

Paleo Solution - 163

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Robb Wolf: Okay, with a few misfires, we are here. Episode 163, the Paleo Solution podcast. Greg Everett, what's going on, man?

Greg Everett: Just trying to figure out how this podcast works. It's only been, what?

Robb Wolf: About a hundred episodes.

Greg Everett: 100 episodes for me. I'm still working out the kinks.

Robb Wolf: Me too. What's new and exciting?

Greg Everett: I don't think I have anything amazing to announce but Bob Takano's book is out and of course, our ebook of programs is out. "Olympic Weightlifting for Sports" is now available on Kindle and as a pdf ebook and Takano's book is available in both those formats as well. So all you digital people who've been humping our knees for a Kindle version, there you go.

Robb Wolf: Nice. I don't know if that's good, though. I mean, now, will they continue to hump your knee?

Greg Everett: The funny thing is, I think the first response on Facebook that I got after I posted that Takano's book was available at Kindle was, "How about for iBooks?" Really, it is exactly what I thought and you just can't win. But the good thing is that Kindle now has a software so you can read Kindle books on your iPad. There you go. It's been done for you. I'm not making an iBook.

Robb Wolf: Sweet. Anything else?

Greg Everett: What's going on over there?

Robb Wolf: Not too much, though, whether Reno is actually wretched.

Greg Everett: It's pretty bad here right now.

Robb Wolf: We've had about five days in a row of virtually no sun and similar to when I was in both in Chico it would do this and in Seattle and it would do this. I'm scratching at the walls.

Greg Everett: Don't do it.

Robb Wolf: I think I might need three times a week, five minutes in a tanning booth or something like that.

Greg Everett: Five minutes? That's not gonna get you golden.

Robb Wolf: I'm not shooting for Jersey Shore. I just need a little bit of dopamine in my brains so I don't kill myself.

Greg Everett: Alright. Fair enough.

Robb Wolf: What else? That's about it. We had the PaleoLogix launch or the soft launch. We do the full-on launch in January. That went pretty well.

Greg Everett: What has the response been so far with people liking it.

Robb Wolf: It's been pretty well as usual whenever we release any type of an optional product on a free website, free podcast. There are few people bitching and moaning. I had one great email that was basically like, "Wow. Look at Mr. Sales," and I was like, okay. In our last 50 newsletters, there's been 10 that was pimping some sort of a product and the rest of it is kind of informational.

Similar to your iBook story, I've come to the conclusion that no matter what we do, even when we've just released some free things like the flowcharts, people complained about that.

Greg Everett: Yeah, we get that, too. We got a guy on Twitter, "You guys have gotten pretty business savvy. Too bad I signed up for this to get some information on weightlifting." It's like I apologize for five years of free content on the website, we throw a little link into a product every now and then that you're not forced to buy it. Also, Twitter's probably not the best place to get information on weightlifting or anything other than links to other stuff.

Robb Wolf: 140 characters is plenty to explain complex processes. It's fine.

Greg Everett: He wanted to get a 100-kilo snatch. I guess I completely failed him by not typing out the instructions to that in 140-characters so my apologies for failing you completely.

Robb Wolf: 100 kilos on bar snatch? You're under the limit, dude.

Greg Everett: Or get off of Twitter and go to the gym.

Robb Wolf: Yeah, that might be a thought too. As further shoe-horning ruthless sales bitches down people's throat, the show sponsors Evolve Foods,

go to evolvefoods.com. Our affiliate software's still broken so I can't even give you a discount code.

Greg Everett: Well it is paleolithic so this technology is well-beyond you.

Robb Wolf: See, the story with Evolve Foods is that I'm actually involved with it. That's why it's always broken. There's something wrong with it. Unlike our other show sponsor, which is frontdeskhq.com, I have no direct contact with those people. Their stuff actually works.

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Robb Wolf: [frontdeskhq](https://frontdeskhq.com) is a platform that if you wanna cross a gym or similar surface-based business, you can save time and money with [frontdesk](https://frontdeskhq.com) new point of service mobile app. You can automate payment schedule, appointments, take class attendance, manage digital documents and record photos, video and key metrics about your clients, all from your mobile device. Dude, what more could you ask for? Go to frontdeskhq.com. Check it out.

Greg Everett: It's pretty awesome.

Robb Wolf: Amazing. So Greg and I, the past two weeks we keep opening up the podcast queue to take a whack at this stuff for the amazing questions that Squatchy has put together for us. We consistently keep pulling open the different background. So I prepped on this. Greg did a little prep on it. There's one question in particular that his expertise will be critical in discerning the appropriate answers.

Greg Everett: Would that be the Earthing Mat one?

Robb Wolf: Yes. Greg's like "I like laying down. That sounds awesome."

Greg Everett: I like laying down on the Earth. Okay. Well let's start with a really important one here about 3D printed meat.

Jacob says, "I'm very interested in your thoughts on this." That's the whole question. So there is a link to an article about 3D printed meat.

Robb Wolf: If you read the article, it's actually pretty interesting. Some dude who's a billionaire floated these guys like half-million dollars to research, taking 3D printer technology. Really interesting stuff. They've been using this technology and tissue culture as a means of creating artificial organs.

Greg Everett: Isn't this what they did in Dark Man?

Robb Wolf: Yes.

Greg Everett: Finally.

Robb Wolf: Comic books come to life. It's a really cool idea. Anybody that suffers liver failure, heart failure, pancreas damage from a car accident or something like that, there's a potential with this tissue culture technology and 3D printer technology that we could replace these organs. Could be totally amazing. Could save a lot of lives. Maybe it might shut down the black market theft of organs from people when they drank a roofie or something like that and they wake up minus a kidney.

You've got this cool element to this idea and then you've got this wacky element to the idea, which is that we're going to somehow replace meat production by culturing meat in a petri dish and then using a 3D printer to grow a York steak out of this thing.

Greg Everett: Wait would that then be vegan steak?

Robb Wolf: I don't know because it's still meat but nothing necessarily died to make it because it's just tissue culture other than extracting some cells from a cow or so.

Greg Everett: That's just like your baby getting shots.

Robb Wolf: Yeah, totally. Although people are freaked about vaccinations.

Greg Everett: That's true. Maybe not a good analogy there.

Robb Wolf: The problem with this thing, I throw the whole meat-grown in a lab right next to the bioethanol thing. It's just goofy because when you think about sustainability – and I digress. I'm sorry. I know people get panty-bunched when I talk about economics and stuff like that, that's why I moved all of that stuff over to the I Can Fix America website and the Controversial Truth podcast. But it kind of dovetails into this.

So people who don't wanna know about the full economics and sustainability of your food, just run to the bathroom real quick and then come back. We'll be talking about long-term melatonin use by then. But in the meantime, what we're looking at here is a solution that actually requires far more energy input than what we do from a grass-fed meat scenario.

There's a remarkable amount of buzz and money that's going into all this stuff and it's just kind of ridiculous because when you look at the thermodynamics of the whole thing, you need to pump in enormous

amount of energy into a lab setting to culture tissue versus if a cow is wandering over hill and dale and just eating grass.

I think the photosynthetic efficiency of sunlight converted into cellulose or glucose is something like 40% or something like that and then you get whatever efficiencies the cow has in converting that into cow-ness, it's a whole lot better than the lab-based deal. I haven't been able to crunch some specific numbers but it's just kind of goofy the way that the bioethanol story is goofy.

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Robb Wolf: You need to put more money into ethanol production than what you get out with regards to an energy source.

Greg Everett: It seems like those are the kind of fundamental issues that would be worked out before people dove headfirst into this kind of industry.

Robb Wolf: Obviously most people do not make a lot of decisions based off of like logic and facts.

Greg Everett: Get out of town.

Robb Wolf: Yeah. Shocker. Emotionality.

Greg Everett: I'm very emotional about 3D printed meat.

Robb Wolf: I'm pretty emotional too. I'm not a fan. I'm more emotional the opposite direction with good hunk of grass than meat which I'm actually driving to Chico on Wednesday to pick up a whole cow. I'm gonna load down the back of my Subaru Forester with that and then trundle home. Hopefully I can find a producer here in Reno which apparently there are some in the outlying areas.

Greg Everett: Sounds to me like it's good opportunity for you to learn how to butcher a cow.

Robb Wolf: I'm game. I'm in.

Greg Everett: There you go. You use a nice rubber apron. I know. I've seen your garage, you got plenty of space.

Robb Wolf: I can get the full Dexter setup downstairs. I don't know if that fully answers the question for our listener.

Greg Everett:

Well, yeah. The question was, "I'm interested in your thoughts." so you provided your thoughts. There you go. Perfect. That's an A+ right there.

Alright. Long-term melatonin use.

Rebecca says, "Hi Robb and Greg. I have a question about the effects of long-term melatonin use. My sister has been giving her two daughters (ages 5 and 7) melatonin every night to get them to go to sleep for the past two years or so. She started doing it because they consistently wouldn't be tired at an appropriate bedtime or refuse to go to bed until very late at night (like way past midnight) and my sister couldn't take it anymore. It has now become a part of their nightly ritual.

"I don't know for certain, but I would think that taking a hormone supplement all the time would mess up the body's signals to produce that hormone naturally. Essentially, I'm afraid that this is making her kids dependent on the melatonin supplementation and it will result in sleep problems for them in the future. I've asked my sister if she's worried at all about this and she said that she has thought about that, but without it they will be up way too late and at least they are going to bed this way. Basically, she would rather have the peace and quiet now and deal with any of the ramifications if/when they come up later.

"Personally, I think they eat way too much sugar and processed food throughout the day and night which keeps them jacked up at night. My sister doesn't seem to think there's any problem with their food because it's all from Trader Joes so it's "healthy". As if the ice cream after dinner doesn't have anything to do with it. Bizarre.

"So is this long term use of melatonin totally screwing up their circadian rhythms and setting them up for future sleep and other health problems? It really concerns me that they are so young and already dependent on sleep aids. If she stops giving it to them will their natural melatonin production bounce back?

"Thanks guys!"

Robb Wolf:

Wow. I guess it's not riddle and play. Kind of interesting approach. When we take something like a neurotransmitter hormone like melatonin and you take a pretty good whack of it, there's a process called tachyphylaxis in which the body's response to that dose tends to down-regulate. This is why your first dose of heroin is probably your best one or so I've heard.

I've never wake down that road before but from the vast research I've done on the topic, typically the next go around is less as far as the

physiological response. Depending on how much she's giving to the kids, I could see some natural down-regulation of normal production. It should bounce back reasonably quickly with the removal of the melatonin. But kids' brains are growing and plastic and these cool things that adult brains are not.

That's kind of a concerning thing and yeah, I would definitely – couple of things here. Cleaning up the nutrition seems like a big help. Drawing some really strong parental boundaries would probably be a pretty good help too even if it's just basically like, "It's time to go to bed" and whether the kids are asleep or not, they are quiet and in bed.

Dosing them with a sleep aid is probably not the singular thing that one could do. But depending on the predilection for this person it sounds like she's taking a – I don't know, a passive-aggressive approach is kind of not the right description but it kind of sounds like that. I fished around in the literature. I haven't really seen anything on this. The bioethics of putting children on sleep aids to see what the results would be is questionable so you're never gonna see a study on that.

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Robb Wolf: I could make some arguments that it could be problematic. We don't really know so I think you're kind of onto something here that this could potentially be a problem. But how you address it with somebody who doesn't want to deal with sound nutrition and basic parenting skills, I have no idea.

Greg Everett: It seems like a bad idea. It definitely sounds like there's some other steps that your sister could be taking to hopefully address this problem.

Robb Wolf: Even just like some natural calmer or something like that, like doing some magnesium. That would seem tough to – I couldn't see any problems with that. Some of it, also just creating a little bit of a ritual for the kid so that they know this is what you do before you go to bed: brush your teeth, wash your face, do all that sort of jive. I think getting kids trained up and ritualized on that stuff is really beneficial for improving their sleep.

Greg Everett: Yeah. Before it comes to worst, you just got to lock them in the basement until they understand that when it's bedtime, it's bedtime. Simple.

Robb Wolf: For most problems, one question at a time.

Greg Everett: Earthing Mats – Useful or Useless Hippie Magic?

Steven says, "Robb and Greg. Curious as to whether you see any usefulness in an Earthing Mat? I know Dave Asprey of the bulletproofexec sells one and claims that he and high level athletes such as Lance Armstrong use it to promote recovery and stimulate better sleep." There's a link there to that article.

"I remember Chris Kresser mentioning some of these concepts a little while back as well," and there's a link for that. "Anyways, do you think there is any benefit in something like this for a member of the military looking to enhance sleep productivity/quality (when they can get it) or would the \$60 be better spent on a hand-picked hemp skirt? Thanks."

Robb Wolf: Hemp skirt? You can never really get wrong with just as in a side. If you would ask me about this a couple of years ago, I would have just completely filed it under hippie bollocks stuff.

Ironically, there's actually been some reasonably well-done research on this indicating that getting out on the grass, getting your feet out in the dirt and stuff like that actually seems to ground people and kind of changes the physiological state. People tend to feel better.

Two things to consider: Is the Earthing Mat going to produce the same effect as say like sleeping out under the stars in the grass or something which in Reno right now, it's 15 degrees at night. You'll sleep really well coz you'll be dead, but you'll be really earthed.

Maybe on the one hand actually getting out in nature is a benefit. Is this Earthing Mat gonna do the same thing because it's got some electrical characteristics that are supposed to mimic that? I don't know. It's not super expensive and it seems like it'd be worth a shot to see how or if it improves your sleep. Maybe look around and try to find a discount model and then you'll still have enough money for the hemp skirt at the end of the day as well.

Greg Everett: There you go. If you quit using the Earthing Mat, you can build up that positive charge in a hemp skirt. It's gonna like stick out to the sides, wiggle around, full of electricity. It's gonna be amazing.

Robb Wolf: It'll be a good look.

Greg Everett: Okay. Overtraining Recovery.

Terri says, "Dear Robb, I am 44 years old, have been paleo for 5 years and gluten/corn/dairy free for 8. These diet changes put my autoimmune thyroid disease in remission and solved my allergy and GI problems.

"I've always exercised regularly. One year ago I started a standard gym weight training program from which I developed some decent strength. In the late winter I switched to longer runs to prepare for a spring half-marathon. I eased back on training, and then began Crossfit mid-summer.

"I went into Crossfit with a very strong aerobic base, decent strength, an excellent diet and 18% body fat. After 3 months of Crossfitting 3 times a week I developed overtraining: elevated morning heart rate, fatigue, muscle pain, CNS issues & insulin resistance.

"I've recovered from most of the symptoms by resting, carefully managing meal and snack times and light exercise. I can now run 2 miles and lift pre-Crossfit weight. I still have a couple pounds yet to lose which appears to be in my belly. But I feel well as long as I eat carefully and get a lot of rest.

"I don't know how to approach a training schedule/program for going forward. My goal is simply overall fitness. I'm done with Crossfit because of the lack of progression issues. There is so much exercise information overload on the web. And most trainers seem to be focused on weight loss. What do you recommend? I'm very fearful of experiencing overtraining again." Alright. What do you say there Robb?

Robb Wolf: Couple of things, couple in mind.

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Robb Wolf: One of them is that we've been pushing this kind of concept out of NorCal of having a variety of different program options and we are coming up as of January 4th – that will mark our 9th year in business. We have clients that have been with us seven years, almost eight years. So we've had people that have been with us a long time.

What we started noticing is that our standard kind of level 1 class which would look like what I would call a smartly constructed Crossfit kind of gig. You've got some strength training, maybe some gymnastic skills, some sort of reasonably timed index WAD, as it were when metabolic session. We tend to be more in the 9-15 minute range most of the time. Every once in a while we'll do a white buffalo in the sky, like 30-minute burner. Usually those are on the weekend when we've got a really big class, some people come together and want to do that. But what we've found was the people who have been with us a long time and interestingly, the people that had climbed up to a pretty high level of strength and fitness, those people started just disappearing out of the gym.

My guts sense based off of my own experience in doing this type of stuff is that at some point, you just get tired of the beat down. You love the community, you want to go to the gym, you want to be a part of the scene but people just get tired of only – there's only so many times that when you're driving to the gym that you have butterflies in your stomach because of the fear of what's coming.

That's cool at times but obviously, there can be some problems with that. So we created a dedicated Olympic weightlifting program. We have what I would consider a powerlifting/bodybuilding program that we called the strength class. We have a low intensity functional training class which is basically circuit-type stuff but we don't put a name on the board, we don't really specify a time index on it. We just warm people up, go through some movements and then we start doing the workout. When in the coach's opinion an individual is done, you start stretching and foam rolling and we peel people out of the process that way.

What we found is that the gym has grown a lot. We retain people long-term and we tend to avoid a lot of this burnout stuff. I would really encourage people who have a Crossfit-type gym, any type of mix modal gym or if you're a trainer in this genre, really think about having different program offerings so that people like Terry have someplace to go and they can get smaller doses but still be part of the community, still have fun and all that sort of stuff. That's a piece.

Another piece and it is interesting. As time is going on and I've look at the Crossfit programming, one of the concerning features for me is actually the randomization itself. When you think about the whole said principle, specific adaptations to imposed demands, the fact that you are randomizing your exposure to different movements and intensities and all that, you really aren't adapting to the session that you did yesterday may not really be helping you in the session that you do tomorrow.

It kind of does but I think there's so much intensity and so much randomization that it's really hard for the body to get a signal and to kind of figure out where it's going. It's interesting.

Early in the Crossfit journal, there was I think a really solid article on the Crossfit beginner's program. It involves consistent exposure. I think it was running or rowing, deadlifts, push press– oh man, maybe it was just deadlifting/push press that they use. I forgot the exact specifics on it. But you progress people week to week, slowly increasing the volume, slowly increasing the intensity and you had a fairly limited movement pool.

I actually really like that concept and we do something kind of inspired by that in a way in our on-ramp program which is our beginner's class because people need repetitious exposure both for the skill acquisition but also so that their bodies can actually work hard and adapt to the thing that you're doing.

Looking at something like that, I think you could construct a nice program that you get all the benefits that you would get out of Crossfit-type program but you just don't need as much randomization to it. Whether you can find somebody who programs that way, if you sit down and put something together, I would just have more consistency and maybe change things on micro-cycle or meso-cycle I guess kind of level, like every three weeks you change up the movement pool.

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Robb Wolf:

But you've got a progression from week to week where you do a little bit more week 2 than what you did in week 1. A little bit more in week 3 than what you did weeks 1 and 2. Week 4, you maybe drop volume and intensity by half. You do an unload week and then you pull in a new movement pool and start going from there. It could be simple also as doing something like an Olympic lifting program or power lifting program and then doing some graded, planned, sprint intervals whether it's running or rowing.

There was a really really good article on the Performance Menu on sprint training program that laid that out where you slowly build volume and intensity overtime. You had speed days and you had tempo days. You can build a ton of capacity on that. But because you're managing the volume and intensity and you're getting consistent exposure to the movement, I think you can actually work hard and progress overtime.

I know there was a lot of material but hopefully that give you some ideas like look around for a gym that maybe programs more in line with what NorCal does. People who are running gyms I really encourage you to think about doing some diversified program offerings. It's better for your people and shockingly, if you want to grow your gym, one of the key features is actually not having people leave. It's not just how many get in front door but how long you can keep them.

Then the other piece of this is that if you want to construct your own program, I would just maybe track down that Crossfit beginner's program from the Crossfit Journal, look at the way that that is structured and then think about the movements that you wanna do and then slowly build volume and intensity overtime.

Greg Everett: That was a very thoughtful and thorough answer there, Robb.

Robb Wolf: Why thank you. We had to have one decent answer on this whole thing.

Greg Everett: We've not been here for four years at this gym and we have the same thing. We have clients who have been here literally since the day we opened and we have not experienced any of this Crossfit fallout with the overtraining and the injuries and all this sort of thing. I really do believe that it's because we do a lot of what you talked about and we have basically a strength program at the foundation of our fitness classes. We run that now.

It took me a couple of years to refine it but now what's it come down to is just a series of six-week cycles. I found that's long enough to get the exposure we need but it's short enough that it's appropriate for the level these people are on.

So we have the same strength movements for that six-week we build from higher volume and lower weight to lower volume and higher weight. Very simple conventional progression; the conditioning workouts that we do around that similarly shifts through that six-week cycle or the beginning of the cycle they're longer overall but there's more mono-structural activity. You have a longer workout but more of it is running, rowing, jumping rope, bare crawls, shuttle runs – whatever these things are to basically decrease the density. That's the way I think about it.

Then as you progress, that density increases so you have less and less of that mono-structural activity breaking up the other exercises and you have more weighted exercises, dumbbell, power cleans or pull-ups or whatever it is you're doing. Our folks consistently make strength PRs at the end of every cycle. They're staying healthy. They're enjoying themselves. They're not coming to the gym dragging their feet and talking to each other about how horribly painfully sore they are and how they couldn't get off the toilet last night.

I'm not saying you'll never get sore, of course they get sore sometimes, any time you have changes in exercises on a regular basis, you're gonna get sore but I think the consistency of the strength work really keeps that solid foundation in place and they can withstand a little bit more of variety with the conditioning workouts in that case. I think it's fairly simple. You just got to really have that solid foundation that's kind of guiding the rest of what you're doing.

Okay. Matt says, "Robb and Gregg- people are just going to force me to do it. [Effusive praise etc...]" I think we're supposed to imagine what that is.

Robb Wolf: I'm taking it all in.

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Greg Everett: "Can one be contraindicated for *Rhodiola rosea*? I suspected I was having some cortisol regulatory issues marked by poor sleep, and waking up between 1:25 and 1:45 am fairly regularly with a bit of a start. I ordered some *Rhodiola* to use as an adrenal support.

"My understanding was that *Rhodiola* generally produced a calming effect. My experience was very different. It left me wired. During the day it produced a pleasant but intense focus and obviated the need for any caffeine. But...it was wrecking my sleep. I usually fall asleep about 10 and 10:30pm but even taking the *Rhodiola* by 7:30am sleep was usually impossible before 11-11:30pm." Every sentence is its own paragraph. This is amazing.

"On occasion it left me wired into the early hours of the morning. Do you have any idea what my malfunction is and if there are any other herbs with adrenal supportive properties that may agree with me a bit better? I drink Tulsi/Holy Basil tea regularly. I have not noticed any benefit and it does not produce the same wired state.

"P.S. If you have time...is there any merit to Tim Ferris' claim that pine pollen works like a supplemental testosterone? How does the efficacy/safety compare to some shady prohormones from GNC?

"Thanks fellas. You never fail to educate and entertain."

Robb Wolf: For a long question, the short answer is that there are paradoxical responders to like everything under the sun. When I worked on a gut-bucket which I know Greg did too, I was only an EMT 1 but we had paramedics with us and occasionally we'd hit traffic accident or something like that.

You bring people to a hospital, normally they start giving them some sort of morphine or something like that coz they've got a compound fracture and normally the person goes from screaming fits of hysteria because they're in horrible pain to delirium because opiates are amazing.

That would happen 99 times out of 100 but occasionally, you would see somebody with the administration of an opiate and they would perk up. It would still have typically an analgesic effect but it wasn't sedative at all. It perked them right the hell up and so across the spectrum, whether we're talking adaptogens, whether we're talking stimulants, you can have a paradoxical response.

Frequently, kids with ADHD are put-on things that for me would be a stimulant, something like Ritalin would actually sedate and focus other people – although I think there are dietary issues with a lot of that stuff. But that aside, it's not uncommon that you find somebody in the population that's a paradoxical responder.

The holy basil stuff is actually really interesting. The tea typically is really low quality, really low dose. New Chapter has a super critical extract of holy basil which is phenomenal and that might be something to try. You may not be getting a benefit off the holy basil itself just because the quality and the dosage is really really low.

Greg Everett: I use the holy basil supplement at night exactly to help with the cortisol stuff and I find that it or I feel like it helps.

Robb Wolf: I've used phosphatidylserine in the evening and I've usually used Jarrow and a couple other formulas like that and it seems to legitimately helped me sleep in the evening. I just tried some Seriphos, which is lined to the old early makers of the phosphatidylserine complex and I don't know what's in it. But if I take that anywhere near bedtime – I have kind of rapid heart rate and it's doing a paradoxical thing on me.

I don't know if it's got some B-vitamins in it that the other ones don't or what the deal is but that stuff I usually take way earlier in the day now and it seems to be helpful. You just have to feel the stuff out and see how you do on a particular product.

The pine pollen – gosh, it seems a reach for me that the stuff is gonna act like some sort of a legitimate testosterone supplement. The literature on it isn't real solid so there again, you could give it a shot and see what happens.

Greg Everett: The rule of thumb on that stuff, also known as thumb's rule, is that if it's legal, it doesn't work. I know that sounds a little extreme but it's kind of true. Creatine might be the one exception to that but of course, that only works very well with like 25% of the population.

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Greg Everett: Pretty much if you can buy it in GNC, that's not gonna do much for you.

Robb Wolf: The performance enhancing side of things is tough to get much mojo going.

Greg Everett: If it doesn't end in a ball of some kind, it's probably not gonna be that amazing.

Robb Wolf: Exactly.

Greg Everett: I guess I should just say all.

Okay. This one is about getting reconstituted after weighing in.

Ursula says, "Robb and Greg. When I read Greg's recent post on the 2012 American Open...or killing Matt Foreman (which was a great catch line to see exactly how you killed Matt, almost), I was reminded that weight lifting is all about the weight class.

"Rowing, which is my sport, has only two classes, lightweight or open. If you are not under 59kg for women or 72.5kg for men you are open weight." Holy crap, those are light.

"I was recently informed when doing some lifting at Seattle's Level 4 gym that lifters weigh in two hours before they compete. This is the same for rowing. I think in wrestling and other fighting sports you weigh in the day before, so that would give a different recovery strategy.

"My question is this two hour weigh in what your lifters would eat after the weigh in, especially if they had to sweat a little to make weight, or do you not see this happening with your athletes?

"I know a max effort lift is using a completely different system to a max effort 2k that rowers do, so just for interest sake, what is the difference in these two post weigh-in food choices? Amy Kubal has worked with me on a working rowing post weigh-in gig but again from a lifter's point of view, this would be interesting to hear your thoughts."

First thing I would say is that in general, I don't like lifters cutting a lot of weight. The sport is weightlifting, not weight cutting.

A 24-hour weigh-in is extremely different than a 2-hour weigh-in. You can just go to much different extremes as some kind of combat athlete. Although I think a lot of grappling tournaments and stuff, a lot of times you have to weigh-in multiple times throughout the weekend. That's a totally different situation too where you have to actually weigh what you say you weigh.

With lifting I like to keep people 1 to 2kilos g over their competition weight ideally and obviously the lighter they are, the smaller that number should be. If you're training at one weight and competing at another, there can be a really huge difference in what you're capable of lifting, especially in the clean and jerk that that 1 or 2kg can make a huge difference.

Physically, that is a definite phenomenon but mentally too when you're used to weighing a certain amount and then you'd go into a competition knowing you weigh less than that it can really mess with you mentally with the clean and jerk.

But in any case, if you are losing water weight, most likely that lasts a day or so you probably cut out a bunch of salt, you cut out some carbs. Immediately post weigh-in you'd want to replenish some of that stuff along with the water. That's when most people use something like a Pedialyte or Gatorade or something that is not just water – water with a little bit of sugar, some electrolytes and then as far as food goes, you probably need to get some fairly dense, starchy carbs in there, little bit of protein.

I'm curious to hear what you think about that one, Robb.

Robb Wolf:

Obviously the demands are gonna be quite a bit different for a lifter because they're not going to require as much glycogen repletion. At least you could make that argument but obviously like you said when people are feeling kind of fat and sassy, the lifting is a lot easier than when you're drained and depleted.

I think that, like Greg said, trying to stay within striking distance as much as possible of your goal weight you just don't, especially with the 2-hour repletion period. You don't have a lot of time to mess around with that.

I think immediately post workout, like having some sort of a waxy maze starch Vitargo kind of mix, just a little bit of BCAAs or whey protein just to balance that stuff out. As you're sipping on that stuff, I would actually do just a little bit of light activity. This is to try to encourage some of that non-insulin mediated glucose transport, like trying to encourage some of this big carbohydrate bolus to go into the body.

[0:40:07]

Robb Wolf:

For our folks who have competed in the Crossfit games type stuff the intersession food that we like to use is a sweet potato or yam mixed with some apple sauce and we puree that and then put a little bit of whey protein in it. It tastes really good. It's easy for the person to get down. I would gun for maybe like one gram of carbs or a half gram of carbs per pound of body weight in that initial shake and then trying to get a solid food. But that's pureed so it's easy to digest and maybe do that. Get both of those down within an hour post weigh-in. Then you need to figure how do you do, what's your work output if you have a meal in your system.

So for a lot of people, particularly this 2k row, if you have food in your digestive tract, it is shunting blood to the digestion of that food and it's not going to be available for physical activity. This is where some people at a contest moment, they will actually go in and do the contest a little bit in a fasted state because if you have no food in your stomach then you're not gonna have that competition with the gastric emptying and blood being shunted there. You're less likely to have problems with cramps.

This is something that you're gonna have to field test and figure out, "Okay, how much carb can I get in, say, 2 hours before? How am I feeling at an hour?" Can you top things off or is that going to cause some problems with regard to gastric emptying and all that stuff. This is something where you just have to field test it. You have to do test weigh-ins where you shrink wrapped down, you may meet your weight, you test how your GI tract handles the stuff, you test how your performance handles this whole thing and then you can modify from there.

Some other people can consume some more food typically in the form of a shake half hour before an event. But not everybody can do that.

Greg Everett: Cool. I like it. This one is just called "You Bastards!" I'm not sure if that's explained here. I think maybe she was just trying to get Squatchy's attention.

Robb Wolf: Which worked.

Greg Everett: Clearly.

Angela says, "Hi Robb and Greg – What do you think of DEXA body composition scans and how often should they be done? Over the last year I have half-assed eating paleo and on top of that, within the last few months I completely stopped working out. I just had a DEXA scan done and the results were atrocious. Turns out I'm quite the porker." Oh, man.

Robb Wolf: Join the club, sister.

Greg Everett: "I knew I've been getting fat, but I had no idea I was really this fat. This scan doesn't lie and unfortunately, I can't even say I'm big boned. Ha ha! I'm a female, 38, and 5'4 and on the day of my scan I weighed 153.4 lbs. My results showed that I was 37.7% fat, lean mass was 91.6 lbs, and my fat mass was 55.3 lbs.

"On the plus side, my bone mineral density was excellent. Turns out that I started semi-clean paleo (includes vodka and cider on occasion)

again the same night and joined a new gym a week later. I want to track my numbers pretty closely as I get in better shape and wasn't sure when I should get my next scan.

"Should I wait 3 or 4 months or is it safe to do on a monthly basis? Also, it's \$100 so it's kind of costly. What do you recommend? Also, what kind of numbers should I be shooting for in the next few months? How much fat should I be losing and muscle gained over the next 3 or 4 month period?

"Thanks and I love you guys....even though you have never yet answered one of my questions."

Well, there you go.

Robb Wolf: Times have changed

Greg Everett: Angela, you're on the board.

Robb Wolf: This will go up before the 21st so we'll even do it before the world ends. Dude, what more could you ask for?

Greg Everett: Can we get any days now that aren't supposed to be that the world ends? It's been like the last year. Every single day that the world's supposed to end, it's getting really fucking old.

Robb Wolf: I'm just getting worn out waiting for it. Let's get this thing done.

Gosh, the DEXA scan really is the gold standard on this. Hydrostatic wane that can have some wiggle in it, these Bod Pod things unless they're calibrated consistently, they're kind of a big fail. The DEXA scan really is the gold standard on determining lean body mass and fat mass and all that stuff. I guess I'm just kind of shoot from the hip low quantify kind of guy. I de sealed my book.

[0:45:00]

Robb Wolf: I like hip-to-waist measurement because that's telling us a lot about your insulin resistance, insulin sensitivity. I also just like photos. You wear the same outfit, you have the same lighting, you take the photo on the same spot and it's gonna be crystal clear whether you're making forward progress or backsliding into porker land as you said.

I would say I actually DEXA scan probably more like yearly if even doing that, find some performance-based bench marks, 400m run, 800m run, pull-ups, back squat, deadlift. If all that stuff is moving

forward, and you look better and better in your photos. You're money.

It really doesn't matter what these other numbers are telling you. I guess the one caveat I would have with that is if you are highly motivated by this really self-quantification numbers and if that is the thing that's going to keep you on track, then maybe schedule this thing quarterly.

But you're still talking about dumping \$400 a year and exposing yourself to X-ray radiation just to reconfirm what photos, performance measurements and hip-to-waist measurements are gonna tell you minus the money and minus the radiation exposure.

I really like the system that we use at the gym which is the system that I detailed on the book. I find that really successful and not very neurotic and doesn't cost you all that much money. Pretty much everybody has a camera phone or some sort of digital camera, measuring tape is a couple of bucks. If you're already working out then just keep some bench marks on what you're doing with the workouts and you should be money.

Greg Everett:

Sweet. Jennifer says, "Hi Robb & Gregg (now with two G's)," I always have two G's, one at the beginning and one at the end.

"Have you ever seen the potato diet hack that people are experimenting with? It's where you temporarily eat nothing but potatoes cooked in just a bit of curry gold, coconut oil, whatever to get some fat loss by starving the body of fats. I'm guessing it would work sort of like a low carb, high fat diet, except just not as healthy for you.

"Can you explain from what you know whether this would work or not and why and what the down side or potential risks might be (I'm guessing possibly higher inflammatory markers and slower recovery time from lack of protein and even muscle wasting). Here's the link to the experiment. What are your thoughts?"

Robb Wolf:

Yeah, the 3D animal. There's a great dissection of this whole thing. I actually have my thoughts on low carb and Paleo which is the first part is actually gonna go out the day after this podcast goes up and then the second part will come up the next week somewhat should grin at this point looking back.

I've definitely been in the camp. It wouldn't be hard to do some Google searching to find examples of me being in the camp that said

that you needed low insulin levels to lose fat, that you couldn't gain fat if you maintain low insulin levels.

I think that that's pretty clearly wrong at this point. When we really dig into the clinical trials that have been done on this, if we want fat loss, a phenomenal thing to have is a high protein intake because it's very satiating and we tend to maintain muscle mass. The worst thing that you could do is some sort of a fat loss regimen and end up losing a bunch of muscle mass. That is your metabolism and your metabolism isn't some mysterious thing that lives in your armpit or in your sock or something. It's largely your muscle mass.

We need ideally to maintain protein so that we spare lean body mass during a calorie restricted phase and we need the calorie restriction. That's how you're gonna lean people out.

Within that, different people have different carbohydrate tolerances. You can have insulin resistance due to low vitamin D levels, shift work, a variety of things. So for a given person, different people will have different carb tolerance levels.

But interestingly, if we're really starving somebody, suddenly their carb tolerance improves dramatically, even somebody who's type 2 diabetic. You reduce the total calorie load flowing through that person's metabolism and suddenly their insulin sensitivity improves and all kinds of things improve even if the total carbohydrate intake is reasonably high.

I think what we find in this potato hack experiments is that people are usually eating the potatoes largely plain, which means that they are bland as hell.

[0:50:00]

Robb Wolf:

I don't even think typically they're using much in a way of curry gold or coconut butter. It's just hard as hell to eat this stuff. You can eat of it as much as you want but it's just hard to overeat because the fiber and the water content, the calorie density is very low and you end up in a net calorie deficit and you can end up losing some body fat.

I could make the argument very easily that just throwing a little bit of protein in the mix to help spare lean body mass would probably improve this a lot because we still – again, Jennifer mentioned this, the potential of muscle wasting and stuff like that. I think that's legit because if we're in a very low protein intake which we're going to be in a potato-only scenario, that's gonna be a problem.

I think that you can improve the whole thing by just throwing some good quality lean protein in the mix, trying to get a gram of protein per pound of body weight if you're really gunning for solid fat loss with muscle mass maintenance. Interestingly, it also dramatically improves the nutrient profile by doing that.

I think stuff like this just shines a light on what I formerly really bought into the idea that curtailing carbs was about the only way that you could effectively lose body fat. I think it's very effective eating lower carb because you tend to be very satiated to the protein content and stuff like that. We're not mixing meals so we're not getting hyper palatability or an increase palatability type of story. It's obviously not the only way to skin the cat as it were.

Greg Everett: You would probably lose better way eating skinned the cats. This is one of those things to me where it's like, yeah, this is kind of interesting, but it is a reminder that you can lose weight by starving yourself. I don't know why that's such a profound insight. If you eat one thing that you can't eat very much of and it doesn't supply a bunch of calorie content, you're gonna lose weight. You'll probably gonna feel like shit and you're gonna be worse off when you come back to normal food. I don't get it. It's beyond me. I'm not at that level of intelligent-ness.

Robb Wolf: Intellitude?

Greg Everett: Intellectual-alitude.

Last question and it looks like a doozy. It looks like a lot of fancy words that I'm probably gonna struggle with.

Ketone bodies and oxidative stress. Kim Rioux says – and she has so thoughtfully provided a pronunciation guide for me, although that one I could've figured out. It's the other ones that don't provide them that I can't figure out. "Robb and Steve; I've got to start out with the 'thank you, thank you, you guys are rock stars' intro. Seriously, thank you."

Robb Wolf: She gets to the Steve part later. It's good.

Robb Wolf: "I was recently reading this article in Science Daily," and of course there's a link. "In the article they discuss a specific ketone body called beta-hydroxybutyrate (beta-OHB) that is generated in response to calorie and carbohydrate restriction. Beta-OHB is thought to block a specific type of oxidative enzyme called histone deacetylases (HDAC's) which are linked to diseases of aging and general oxidative stress on the cells.

“So here’s the question: although I’m not really calorie restricted (1200-1400/day as a tiny 50 year old woman) I do keep my carbs around 80gr/day. I’m able to maintain MILD ketosis (tested with keto strips) at this level – probably because of all the coconut milk I put in my coffee which provides me with a lot of MCT’s.

“If I’m not calorie restricted, would this level of ketosis likely generate the beta-OHB or other ketone bodies that will provide protection from HDAC’s or other oxidative enzymes? Or would that benefit only come about if on a truly ketogenic and/or calorie restricted diet? Thanks guys! I don’t know who else I would ask!

(Follow up email)

“OMG, I think I just called Greg Steve in my question submission. You know, I scoffed when they sent me my AARP card at age 50 but now I see why. Damn – I really need to look more closely at that ketogenic diet. Sorry Greg!!”

Don’t worry about it. It happens all the time.

Robb Wolf: That was the high point of the podcast. We should pay for stuff like that.

Greg Everett: At least she didn’t call me Andy.

[0:55:00]

Robb Wolf: Exactly. We’re like 100 episodes best at. Again I just mentioned just a moment ago, I did a blog post on my thoughts on low carb and Paleo and all that jive. It’s interesting when we look at some of the effects of calorie restriction, ketosis, intermittent fasting, there does seem to be of these anti-aging effects.

Most of what we’ve seen or what’s been studied thoroughly is in stuff like mice and fruit flies and things like that. An important point to consider in all of that is that these ketogenic interventions, intermittent fasting interventions are always overlaid on a critter that is being fed a diet that it did not evolved to eat. It’s eating like the NIH007 diet which is like high-fructose corn syrup, corn starch, some nasty polyunsaturated fats and some things that we are – you could make a pretty good argument. It would be a poor for health no matter what.

So it’s important to think about some of these anti-aging effects. When we’re looking at them, we need to think about, “Okay, is this

simply mitigating the effects of a really poor diet?” I think that that’s a lot of what we are seeing in these circumstances.

I do think that some transient exposure to ketosis could be beneficial. It sounds like you’ve found a sweet spot here with having enough carbs to motor long, not have thyroid issues, throw a little bit of MCT oil in the form of coconut milk and you get some mild ketosis. I think that that’s probably a pretty good spot to be. I don’t know that you need to be any further down the ketogenic pathway at all to see any type of better benefits and as I mention in this blog post that I’m doing, it’s maybe fortunate, maybe unfortunate.

But as we’ve further investigated this stuff like crammed calorie restriction with adequate nutrition, intermittent fasting, ketosis, etc. when we look at what’s called the genetic reaction norms of different organism if you are a critter that allocates a ton of energy to the production of offspring and I say that kind of tongue-in-cheek because having Zoe seems about as energetically demanding as you can imagine. But mice, fruit flies, different critters, they actually in the process of creating their progeny, it is very energetically demanding.

What we see is in these types of critters, if we expose them to severe calorie restriction or intermittent fasting or the combo, we tend to see a dramatic slowing in the aging rate because biologically, the genes are sensing that there’s not enough energy to likely have offspring today so it’s slowing the rate of aging and growth. Maybe that critter could have offspring tomorrow.

But then in different animals like dogs and humans and I think cattle fall into this, the energy input, although significant, is not nearly as significant as what it is for mice. When these critters are exposed to a calorie restriction scenario, they don’t see the same type of slowing of aging that we would see in other types of critters.

I think Michael Rose in the blog post that I do which will be two weeks from when this thing goes up, I’ll reference his work. He’s estimated that the best that you could probably pull out of a severely calorie restricted diet or intermittent fasting where you eat one week, don’t eat the next week and just live indefinitely that way, the best that you would probably get out of that is about 6-7 years of increased lifespan.

Greg Everett: 6-7 miserable years.

Robb Wolf: Well, additional miserable years, not even considering the already 70/80 miserable years that you’ve got on the front end of that. I think the take away from this is it’s hard to make an argument for any type

of severe ketosis or intermittent fasting on a really regimented level relative to simply just eating an anti-inflammatory diet and living a kind of anti-inflammatory lifestyle.

Get some vitamin D, get some sun on your skin, sleep on an Earthing Mat if you want to have good socialization, lift some weights, do a little bit of sprints, learn new activities to keep the brain plasticity going.

[1:00:00]

Robb Wolf:

I think that that is a pretty solid argument for an anti-aging approach. If you want to have a little bit of mild ketosis here and there, I don't see a problem with that. There may actually be some real world benefit in the way that chem is doing that.

Maybe the way to go, maybe just simply skipping carbs with breakfast, the way that Kiefer talks about with carb back loading, maybe that's enough. But I just can't get any type of a solid argument that a severe calorie restriction, intermittent fasting, ketosis is going to produce any type of significant longevity benefits.

All that stuff said, if you've got somebody who's metabolically broken or insulin resistant or consuming too many calories, too many carbs for their insulin sensitivity, then some sort of a low carb intervention is going to be magical for this person. It could be life-saving for this persons.

But that is similarly beneficial to a fire department turning a hose on a burning house. You've got a serious problem. You need to fix that. But if the house isn't burning down, you don't need the fire department to come and blow the shingles off the top of your house with a fire hose coz you don't have the same type of problems going on there.

I think it's really important to understand the distinction between somebody who is sick and someone who is not sick and then just pull a little bit of information that we've had out of this evolutionary biology analysis of aging in different critters, considered genetic reaction norms and whatnot, then we can make some informed choices.

Again, throwing myself under the bus – I think I was one of the first people writing about the potential of intermittent fasting. We had the first Performance Menu article back in 2005, I was talking to Scotty Hagness about this at the end of 2002, beginning at 2003. It's been on my mind for a long time and it looked like something that could be really cool but I just don't see it having the same cost-benefit deal. I

just don't see it playing out relative to just eating well, exercising a ton of the benefits that we see from ketosis or intermittent fasting we get simply from exercising.

So if you just have a solid exercise regimen, I think the literature puts exercisers as having a 3-year longer lifespan than non-exercisers. We get 50% of the maximum benefit that we could get out of a starvation-type calorie restriction. We get 50% of that benefit just from lifting some weights and doing some sprints and stuff like that.

I know I'm all over the place but it seems hard to really make a solid argument through a ketogenic intervention, a severe ketogenic intervention, a severe intermittent fasting or calorie restriction intervention other than as a tool as a therapeutic approach to dealing with the specific disease states, a systemic inflammatory state.

Alright. Holy smokes, man. I thought this was gonna be a shorter podcast but apparently not.

Greg Everett: Nope. That was the full-meal deal.

Robb Wolf: Robb Wolf:

Greg Everett: You've got lot of energy today.

Robb Wolf: Squatchy just picks some good questions I guess.

Greg Everett: Sweet as he usually does.

Robb Wolf: Indeed.

Greg Everett: Just go all out. Buy your Earthing Mats. Go weigh-in. Eat some potatoes.

Robb Wolf: Plan a properly intelligently periodized mix modal program.

Greg Everett: And give your kids some melatonin. But seriously on the last one, probably don't do that. Anything we need to let folks know before we let them go, a few go back to work or whatever it is they're skipping out just to listen to this podcast?

Robb Wolf: I don't think so. Think we covered it pretty well. You've got all the Bob Takano stuff and all that jive out. That's about it.

Greg Everett: Awesome. I like it.

Robb Wolf: Alright. Talk to you soon, man.

Greg Everett: Okay. Take care.

Robb Wolf: Bye.

[1:04:24] End of Audio