Paleo Solution Episode 149

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Robb: Hey folks, Robb Wolf here. Greg Everett in the house. This is episode 149 of the Paleo solution podcast dude. What is going on?

Greg: I'm not gonna say not much because I got called out for saying that every single time in a little Twitter contest.

Robb: Did you really?

Greg: Well, we did a little Twitter contest where we ended up with like 12 questions. I mean a few of them were from the podcast and one of them was something like, what's the phrase that Greg uses pretty much every single time he starts a new question? Which of course is 'alright'.

But a few people said 'not much.' I think they misunderstood the question. But it did point out the fact that that's all I say at the beginning of these podcasts coz I have nothing going on of interest.

Although you know what, I'm gonna give you guys something. I'm gonna tell you right now, this is the first time I've announced it. How special do you feel right now?

We're gonna be publishing Bob Takano's book very shortly. I don't have a date for you yet but it's gonna be coming out very soon and it's going to be absolutely incredible.

I mean I have it in front of me it's in a process of being edited. So it's gonna be out soon. And it's gonna be an incredible resource for weight lifting program design.

Robb: So for folks who come from the Olympic lifting shallow end to the pool, tell them who Bob Takano is.

Gregg: Bob Takano is a coach down in Southern California L.A. area. His team is called Phat Elvis. And there is actually a really funny story that goes behind that.

But he's a hall of fame weight lifting coach. He's coached at least one Olympian that I know of and this is a guy that he took literally from day one all the way to the Olympics Albert Hood so really, really good coach.

Some of you guys might be familiar with Sean Waxman. He was Sean Waxman's coach. Really sharp guy. Really like working with him and I'm super psyched about that book.

Coz of course I've had it here, I've been reading it this whole time coz I'm editing it and all that fun stuff so…

Robb: Say again kind of what demographic this thing's gonna be geared towards?

Greg: It'll probably be most appropriate for weight lifting coaches because it does go pretty in depth but you'd actually probably like the beginning of it coz it's all about evolution and genetics and phenotypes and all those kind of stuff

Robb: That's right. I've read a little bit of that stuff.

Greg: Yeah it's pretty awesome. Coz he was a Biology teacher, so he has a really good science background. He really understands better than most people kind of the biological, physiological ramifications of training or other than looking at it from more of a mechanical perspective. So it's really good stuff.

And if you are very detail oriented and love to just like geek out on program design, you're just gonna shit over this book.

Robb: Yeah, I'm a complete slaptic where that's involved. But I will still read the book and be incredibly excited to do so. So the projected date?

Greg: We'll put you on the review list. How about that?

Robb: Cool. What's the projected date on this thing?

Greg: It's probably gonna be the very end of the year. We got a little behind. I won't give a firm date yet but I want to peak people's interest coz I've been so lame about giving updates on this podcast for the last several episodes.

Robb: Cool.

Greg: So there.

Robb: I like it, anything else?

Greg: No man, that's all I had.

Robb: Okay, maybe we should go. Hey, we have Evolve Foods as a sponsor for this episode. Almost forgot. Evolvefoods.com We have all kinds of different chow.

There's some cross fit whey protein powder on there that's pretty solid stuff but even though it's part of Evolve Foods and I am in fact part owner in Evolve Foods, I still maintain my position on whey protein that probably most people would do better without it than with it. But if you're taking whey protein then shoot. Buy it from us and help me make some money off the thing.

If you go to Evolve Foods and when you place your order and see if I can remember this discount code, it's WOLF Packs 12. Let me pull this up. I am such a complete slaptic here. I'll dig this up…

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Greg: We'll put a link in there. What's the timeline on that? How long do we have to use that?

Robb: We've got one month that we're gonna tinker with this. And the benefit for you putting in Wolf Packs 12 – let me see here.

Greg: Is it Wolf Packs spell exactly like it supposed to be? It's not some cool phonetic spelling like PAX?

Robb: We have not gone that crazy yet.

Greg: Wolf pax?

Robb: Here we go. Wolf pack with the "W" capitalized I think. Although I'm not actually sure if that matters.

Greg: Give it a shot.

Robb: Wolf pack 12 and folks we'll receive a 15% discount off of their order but we have jerky and these super yummy almond bars with protein and all that sort of jive. Check it out evolvefoods.com Wolf pack 12. Receive a 15% discount.

Greg: How generous. Give you guys a 2% discount. Alright.

Robb: Should we start off with Liposuction?

Greg: Yes, oh man. Liposuction and hyperplasia obesity. Darius says, 'Hey Rob, I'm a medical student and in my lecture a plastic surgeon was saying that if they perform liposuction on a person's visceral fat, those adipocytes will no longer be there. So if that person gains weight it will be elsewhere in the body.'

'I find it hard to believe but are you aware of this phenomenon? Would love to hear your thoughts on whether this is a good/bad procedure. Thank so much for all you guys do.'

Robb: Yeah, I mean this is reasonably well understood that when you're born, theoretically you're kinda born with a certain number of fat cells, adipocytes.

But if you were to overeat significantly then you can have a process both hypertrophy where the cell itself grows which is similar to hypertrophy and muscle only. It's a lot easier to hypertrophy your fat cells unfortunately.

That is your muscle cells but then at a certain point unlike muscle cells which typically do not go undergo a process called hyperplasia which is a splitting of cells, the fats cells can split. And there's some debate in the literatures to whether or not, you know body building protocols can actually induce hyperplasia in muscle cells.

But in fat cells if you start becoming very, very overweight the cell – because of the ¾ pie r^3 or whatever the surface area relative to the volume – at some point, the surface area is inadequate in a cell to service all of the midi inards of a cell and so the cell will tend to split and that's hyperplasia.

If you remove cells like via liposuction, then you have effectively reduced some of your fat mass. You've reduced some of the cells in your body that could either grow or quick grow and split.

But just saying that you are not going to gain fat in that same area ever again is a little bit dubious just in that you could grow the fat cells peripheral to the areas that were removed.

And then again you could cause hyperplasia and so you could get in and pay a bunch of money for a liposuction procedure, remove those fat cells and then eat like Steve Pan and then become huge and induce both hypertrophy and hyperplasia. And kinda bring back right where you were other than the fact that your wallet is now lighter – the cost of the liposuction.

Greg: My understanding of it has always been – I assume this is because the liposuction doesn't 100% remove all of those fat cells in a given area. But since you do remove them you have these pockets where you're not really gonna gain much fat and you have pockets where you are.

So you end up when you do gain the fat back, you can end up with these weird honeycomb look under the skin which is not that attractive. I'd rather you just be chubby regular style than have like these weird honeycomb pattern under your skins.

I would generally say it's probably not a great idea. There are probably much better ways to go about of getting of rid of that fat. You may have heard some of them on this podcast in fact.

Robb: You know it's funny. There are three plastic surgery places that I know of just in Reno that are using my book and basically a low carb paleo type intervention.

But folks are rolling into these clinics wanting liposuction and then they sign them up on a 4 week, 8 week, 12 week lifestyle intervention where they basically are putting money in this account and they are required/encouraged to go through the lifestyle thing first.

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The whole idea is that its gonna help them lean out a little bit you know – they'll get better results with the liposuction but what's happening is that people are getting such amazing results with the nutritional changes and sleeping and getting some vitamin D and all those stuff that we normally talk about…

That then they are foregoing the liposuction and getting upsold on Botox, boobs, lip jobs that sort of stuff. It's pretty interesting and yeah, actually just figuring out some sort of an effective nutritional approach might in fact trump liposuction. Who would've thunk it? And then you don't get the weird waffling effect too.

Greg: Yeah. If you're gonna be in plastic surgery, there's definitely a better ways to …

Robb: There's better place to put your money for sure.

Greg: Alright. Deciphering research articles Meritt. I don't know how to say your name Meritt I'm sorry. I'm sure you won't get to this but I thought I would throw it out there.

When I'm reading research articles that use pigs, rats, cows, etcetera as their subjects how do I know if their digestive system is set-up the same as humans?

For example, one argues that humans have not adapted eating greens or were never met to thrive of them but is this the same for these animals? Are rats supposed to eat meat? Are the results possibly skewed because we are feeding these subjects food they are not meant to have and maybe we aren't.

Hope this make sense. Thanks so much. Smiley face. As always your podcasts are a pleasure and have helped me with my dietetics practice immensely.

Robb: That's cool. And I'm shocked that its pleasurable. That's good. I'm very, very happy.

Greg: I didn't say it was pleasurable. So they're a pleasure.

Robb: Okay. It's a minute punctuated point of pleasure – so that works.

Greg: Exactly.

Robb: It's kinda of like if you're being burned all over and somebody throws an ice cube on one part of your body. Slightly less bad. So I mean this is a really good point that the animal model story is gosh, you know…

Calorie restriction is a really interesting thing. And they just had some calorie restriction studies in primates and in fruit flies and in mice and nematodes and some other things that look like calorie restriction and potentially intermittent fasting was like doubling average life span in these critters.

And then we put some monkeys on calorie restriction and primates tend to live much, much, much longer than rodents and fruit flies do so we had to wait a long time before we could see whether or not this stuff was gonna work. And it looks like in primates that it does not work, that calorie restriction doesn't in fact not work. Michael Rose talked about a lot of this stuff.

I think I'm gonna do some work talking about these with regards to some anti-ageing efforts like it really doesn't look like calorie restriction and intermittent fasting, it could potentially improve some health parameters if you do it smart.

It could reverse disease parameters if you're sick, overweight whatever but it's really not looking like it's gonna double effective lifespan and it has to do with genetic reaction norms.

Depending on how much energy an organism puts into its off-spring. Like mice put an enormous relative amount of their energy during the growth and weaning of their off-spring and so calorie restriction causes some genetic changes that tends to make mice live longer.

Because biologically the genes kind of understand that if they are under a food scarcity scenario, the animal may need to live longer to be able to get more prodigy to survive.

Whereas with humans, we don't have that energy intensive element of raising kids. Although I got to say raising Zoe is sometimes not as energy

intensive as I could muster or handle. But genetically the things are really different.

So it is important to keep in mind that other critters, other organisms have vastly different genetics, different reaction norms with regards to different epigenetic inputs and stuff like that.

It's a really good point. Are mice really designed to eat casein and whey protein and stuff like that? No. I guess you can get yourself into trouble by saying just because in evolutionary novel food is a problem.

Obviously that's not the case like olive oil isn't necessary problematic for I think either humans or mice depending on what type of ratio that you're consuming. But a new and evolutionary novel food certainly has the potential to be problematic and also has a potential to be beneficial.

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But when you dig around the research, it's pretty clear that some of the formulas that they feed these mice, there's like the NAH007 mouse chow. It is understood it is designed with the idea in mind that it's going to induce metabolic arrangement and atherosclerosis in mice.

And it's basically like polyunsaturated fats from corn and soy oil. Super processed corn pellets which a little bit of soy protein and like some casein in it and a little bit of vitamins and minerals.

So it's understood that this food is gonna cause disease in these mice. So that's obviously a problem and I'm kinda wandering here a little bit but I have like 50 different ideas on this thing.

When Staffan Lindeberg did a paleo diet study in pigs, that was an example I think of a pretty good study using animals because the pancreatic function of pigs is quite similar to humans.

Pigs are an omnivore, kind of an opportunistic omnivore. Like humans their digestive tract is much more similar to humans even than primates in the way that it functions and what not. The length, the pH ranges both in the stomach and the intestines and everything.

That was actually a wildly use of an animal model that I think was more powerful than using a classic chimpanzee model or something where chimps eat a little bit of meat opportunistically but they're really mainly vegetarian.

And then they do some opportunistic meat hunting, bug eating and stuff like that. But it's really not a big part of their diet whereas pigs will root around and get roots and shoots and tubers and other critters. So they really model things a lot better.

Again, in a completely rambly, circuitous gig, I think when we look at animal studies it's important to seriously take it with a grain and salt and think about what are the limitations and the physiology with that animal?

A lot of times we're not even considering some really important things like it took us a long time to consider the fact that the evolutionary biology of primates is so much different than that of mice or fruit flies.

That this calorie restriction thing didn't actually apply all the way across the board. Hopefully that wasn't too rambly, hopefully for Meritt or – how do you say that name that kinda got to the point.

Greg: Made perfect sense.

Robb: Awesome. I have no idea what I just said so I'm glad somebody understood it.

Greg: I assumed that someone understood it. I wasn't listening.

Robb: Perfect. Good.

Greg: I'm sure it'll be fine. Alright. Tonic and Phasic muscles and Paul Chek. Jason says 'R&G, what are your thoughts on Tonic and Phasic muscles?' I like them. They're great. Paul Chek says important. Paul Lincoln says stoopy.

I wonder if that was Paul's actual word. Quote end links. Chek 'a knowledge of Tonic and Phasic muscles systems and the needs imposed by each individual's work, recreation, or sporting environment as well as their current and past history of injury and a current work up on their

joint range of motion will lead to optimal results.' And there's a link there to that article.

And then a quote from Paul Lincoln. 'What all these means is that although there are convenient terms, the words Phasic and Tonic cannot adequately described the function of muscles and should not be used as a tool to help you with program design.' And a link to that article.

And then of course he has to add in this sneaky question what are your thoughts on Paul Chek in general?

Robb: So, Paul Chek. Super interesting dude. Quite a bit older than I am. Jacked, strong, great performance, really smart, could probably kick my ass up one side then down the other on practically any physical task that you could imagine other than rambling on a name which I have absolutely cornered the market on that.

For me Chek, he's a brilliant guy, really interesting strength coach. But for me Chek kind of wanders into realms that I would call more metaphysical. He gets out in the bushes of paramount and he has a very loyal following and I think that 95%, 97%...

Whatever percent you wanna talk about for Chek is spot on. It's great stuff. It's solid. Its brick and mortar strength and conditioning. He has some really interesting ideas on functional movement, screen type stuff and everything. But for me Paul Lincoln is a lot more scientific and a lot more in that quantifiable realm…

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This is a really great example like when Chek is talking about Tonic versus Phasic muscles. The Tonic are largely kind of allocated to what we classically called postural muscles versus Phasic muscles are more movement oriented.

And he cites a guy that puts some kind of arbitrary fiber type distribution, slow twitch versus fast twitch, back fibers. And the supposition is that all of these Tonic muscles are 51% and above as twitch fibers and Tonic muscles are fewer than that.

Whereas Paul Lincoln gets in and he's like that's interesting but the reality is that different people have different numbers on it. So he used an example I believe a rep maximum 85- basically what Paul Lincoln has developed and I'm not sure if he's the guy that came up with it or he got this from somebody else.

But basically you look at how many repetitions can you get on a given movement when you're using 85% of your one rep max? So he cited an example with shock putters, throwers, where these people only got about three reps on neck extensions with 85% of the one rep max.

Whereas speed skaters were able to get 200+ reps at 85% of a one rep max. So obviously, one of these athletes is wired up to the very explosive. Very, very fast twitch. Very low muscle endurance.

And bunch of Bob Takano's stuff that's in his book will explain both the genetic elements of this and the epigenetic like the environmental inputs of specific training that brings about genetic molecular changes that support both these things.

But at the end of the day, people start off with one fiber type distribution and then based on training they either going to enhance that or work against their genetics.

So for me when I look at what Paul Lincoln's talking about, he will prescribe specific testing on virtually every joint and movement that you can think of and construct a reasonable one rep max test.

And then you were actually looking at what the muscle fiber type actually is and then he will prescribe loading base around that and also obviously the individual's goals.

And so for me the Paul Lincoln approach is just a lot more scientific. It's a lot more quantifiable. Chek's stuff – even when he was describing things it just felt a little bit metaphysical. It didn't have the kind of concrete testable kinda quality to it that Paul Lincoln has. Greg, any thoughts on that?

Greg: I don't have a ton to add. I mean I would generally agree with what you said. I have nothing bad to say about either one of these guys. I think

both of them are super sharp guys. I respect both of them and I think each has quite a bit to offer to anyone who's looking to become more informed around this stuff.

At the same time I wouldn't follow either one of them to the letter – you know start to finish. I tend to be a picking shoes sort of a person anyway. So if I see something that one of them says that I like I'll use it. If I see stuff that I don't like then we're still buddies but I'm not gonna use it.

But I would tend to agree that I think you can't – my understanding of the whole Tonic and Phasic stuff is it seems like a nice convenient way to categorize things but again like Robb said, it really doesn't work that way. There's too much individual variation.

I would say that you can certainly categorize muscles very generally speaking into ones that tend to function more Tonically or more Phasically and you're not gonna say your vastus lateralis is a postural muscle.

It's not something that you're gonna work within that sort of way. But some of the smaller spinal extender or extensor muscles things like that, you're gonna look at them more as a postural thing and you might treat them differently.

But again you're talking about things that you can't necessarily isolate anyway. So I really think it all comes back to approaching, training and more of a systemic manner and looking more at movement rather than individual muscles.

I know we've had this discussion on here probably a hundred times. But you're not gonna get in there and be like 'okay, I'm gonna attack this single layer of multifidus with this exercise. And then I'm gonna go over here and work on whatever else. You're not gonna be able to do that kind of stuff.

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I think a smart mix of both ideas is going to do you well and not get in a super wrapped up in trying to classify and categorize and really nail things down to that level of detail.

I think that's kind of a dangerous path. It's just not gonna get you too far. Coz you're gonna get so wrapped up in trying to categorize that you forget about the training part of things. So, That's all I have to add on that one…

Robb: I like it.

Greg: Okay, let's see what Kimberly has to say here. 'Just had a blood draw as part of a routine physical. My doctor said I'm too low on vitamin B12. Everything I've read says the best source of B12 include eggs and beef. I'm confused as to why I my levels are so low because those are staples of my paleo diet. Any thoughts or recommendations? She's recommending a supplement.'

Robb: You know I dug around a good bit on this just kinda looking at cofactors that are involved with vitamin B12 absorption intrinsic factor which is released out of the gut is a biggy.

Folks that have had GI irritations, stomach damage stuff like that. They can have problems releasing intrinsic factor. Any type of gut problems can be at issue here.

Also anemia can be an issue but you know I'm assuming you mentioned eggs and beef but I'm not – I'm assuming that we're eating like a grain, legume, dairy free paleo diet for the most part. We've got some awareness of gut health.

And if not, that's where I would look immediately. The doctor didn't seem to mention anything about or Kimberly didn't mention anything about anemia but I'm assuming like a gut healthy kind of paleo diet but if not, then I would definitely look at that.

Outside of that, I'm not too sure what else to recommend. Again, assuming that the gut integrity has been dealt with and all that sort of jive. But I don't think that it's the end of the world doing some methylated B12 capsule once a week or something. It should drive those numbers up really easily.

You start getting – going down the rabbit hole a little bit on this like some of the other B vitamins are cofactors with B12 and so you don't necessarily wanna go insane on just super compensating one B vitamin.

So you might look a lowish dose but broad spectrum. B vitamin supplement like what new chapter offers. They have some of their food grade B vitamins that are right at the level that we would normally get out of food and it tends to be in the amount and ratios that we get from food.

But it's a little bit more concentrated and you know specifically how much you're getting on a daily basis. So you might check some of that out.

Greg: Okay, female hard gainers. Erika says 'Guys, I like to hear a step guide for the skinny or skinny fat woman on how to add muscle with minimal fat gain.

Stefani Ruper of the Paleo of the Woman blog points out that a woman's body hang on to fat more tenaciously than men's. And as such intermittent fasting isn't necessarily a great thing for the ladies.

I also understand that because of a relatively low levels of testosterone and growth hormone, we put on muscles slowly and add fat more readily when bulking if you want to put it that way.

I'm no Biochemist but I'd like to know what I should do to put on muscle and why I should do it. Thanks. Love the podcast. Pardon me if this has been covered elsewhere in your show. I've not listened to all your podcast just yet.

Robb: We've talked about this a little bit I think. We had somebody asked for like how to build some [Phonetic] at one point. Gosh, the how to just kind of progressive overload. Like a basic 5 by 5 protocol squatting, dead lifting, pressing, chinning, dipping, flat benching, climb benching are real basic 3 to 4 day a week.

Maybe a split deal where you hit upper body twice and you do vertical pressing, vertical pulling, horizontal pressing, horizontal pulling on separate days.

And then you have kind of a quad centric day. One day squatting and lunging, hamstring, hip centric day, dead lifting, RDL's, glute-ham raises something like that.

That's just knuckled dragger easy stuff but just slowly progressing that over time you've got enough volume to stimulate some growth. Then you just need to progressively load when that runs out.

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You start getting jiggier from there but if somebody's never done that I think that you typically have a lot of run, a lot of potential muscle gain and a lot of potential strength gain to get out of something like that.

And I don't know that you necessarily need to eat enormous amounts of food. If I didn't do any strength training like I'm 5'9, if I'm lifting really hard, really consistently I might be a 175, 180 – something like that.

Poking around some of the stuff online about what's your maximum genetic potential like if I did everything exactly the way that I should and just obsessed over these stuff I could reasonably get up to about 195, 200 pounds and about 10% body fat.

Which you know is a good bit more than where I am now but if I did no strength training I would probably 150, 155 pounds. And so just with a reasonable amount of training I'm about 20 or 25 pounds heavier than what I would be if I just did nothing or I was in an endurance athlete or something like that. Did no resistance training.

I think that you could make a lot of gains just eating a basic kind of a balance paleo type stick and just lift some weights and like always have some performance and strength goals that are reasonable and attainable on maybe a three months, six month period.

You've got a couple of different goals floating around out there. I think you could make great gains on that. I think more muscley woman with some [Phonetic] and the ability to carry groceries is kind of a cool thing.

As to why you would do that, you both build bone mineral density. You build muscle mass. Those things are really good hedges against ageing. But you know it's all really kind of depends on what you want to do and if

that place in to your over-all goals. I don't know. Those are my thoughts on how to do it.

I don't really see a huge need unless you've played with just some basic solid eating and some really solid – a little bit of volume but some smart strength training. I don't see a huge need for doing like the gallon a milk a day and getting crazy on the thing. Thoughts Greg?

Greg: Yeah, I mean I would pretty much with what you said. The gallon of milk thing for women I think they're even more prone to just getting kind of puffy and bloated on that than the gentlemen are.

When it comes down to it it's not like women have different kinds of muscles or something like that. The real difference is the hormonal stuff. There is a certain unfortunate reality that it's going to be harder for most women to put muscle mass on and to be lean relative to their male counterparts without exogenous hormonal therapy.

But at the same time, because structurally and things like that you're essentially the same. you pretty much need to train and do the same things.

The one thing I might change a little bit is that I may increase the volume and the frequency of your training a bit relative to a guy. Just coz women tend to be able to handle more volume.

But other than that I don't think I would really change much if anything in terms of training. Just do what Robb said and you know maybe add a bit more of the total work and see how that goes.

I would venture a guest that Erika, not to pick on you but you're probably very similar to most guys who ask this question. And what I mean by that is that you haven't really tried to do it yet.

And maybe I'm wrong about that but it seems to be the questions that we get or that I get and I'm sure that Robb gets about people wanting to gain weight…

People who have just been doing a lot of theorizing and pontificating and not actually training and eating. And so they seem to kind of look at all

these different approaches and say well that won't work and this won't work so I'm gonna find what will work.

But they haven't tried squatting and dead lifting and doing all these things that seem to work really well for nearly everybody. So it's really time to just get out there and experiment and actually find what works for you personally. But what Robb said is a really good place to start for sure.

Okay, Mark says hi Robb and big greasy. Oh boy. I have a question about being a carpenter and also loving Paleo living. I don't know if we could help you with the carpentry question.

Robb: I can probably smash my thumb pretty quickly.

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Greg: Alright, so stats 'I'm 27, 180 pounds, gained 20 pounds of lean muscle after being paleo for the last 2 years. Cross fit 3 times a week, climb twice a week and run every once in a while.

My occupation makes me lift extremely heavy and be totally gassed. Other days I'm doing something very intricate with little effort. My question is twofold.

Firstly, what should I tweak in my diet to keep me where I should be.? Goals: be strong, fast, explosive and hoping to gain another 5 pounds of muscle.

Second, during the summer when heat and fatigue keep me from reaching my goals or exercise for a week – Greg help me. It's more than a comma.

What should my training look like to help me keep the gains I get during the other 8 months of the year. I was so stoked to hear you like to boulder by the way. Thanks to both of you for all your hard work. You bring lots of laughs and great knowledge to many lives. Ciao.

Robb: Well we do what we can.

Greg: Sorry Mark, I don't mean to pick on you but I mean really, come on. A comma was not gonna fix it.

Robb: That was our infinite so use a [Inaudible]

Greg: That's like saying hey Mark look at my really shitty cabinets. Can I borrow a screwdriver really quick to fix them? You just gotta start from the beginning and make those cabinets good. I can't do that. I can build a sentence but I'm sure can't build stuff out of wood.

Robb : Yes you can. I've seen you. You build some pretty good stuff.

Greg: I know but I paint it black so you can't see all the defects.

Robb: Well that's fine. Even if I painted it – like the stuff that you built, if I built the same thing, painting it black would do nothing to improve it. So what's the first question here?

Basically, be strong fast explosive and gain 5 more pounds of muscle. Only 5 more pounds. I just want 5 more pounds.

Greg: Well, I find it interesting it says what I should do to tweak my diet but we don't know what he's eating right now.

Robb: Yeah, that makes it tough. Although the monstrously long questions can also almost bring about a game of Russian roulette with Greg and I. But I mean it's always a question of what you have been doing with regards to your training and your food and it seems that the goal is to get a little bit bigger.

So that typically means little more volume, little more loading, possibly a bit more food. Those are kinda the directions to go. But the muscle mass gain seems to be trying to accumulate more tonnage over the course of time and playing back and forth between volume and intensity.

You know kinda block periodization type stuff. It seems to be where the goods are in a lot of that. Some people get some benefit from Martin Burkham lean game doing like the reverse pyramid type stuff, works very low volume kinda high intensity.

I tend to burn out on that stuff. I do a little bit better from some slow waving volume and intensity type things. And as far as maintaining things in the summer, I guess it's again not knowing exactly what you're doing but I would lean towards a little bit actually in that scenario, a little bit

more intensity like 80% to 95% of one rep max for singles, doubles and triples.

And then maintain choric content and protein. Keep protein, at least a gram of protein per pound of body weight. May be use some branched chain amino acids to combat catabolism.

And that's a low volume approach that you could use when you're out busting your ass doing other stuff but it should send enough of a stimulus to prevent much in a way of muscle mass loss. That's what I've got. Greg, thoughts?

Greg: You need to build yourself some kind of wooden robot to do the heavy lifting. In that way you won't get worn out. You can grow better.

Robb: Even better than my answer. Perfect.

Greg: Simple machine. It's all about leverage. Ramps, levers and wheels, bro. I don't have anything to add to that. I'm sorry…

Robb: I do like the wooden robot idea. Bad ass.

Greg: The suite at the end of our building, there's a ping pong place going in. It's not like recreational ping pong like they're for real. One of the coaches is an Olympic champion.

Apparently the guy told me that they have these two rooms where you can basically go play, sorry not ping pong, table tennis. You can go play against some kind of robot sort of things where its automated.

I don't know how it works. But I'm gonna go check that out as soon as they open. Coz that sounds awesome.

Robb: Steve is Asian. Does he crush at table tennis?

[0:40:00]

Greg: He's only half Asian. Maybe it depends on which hand he's [Cross-talk]

Robb: I was gonna say it is gonna be the right or left hand at that and then he'll be able to smoke that thing. Perfect.

Greg: Anna says, hi Robb and Greg. First thanks so much for your podcast. I have become much smarter whilst training for my first season of ultra running. The question is what do you think about DHEA over the counter supplementation?

It has been suggested that athletes over 40 have low testosterone male and female. And often benefit from taking DHEA 25 to 50 milligrams. It has been implicated in improving bone density, preserving muscle and protecting female athletes from the deleterious effects of low estrogen. I'm interested in the ability DHEA has and protection against connective tissue, wear and tear as well. Fact or fallacy?

Robb: I keep dreading to do this series of post on the Okinawan's and talking about their diet and some of their bio-marketers. One of the interesting bio-marketers within the Okinawans is that they had very, very high DHEA levels. Good androgen levels, well into advance stage.

I think that this drop off that we see is more an artifact of the current way that we're living, the stress, the lack of sleep, bad diet, systemic inflammation, oxidative stress, all that sort of jive.

DHEA is definitely a good indicator of ageing. And it will give you if you have low DHEA if you're in your 30s or 40s or something then it doesn't really bode well.

But first before just supplementing with DHEA, I would really recommend that folks get a full panel of DHEA sulfate, cortisol, and they would wanna do an ASA eye test of four point cortisol morning, noon, evening the whole deal.

Testosterone, estrogen, growth hormone, sex hormone, binding protein like the full mean deal on that and just get a picture of where you are hormonally not just the DHEA itself.

Because if you have low cortisol levels and low DHEA or you've got some funky things like low cortisol in the AM, high on the PM but low total cortisol, low DHEA then we can guess that we probably have some sort of a cortisols stress adrenal thing going on. And then we need to ask question, what are you doing to cause that problem?

My guess is lack of sleep. Are you over training? Or you're not periodizing your training. Do we not have enough calories, what else is going on there.

I would want to know a little bit more about what a person has cooking before just simply saying yeah let's turn on DHEA. But then with that said, DHEA is a precursor for testosterone, estrogen.

It can cascade into cortisol. So it can be helpful in those situations, for men it can be a little dodgy because the DHEA can and often time's does cascade into estrogen and this is where you probably want to do some sort of at least like salivary testing when you're doing this stuff.

Because you know as a guy you don't want to start pumping 50mg of DHEA and wake up five weeks later and you've got some boobs going on. That could be problematic. Zinc C3 about 50mg a day has some pretty potent anti-aromatase activity so it tends to prevent the conversion of testosterone into estrogen.

If you have a doctor and you're doing some testing on this whole thing, the doctor may be willing to prescribe Arimidex 1mg somewhere between one to five times a week to help prevent aromatication again.

But that's going pretty far down the rabbit hole and before you start doing all that stuff then you definitely want to have your head wrapped around what your overall kind of hormonal profile is, what your lifestyle is like and all that stuff.

But I think there could be some benefit here. Say you're getting in to your 6^{th} or 7^{th} decade of life and legitimately like the DHEA levels are starting to slide down a little bit then maybe you work with an anti-ageing doc to get some DHEA supplementation and do some Arimidex or do the Zinc C3.

You monitor that stuff to make sure that things are going where they should go. And there is the potential too when you start supplementing with reasonably high doses of DHEA. You could suppress endogenous production. There's always a downside. There's always like a feedback loop when we use an exogenous hormone.

So when you start playing with those things you also need to know what you're doing and cycle on and off of them and all that stuff. It's a little bit more complex than simply running down the late vitamin world and grabbing some DHEA and slamming that stuff and being assured that you're gonna get benefit from it.

[0:45:09]

Greg: Alright. This one is just gonna be a struggle for me start to finish.

Robb: We could skip this one.

Greg: I like this one. Unless you really don't wanna do it.

Robb: No, we could do it. But it's a huge question and my answer is gonna be really short.

Greg: That's okay, it will be fun. He's such a big a fan I would feel bad if we skip it. So it's like weird Portuguese/ English so I'm gonna try and translate as I read. So forgive me.

Robb: You should use a mestre churrasqueiro accent on this.

Greg: I need to read this coz it's the best part. First of all I really don't know how to pronounce the syndrome, dupuytren or or something like that. (In the beginner I'm very irritate.

Alright. Eva says I'm a bachelor in Physical Education from Sao Paulo University in Brazil and work as a wellness coach in fitness consultant. Sorry. I totally lost track coz I was reading the next sentence.

The last 10 years I followed the greatest experts in nutrition and sports. I'm also a Chek HLC level 3. Squashy got nerdy, we'll tie in there. Rob, I have read many books in my life but never gave me a book like this so much information.

I cannot stop reading. It is wonderful and easy to understand. I'm simply fascinated by these information and "Passionate" about you. Very many thanks for writing a book as fascinating as this.

About a year ago began to appear a few nodules in the palm of my left hand. This condition is called Dupuytren and can be very irritating

sometimes. I'm wondering if you perhaps know something about it and if yes, could you give me some advices to avoid surgery? Thanks.

I have seen a few doctors and a physiotherapist. It is very in the beginning. According to them there's no other alternative and surgery later on. I do not want to wait long to do something.

Please let me know if you know something about it. I've eaten only organic foods in the past 15 years. And I do not eat foods that contain gluten. And after I start to read your book I also stopped eating quinioa and rice. Warm regards. By the way, where your Jujitsu coach came from in Brazil?

Robb: Oh gosh, I'm not sure.

Greg: I love those questions. They're so much more interesting than regular English.

Robb: It's true. And the punctuationers are usually fewer.

Greg: Seriously.

Robb: Ironically enough. When I dug around on this, there does seem to be some auto-immune kind of connection. There seems to be some low vitamin D connection. So it sounds like you're doing the right stuff dietarily avoiding gluten, you've cut out quinoa and rice.

I'm just wondering if there's any other potential gut irritants. Like the full on autoimmune protocol, grain, legume, dairy-free. Also cutting out tomatoes, potatoes, eggplants, you know peeling potatoes and sweet potatoes or not eating the peels making sure that you take some sort of a probiotic or eat fermented foods.

Really make sure that your vitamin D levels are in the high normal range. That's all about all I can dig up on this. It's a proliferative growth kind of story and radiation is fairly effective on this although that sounds kind of narrowly. The surgery looks really narrowly getting the palm of my hand cut open does not look cool.

I would just really look at anything that seems like is out of place with the autoimmune protocol. You know that you would normally follow. And

then my Jujitsu coach, he is from – I think he's outside of Sao Paulo actually now that I think about it. Alex Garcia and then I've also started going to some other guys as well.

Greg: Cool. Alright. One more question, are ketogenic diets bad for the thyroid? Hello Robb and Greg. First let me say that I love your podcast. I find excuses to spend drive time every Tuesday just so I can listen to it as soon as it's released. I have five kids and the DVD player. The man keeps them quiet so I can focus on your nuggets of wisdom. Smiley face.

What you need to do is just get one of those old dodge ram vans that are like 45 feet long and stick those kids all the way in the back so you can forget all about them.

On to my question, about 40 years ago I had to have half of my thyroid removed and the other half still has a benign tumor on it. This came after following Dr. Joel Fuhrman's dietary advice for more than 2 years. Frowny face.

We have been working on healing the kid's physical issues as well as mine from that time period for over 2 years now. And slowly finding improvement following a 100% paleo approach. No 80-20 for us. Good on you.

[0:50:04]

My youngest daughter Zoe – does anybody have kids now that aren't named Zoe?

Robb: I don't know man, it's a trend.

Greg: My youngest daughter Zoe was born three months ago. And I have been following a ketogenic protocol for a few weeks in effort to drop the added baby weight. I'm having a hypothyroid symptoms flare up however and came across this article which is from Cheeseslave.com.

Although she doesn't reference any scientific evidence that low carb can suppress thyroid function it has me freak out enough to add a bit of fruit and tubers back in daily.

Is there any truth to this and also do you have any advice for regulating my thyroid function without drug intervention? I've hesitated to have the doc check my levels because I know she'll want to give me drugs.

I would like to avoid that if at all possible. I am strictly breast feeding even pumping extra to feed my 3 and 6 year old a bit each day if that makes any difference. Thanks so much in advance.

I don't know how to pronounce this code name Paleoyogenee?

Robb: Yogenee.

Greg: Is that like a little yogi?

Robb: It's a yoga practitioner.

Greg: That's too bad.

Robb: She's flexible. The link that she has here to cheeseslave, it's actually a really good piece. It is a good piece but that particular one does not deal with cheese. You know there's lot of back and forth on the whole kind of low carb does it influence thyroid and stuff like that.

I think if one is eating a well constructed ketogenic diet that you would probably not see thyroid issues. And this is assuming that you're getting enough iodine in the diet and all the rest of that stuff. But with the production of ketones, we suppress cortisol production.

What I see a lot of people do – and particularly for a well constructed ketogenic diet, you are not actually eating all that much protein. Particularly find me eating in quotations paleo, like I'm eating root, shoots, tubers, fruits, veggies whatever.

I may be getting a 150 to 200 grams of protein a day in a mix of like 200 to 300 grams of carbs base on training volume and stuff like that. I'm really not ketogenic at all.

You can dip and out of ketosis from exercise volume and stuff like that. But because of the carbohydrate and the protein intake we're not gonna see a need for frequent cortisol released to bring blood sugars back up because we're providing enough dietarily.

What I see happen for a lot of people is that they start kind of migrating out of a ketogenic ratio of a relatively low protein intake much, much higher than fat intake and they start getting into this middle ground – this no man's land where they're eating enough protein to produce glucose in the liver.

And then they start running a little bit more off of glucose but this glucose is very transient. They aren't eating enough fat to consistently stay in ketosis. So they're not producing enough ketone bodies to run the brain and to run some of the other organs.

And so during this kind of in-between land, then starts causing the liver or the body to produce cortisol to release carbohydrates out of the liver. To release glucose out of the liver.

So I think that that's a lot of what we're seeing in this stuff. If somebody is doing a well constructed ketogenic diet, I don't really think that we see these things. But then what happens is that people start eating too much protein, inadequate levels of fat…

And then they get kind of in this crunch period where they don't have either ketones or dietary glucose to be able to make things run and then it becomes a stress.

And when you released that cortisol, cortisol antagonizes the whole thyroid story in a couple of different ways. It antagonizes the production of T4 to T3 which T3 is the main active thyroid hormone that is going to do everything that we want. Improving insulin sensitivity, decreasing systemic inflammation, all that sort of stuff. It's super important in LDL cholesterol receptor site function.

The cortisol antagonizes there. It can antagonize the TSH, thyroid stimulating hormone level. So you can end up with a number of different problems based on cortisol issues. But low carb isn't the only way that you can induce this.

[0:55:00]

One of the very common features that we see in people with over metabolic arrangement is hypothyroid. After you flip this thing around –

again if we're suffering blood sugar crashes because of too many carbohydrates which is causing blood sugar levels to go up and then to crash or we have systemic inflammation or we have lack of sleep, or low vitamin D or whatever the case may be.

But basically you could induce a similar hypothyroid condition by blood sugar swings caused by too many carbs caused by inadequate sleep, caused by all of these things that we always talk about kinda working their way back into insulin resistance.

So this is where these things can push or pull depending on how you look at it. Cortisol problems can cause thyroid problems which can cause metabolic arrangement or metabolic arrangement can cause cortisol problems which can cause thyroid problems.

So it's not necessarily a one way street. And then the link to cheeseslave, there's a little bit of kind of joking around about the gluten deal and stuff like that. She's not really hammering on it but there are a lot of people with kind of Hashimoto's Thyroiditis or similar hypothyroid kind of issues that are autoimmune in nature and probably gluten being like the primary problem in that story.

It's another one of these cases where I think it's just important to really kinda know what you're doing and why you're doing it. I think that a cyclic ketogenic approach would be totally benign in this regards.

So long as when you were really in ketosis you're doing that correctly. Like it's a moderate to low protein intake, high fat intake, you're legitimately in ketosis which is in my opinion not going to head us down this road of causing problems with regards to thyroid.

But if you are not managing that properly then I could see some problems arising from this. That's most my thoughts on that. Scott Hagnas did a great piece on high carb paleo and I think it's definitely something to look at.

He did low carb for a long time and I think he had some symptoms that would be similar to low thyroid and then he started eating a lot more carbs, less fat, a little bit less protein, and he seems to be functioning a

lot better. He came to visit recently and was 15 pounds heavier and mainly muscle. He's looking big and strong and jacked.

So the ketogenic thing, even cyclic ketogenic it's not the only way to lean out. I kinda like it because it's just easy but doing a little bit of portion control with paleo type foods but you know keeping carbohydrate levels higher that certainly an option too.

I think that you could things in a way that could cause problems for you if you're not paying tight attention to staying in ketosis when you're supposed to be in ketosis.

Like if the protein levels start coming up and then you've got to add carbohydrate, you gotta do something else to be able to mitigate that cortisol problem.

And if you're doing a lot of hard training like one area that I think that you could potentially see some problems even if you are in a solid ketogenic state, what they've done some pretty good studies and some long term studies of people doing aerobic activity while in ketosis.

And they adapted that. They are able to match their 2 max output doing aerobic activity but anaerobic activity has dramatically impacted because we don't have glycogen.

So if you are trying to do really low carb and also to cross fit I think that that could be a problem because cross fit is so effective at removing muscle glycogen because of the volume and the intensity that is inherent in the training that I think even in ketosis you could drop blood sugar levels enough where you could potentially get a cortisol response in that case.

And I think that this is some of the stuff that we are seeing as folks are maybe coming in in their metabolically broken. They do well on a ketogenic diet. They have good blood sugar control. They feel better than they felt on a long time, maybe ever.

This is definitely my story but when you start dropping in cross fit on top of that because the volume and the intensity because it's so glycogen

demanding, I don't know that even cyclic ketogenic is appropriate other than it being cyclic on a day to day basis.

[1:00:00]

You maybe low carb in the morning and then you add more carbs at night, do a carb back loading kind of gig. So you're still getting carbs on a frequent basis. You're probably never quite depleting all of your hepatic glycogen the way that you normally would on a fully ketogenic approach. Does that make sense?

Greg: Makes perfect sense. You're like some kind of wizard.

Robb: I do what I can.

Greg: That's it for us today.

Robb: Is that it? Are we done?

Greg: We're done. Sweet.

Robb: Episode 149 done. A quick reminder Evolve Foods, enter Wolf pack 12 and you will receive a 15% discount on purchases. Greg's got a Takano book rolling. I think that's it.

Greg: That's pretty much it.

Robb: Alright man. Well thank you for another fun episode. Should we do something fun for like episode 150? That's a pretty good milestone.

Greg: We probably should. What do they call that? In years, sexuicentennial?

Robb: Yeah. Sexuicentennial. We'll figure it. We'll see if we can figure out something fun.

Greg: Alright. You gotta work on acts coz I can't think of anything.

Robb: Yeah, I'll see what I can cook up.

Greg: Alright man, will talk to you soon.

[01:01:19] **End of Audio**