? Up the chicken? What about omega-6s, move to predominately pescetarian fare, start a primate meat importation black market?

I'm aware this is a very isolated potential, but from an intellectual perspective I'm intrigued, after a vegetarian fiend, I mean friend, of mine joked of putting an end to factory farming operations by you guessed it, factory farming these ticks and causing a wide-spread release. Damned vegetarian inclusion conspiracy strikes again.

Thanks again and hopefully you can give some good insight into the matter. Here's a link to an article on the matter, in case you guys aren't familiar with it yet.

[0:25:10]

Robb Wolf: Man maybe I shouldn't make friends with the vegans. They're such dicks.

Mike I think you kind of hit it. If you were to be one of the unfortunate folks that had a tick bite and developed this allergy you would probably need to shift to these protein sources that are not problematic. You could dig into emu and some other stuff like that. They would broaden up the fair.

I'd be interested to know if you couldn't do some - not immunotherapy but the immune desensitization therapy. Like people who have peanut allergies and different stuff like that the immunologist will give you a little micro doses of this stuff that helps to down regulate the over activity of the immune system with regards to that allergen.

So I would potentially look into that if there's any immunotherapy in that direction and then you're pretty spot on on what you would need to do dietarily. You're just gonna focus on the things with the face and a soul that isn't going to give you anaphylaxis.

Greg Everett: It seems like a good plan.

Robb Wolf: It seems like a smart plan. That or just keep an epi pen around with every meal.

Greg Everett: There you go.

Robb Wolf: You'll have 6 minutes of bliss with your piece of bacon and then hope that you can plunge that pen into your leg before you pass out.

Greg Everett: Yes. All right.

Supplementing to curb carb cravings per Primal Body Primal Mind. Sage says hey Robb, what is your take on the supplementation discussed in 'Primal Body Primal Mind' in reference to reducing carb/sugar cravings? Supplementing your way through a shitty diet is clearly not the way to go, but perhaps something to facilitate the transition off sugar and getting over the sugar addiction to fully adopt a Paleo way of eating.

Thanks for your time.

Robb Wolf: There's some solid recommendations there and it usually focuses on chromium, alpha lipoic acid, EFAs, fish oil, maybe the use of cinnamon. The supplements will definitely help but this is a little bit of a weighted out kind of scenario where you've got a way for the body to kick over to a little bit more fat mobilization way for your palate to change a little bit so that non sugary foods, non processed foods are actually just tastier and you can hang with that.

You've got both legitimate blood sugar cravings but I think also people have a hypo palatability when they're coming off of refined foods but Primal Body Primal Mind is a super solid book. I differ a little bit on the just fully ketogenic recommendations. I kind of like a cyclic ketogenic approach.

But I think the recommendations on the supplements to deal with the sugar cravings again chromium, alpha lipoic acids, cinnamon extracts - all those things are really solid for helping with that and honestly doing a little more coffee. We don't like to really hammer the adrenals and do all that stuff but when you're feeling a little flat and a little low energy and not firing in all cylinders you could do a little more espresso and that will help get you through stuff.

It's kind of trading one crack cooler for another but I think the coffee is a little more benign.

Greg Everett: Cool. That works for me. All right.

Neil says I've love to here more about your average days, what you eat and what you do. Mark Sisson did an interesting post on a week in his life and I found Robb's comments in sleep deprived podcast #131 where he mentioned that he splits his work day to spend more time outside.

Cheers, Neil. Currently enjoying the amazing Argentinian parrilla's!

Robb Wolf: Nice.

Greg Everett: All these questions are very odd to me today. It's like a bunch of weird sentence fragments and stuff or am I just an idiot.

Robb Wolf: I agree. It's a quirky bunch today.

Greg Everett: It's like a very disjointed and incoherent and just bizarre.

Robb Wolf: Maybe Squatchy got a hold of some bad mushrooms when were at dinner at Boston or something.

Greg Everett: Did I do something to piss you off Squatchy cuz I'm sorry. I didn't mean it.

Robb Wolf: Do not anger the Squatch. So what was the question again? Oh the average week.

Greg Everett: A week in the life.

Robb Wolf: Before the baby arrived because now that Zoey's here I wouldn't know that we really have an average day. I don't know that we will until she gets to be maybe 3, 4, 5 something like that where we get into a little bit more of a routine.

She's sleeping through the night now but she's starting to teeth so now that she's starting to quasi sleep through the night she's also teething so that adds up to stuff. But everything gets so broken up around like diaper changes and travel and I've been doing more stuff with Specialty Health and the local scene here that my life is so randomized right now and it's interesting.

[0:30:29]

If you get into the Myers Briggs personality stuff I'm an ENTP which is -

Greg Everett: Ear, nose, throat practitioner.

Robb Wolf: Yeah but it tends to be a really inquisitive type and really loosey goosey spastic and everything but the one thing that I do like that I'm a little bit different on the ENTP scale is that I like a little bit of regimentation in my day. I really enjoy getting up and making some coffee and cooking breakfast for my wife and sitting down and doing some work and then going to jits.

I like a little bit of regimentation in that way. I like being able to break stuff up within the day and do different things but it's interesting the current schedule that I'm on with the amount of

travel again and stuff popping up. I just got pinged someone out of the blue to do two days with four lectures each day for the Reno Police Department.

And those things I enjoy it but it's really stressful for me and it's interesting. It's kind of tough. If I had my dreaders I would have a little bit more regiment in that I could knock out some work, I like to get some work done early and then I'm free to play and do a little bit of stuff and so it's really hard to describe a program right now.

I was just getting ready to go lift some weights and then Greg texted me and he's like hey dude when are we doing the podcast and I was like mother of god. So it's hard. I really don't have a standard gig right now other than Nikki typically feeds Zoey through the earlier part of the night and then about 4am she throws Zoey back in bed with us.

We put Zoey down in her crib in the room next door in the evening and then Zoey usually starts waking around 5:30 or 6 and then I grab Zoey and take care of her for the rest of the morning, do some work, fix breakfast around 8am or so, 8:30, 9am. Nikki gets up and she's often running with her skilled athlete stuff. I'm taking care of Zoey and then we just trade off back and forth with the kid through the day assuming that I'm home.

Then I usually try to train at noon but it rarely happens and if I don't train at noon then I might get something in around 4 or 5 o'clock but that stuff is really randomized and I've been bouncing around on what to do just because everything is so randomized and I literally have gone back to just three sets of anywhere from 10 to 15 of back squat, dead lift, press, dips, chins, bench press and then I'll do stuff like that like three days a week.

And then I do some ring work a couple of other days a week and I do some intervals if I'm kind of sore and beat up from doing the other stuff. I just look back on my training and I've been really in that low rep scheme for over a year and so just to switch things up for 6 weeks I'm doing a higher rep almost body builder type rep scheme.

I'm able to do really do short rest periods on that, get my pump on and then get out the gym because I'm trying to get the whole warm up, work out, cool down done in like 30-35 minutes which

again is not really my optimum. I like to have a good hour, an hour and 15 minutes. I really thoroughly warm up and then play around and do some stuff and then cool down and stretch and all that.

Most of it is going out the window and even my stuff where I would try to do some L sits and hand stand push ups during the day when I'm playing around with Zoey and changing diapers and all that it goes out the window.

So that was probably an incredibly ungratifying answer to that question but that's what I've got going on right now.

Greg Everett:

Yeah I basically - what I do is I come to work everyday and I add stuff to my to do list and that's pretty much what my entire life amounts to right now. Monday through Thursday I'll be here between 8 and 9 try to get a good couple of hours work done while it's relatively quiet in the gym cuz the last class is out of here at about 7.

Then about 11 o'clock I usually train and I usually get a few people training at that time along with me so I'm kind of training and coaching at the same time which is always a joy and then I generally try to get that wrapped up as quickly as possible which usually means 2 and a half to three hours the way things go right now.

And then pretty much get back on the computer and try to catch up with all the stuff that I missed over the last couple of hours and catch up on that to do list or add more things and then 4 o'clock weight lifting team comes in, coach those guys. Usually I'm here with them until at least 6:30 or 7 kind of depending on what's going on and how far behind I am on certain things or whatever's come up during the day I might be here until 8 or 8:30.

[0:35:48]

So I usually put in pretty long days here. Friday is kind of my off day in a sense cuz I don't train in that the weight lifters don't come in usually so I pretty much have the whole day to do work. So that's my day where I post all the week's next workouts on the website, I set up my newsletter to go out on Monday, dick around on Facebook try to post up some pictures that I haven't done all week, write everybody's programs for the next week, trying to figure out what's going on with everyone's program plans.

Writing about 10 different programs right now and everybody's doing completely different things so that can be very time consuming and then some Fridays I get out of here but usually we do the podcast Friday so like this Friday. I'll wrap this thing up, get it all set to go on interwebs and then try to get out of here, try to catch up on some couch sitting for a few minutes and then Saturdays is usually a big crazy day in here.

Getting here an hour or so before the team trains and I usually get a little computer work done or help out with the weight lifting class or just keep an eye and make sure everything's going according to plan and then jump in with team at 11 and train again and then I'm usually out of here by 3 or so try to go home and not do anything although that doesn't always work.

So sometimes I'm in here 6 or 7 days a week all day long. It's fun but I do it for you guys.

Robb Wolf: Do it for Johnny.

Greg Everett: I don't know. It's not very exciting. It's kind of funny I think people come to us for health and lifestyle recommendations and we probably don't have the most healthy lifestyles simply because of the way the circumstances are.

Robb Wolf: Running a gym was pretty rough on my health.

Greg Everett: The gym is the easy part. I don't really have to worry about that. I got employees to do that kind of stuff. It's every other thing. We get who knows? Three to four hundred emails a day, phones usually ringing off the hook especially on the couple of hours a day that I happen to be here by myself but I try not to answer it.

So there's always too much going on which is why I'm so slow about getting these unspecified projects out that have also been in my to do list for the last several years. So it's amazing how quickly times go by.

Robb Wolf: Indeed.

Greg Everett: Okay. Let's see here.

Exercise Intensity – Ponce De Leon gene shifting fountain of youth. Ponce says Robb and Greg you've often suggested less is more when it comes to exercise. That is, running marathons, overdone cross-fit may actually reduce longevity and damage health over long term.

This NY times article suggest that intense exercise “may activate a muscle stem cell called a satellite cell. With the infusion of these squeaky-clean cells into the system, the mitochondria seem to rejuvenate. The phenomenon has been called gene shifting. Could long term intensive exercise be the elusive fountain of youth Ponce De Leon sought? And there's a link to the article.

5 11 went from 187 to 165 lbs and 8 percent body fat at 52 thanks to your book/podcast along with cross-fit. Eliminated doctor recommended daily Prilosec and for the first time, learned to enjoy cooking. I feel conflicted with cross-fit where I think the 5-6 day a week beat downs might cause gene shifting new cells fending off age or is more likely that intense exercise will increase cortisol and inflammation accelerating aging?

Thank you. Ponce.

You get what that last sentence. I'm sure.

Robb Wolf:

Indeed. It's a great section. When we look at the way that folks age people who are doing explosive power type activity like shot putters it's interesting in the O lifting scene. I think that there's enough orthopaedic challenge there like on the knees and Greg correct me if I'm wrong with this but I think that we see enough orthopaedic wear and tear on folks that when they do O lifting at a pretty high level it's difficult to really maintain that throughout life.

[0:40:28]

I mean some people do but what do you think about that?

Greg Everett:

I don't know that I would chalk it up to the orthopaedic wear and tear because honestly it's not - I mean yeah there's definitely some involved and it varies quiet a bit depending on each person's natural resilience but also how well they take care of themselves but I think it's more to do with just the declining ability to recover from those nasty workouts.

When you're 50 years old and you get the testosterone levels of an 8 year old girl you can't squat and pull and snatch and clean and jerk as heavy as you want every single day anymore. It's just not gonna work. I don't know. I don't know that it's an orthopaedic thing. I think it's more just a general lack of ability to recover.

Robb Wolf:

Right. Power athletes in my opinion tend to age better than endurance athletes in general and part of that is just we tend to - one of the characteristics of aging is a loss of max power production, a loss of muscle mass and this is stuff that goes around and around the inter webs.

It's like are we genetically adapted to be runners or is endurance activity beneficial and all that but the reality is really high level endurance activity causes a loss of muscle mass because your body does not want you to carry more muscle mass around than is necessary to be able to do the endurance type activity and so I've always had a bias more towards a body building type approach, a power athletics type approach because I like the hormonal changes that happen.

I like the fact that you carry more muscle, you carry more bone density and all that sort of stuff. With regards to crossfit obviously there's been all kinds of drama with those guys and all the rest of this stuff. I've always really loved the concept of brined intense exercise.

I've loved these couplets and triplets like Fran or Diane or something like that for the appropriate person and using the appropriate movement in a progression scale, appropriate loading - all the rest of that stuff and I think some sort of a balance between some great resistance type activity which is gonna develop muscle mass and stimulates these satellite cells, some sort of power focused activity which is gonna help the neurological functioning and the right coating of muscles and what not, shot putting, bounding, box jumps and not high volume repetitious box jumps but jumping high up on to a box or like doing broad jumps and stuff like that.

I would even argue that heavy bag work that is done more in a power burst kind of format where you throw a single kick or like two punch combination or something and then a little bit of rest

in between so it's not so much metabolic work but kind of high intensity rate of force development work I think that that stuff is all solid.

I think some sort of a combination of that - a little bit of body building, a little bit of power generation and then a little bit of metabolic conditioning because a key feature of the aging and they talk about it - it's actually a very good article. They talk about maintaining mitochondrial plasticity, the ability for your mitochondria to use a variety of fuel substrates and I think I've mentioned a paper again and again and again Secrets of a Lac Operon and it talks about the main distinction in the way that cells look either youthful or when they start to age as to transition from the ability to use fat as a primary fuel to only carbohydrate.

It's interesting because cancer preferentially uses glucose as a fuel substrate because the burn out or the blow out of the mitochondrial function so I think all that stuff is really really interesting and for whatever reason I think that you can also track back if we look at athletes that are aging very well or people that are generally aging very well they tend to have what a comparatively youthful hormonal profile.

So with men they're generally going to have higher testosterone and lower estrogen levels. They're still gonna be releasing good amounts of growth hormone relative to other people in their age cohort.

[0:45:08]

The other people who have poorer hormonal profile they tend to look older and feel older and all that. Same story for women. So I think that there's a lot of stuff depending on your own genetic bag of tricks that you were born with you've got some propensity one way or the other.

They either age well or not age so well and then from there the type of training in nutrition that we picked these epigenetic inputs I think can be really really powerful in reversing age related decline and I think some smart metabolic training which would be brief but intense and really fires the mitochondria and then doing a good bit of low level activity to kind of work in that aerobic pathway but in a way that's not depleting muscle mass and then

doing pretty much anything you can by hook or by crook to gain and maintain muscle mass as you age and power and strength.

That all seems legit and I think we want to do as much of that as we can on our own and I think that the next 10, 20 years we're gonna see much more and much better use of bio identical hormone replacements, using DHEA and Arimidex in men to prop up testosterone function and what not.

I think that you're gonna find greater use of that. We're gonna see a lot of benefit in that scene so you want to maintain the hormonal profile, you want to maintain the mitochondrial flexibility and then you want to put in enough of a training stimulus that you forestall aging but not so much that it becomes deleterious to health.

I don't know that we have a concrete answer on how much that is. I do think that those early iterations of cross fit and particularly the stuff that Michael Rutherford developed like the Max Effort black box type stuff - that's right in that wheel house. It's challenging but not going to completely destroy you and progressive over load, shifting of movements that you use so that you don't end up with orthopaedic issues and everything. I think that's all solid.

Greg Everett: Yeah and I think we had a good discussion about that with Rutherford in whatever podcast episode that he joined us on. So that would be worth checking out.

All right. You ready for this last one?

Robb Wolf: Sure. Let's mTOR it.

Greg Everett: Big Phat Eater says simple question with no long involved back story telling you two how awesome you already know you are or in addition how you've saved yet another previously miserable human being's life.

Robb Wolf: I'm glad we've passed on all that stuff.

Greg Everett: That's dramatic.

I use USP Modern branch chain amino acids in conjunction with fasted training and cyclical ketogenic dieting, and USP makes a

claim that their branch chain amino acids mix targets mTOR. Is upregulation of the mTOR pathway a bad thing from a longevity or cancer viewpoint?

Many thanks and well wishes for your continued successes. As well I can only dream that Greg enjoys my structured concise question and linguistics enough that he waxes ecstatic about them on the podcast. That would be the bees knees.

Thanks. Big Phat Eater.

Sorry man. It's not gonna happen. First of all you missed an apostrophe in bees' knees.

Robb Wolf: Oh dude. Crusher man.

Greg Everett: And you had an apostrophe in branch chain amino acids BCAAs but it's not a possessive.

Robb Wolf: Dude you're a harsh mistress man.

Greg Everett: Well you know I just -

Robb Wolf: High standards. How did you start ever working with me given your standards.

Greg Everett: I don't know. We make a good pair.

Robb Wolf: I guess so. I'm the complete slap dick and you are actually the one that know things and get things done. So I guess it is -

Greg Everett: I'm the Loren to your Greg.

Robb Wolf: Gregy I love you kid. Bah. Oh man. That'll never get old.

Greg Everett: Nop.

Robb Wolf: So back to the question at hand. I think when we had Mat Lalonde on he actually commented on this and there's been a lot of back and forth about signalling on the mTOR pathway and I think that mTOR is one of many elements of cellular aging and gene expression.

The SIRT1 gene family is also a really important one and it's I guess a counter regulatory gene family. Typically it's fired up during ketosis or protein scarcity.

The thing about all these stuff from a longevity standpoint it's pretty clear from the work that Michael Rose has done. He's a professor of I think evolutionary genetics at UC Irvine. I forget exactly what he's title is but he's an aging expert and he did a pretty nice analysis of aging and looking at genetic reaction norms and the trade off between early energetic input into offspring and how that could translate into either a caloric restriction being beneficial with regards to increasing life span or not.

[0:50:22]

And the way that humans are wired up, we wouldn't expect calorie restriction to be beneficial for us. There's other critters that we wouldn't expect calorie restriction to be beneficial and in fact when we calorie restrict these animals we don't see the benefit that we would like to see.

So there's all that stuff and so a lot of the thoughts about calorie restriction, intermittent fasting and all that being a factor in really pushing out the longevity of human beings fortunately or unfortunately I don't think any of that is going to work.

So what we're left with then is just what kind of whatever genetic time clock that we have ticking and I think the biggest factor in that is avoiding systemic inflammatory issues that are going to cause some sort of morbidity or mortality very much earlier like we're hearing more about avoiding metabolic arrangements, infectious disease, bareback sex in the mission district.

All those things are probably gonna go much longer towards influencing your longevity than worrying too much about the branch chain amino acid mix tying into either cancer or mTOR intermediated aging. If we were a different type of critter like fruit flies or mice or something like that then this might be a different story.

But the way that human beings work - if you guys check out Michael Rose's work, if you do some googling on genetic reaction norms and stuff like that I think after we get done with this politics book I'm gonna do kind of an anti aging book. I'm kicking

the idea around although I probably want to suck on the end of a gun doing it.

But I think there's some good stuff in this but if you want to look at genetic reaction norms as it's related to mTOR signaling and the longevity I think that it makes a pretty strong case that you could eat really low carb and that's gonna help some of this. You could try to modulate protein intake but then one of the things that we see as a defining element of people living longer is that they tend to eat more protein.

Long-lived individuals like we just had this topic of the aging athletes, people do better athletically at older ages tend to on average they're eating more protein. So that's an interesting thing that would seem to fly in the face of this mTOR pathway.

Greg Everett: Yeah in your face mTOR. I have nothing to add at all.

Robb Wolf: Cool man. I'm a very little to add so very little plus nothing is still pretty good I guess.

Greg Everett: Yeah. Why not? I feel good about that one.

Robb Wolf: Sweet.

Greg Everett: It's never anywhere near as bad as I think it's gonna be.

Robb Wolf: The podcast itself or - ?

Greg Everett: But I do have very low expectations so I suppose that's not saying a lot.

Robb Wolf: Well our listeners I suspect have pretty low expectations too.

Greg Everett: Then they could always be pleasantly surprised.

Robb Wolf: That's true.

Greg Everett: Nowhere to go but up.

Robb Wolf: Truth.

Greg Everett: All right. So anything else you need to let those dear listeners know before we go.

Robb Wolf: I don't think so. Pretty squared up. Nothing to tell them. We're good.

Greg Everett: All right. Let's see. Let's plan to come back next week with some fantastic information and energy. I haven't looked at the questions though. They may be bad. They may not allow us to do a good podcast. It may be entirely the listeners' fault.

Robb Wolf: See I think Squatchy is trying to ruin this thing. I don't know. I think he plays with us. It's like one or two podcasts that are really good and then a wacky syntax podcast that he's like I'm gonna trip them up.

Greg Everett: He's some kind of artist.

Robb Wolf: He's a demon Squatch.

Greg Everett: I'm not sure which kind yet but he's an artist.

Robb Wolf: Yeah what is the artist who triages emails and then puts them together in wacky combinations that trip up the podcast-ers.

Greg Everett: I don't know. He is his own man.

Robb Wolf: His own Squatch. Well cool. Okay. Now that everybody has signed off their RSS feed so that they never get this thing again. I guess we'll go.

Greg Everett: I assume that everyone's done listening by this part of the show and we kind of wrap up the last question I figured they'd all stop it so I pretty much don't worry about what we say now.

[0:55:05]

Robb Wolf: It's like the hidden track on a Nirvana album or something like that.

Greg Everett: Let's just let this thing run for 14 minutes. We'll call back. All right.

Robb Wolf: All right man. Thank you for everything.

Greg Everett: Don't try to listen for the next 14 minutes.

Robb Wolf: Glad to have you back. Flying solo was not much fun so glad we're back at it.

Greg Everett: I don't think it was a remarkable impression of you a few weeks prior saying that you will eventually have to do this thing alone.

Robb Wolf: Once you throw the kid with everything else and travelling then it could be a deal breaker but hopefully we're back on track we'll be able to make it work.

Greg Everett: We'll do it.

Robb Wolf: Sweet dude. Thank so much, will talk to you soon.

Greg Everett: All right see you.

Robb Wolf: Later.

[0:55:49] End of Audio