

Paleo Solution – Episode 140

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Robb Wolf: Hey folks! Robb Wolf here, Greg Everett in the house. My internet is going up and down. It's the day after the fourth, had a couple of Nor Cal mojitos last night so we'll see how this will roll out. How are you doing dude?

Greg Everett: You're getting fancy there huh?

Robb Wolf: Yeah yeah.

Greg Everett: I'm fine because I didn't drink anything yesterday.

Robb Wolf: I drank early though, I drank it around 4 to 5 pm then I went to bed at like 9:30pm.

Greg Everett: You should be fine.

Robb Wolf: I should be okay.

Greg Everett: You had the whole 12 hours to metabolize the alcohol.

Robb Wolf: Seriously man.

Greg Everett: I just ate an obscene amount of hamburger meat yesterday and so I feel fine.

Robb Wolf: Right on.

Greg Everett: I'm good.

Robb Wolf: Cool.

Greg Everett: So what's new? Anything that the folks would like to hear about from your end?

Robb Wolf: I'm trying to think. I told folks last week about the politics podcast controversial truth over at icanfixamerica.com so and as we are recording this today. We have the bending of the space and time continuum which I don't know if people saw on facebook. But the day from back to the

future like June 27 2012 that was the day that they went to the future. we have lived through that now.

Greg Everett: Awesome!

Robb Wolf: Similarly.

Greg Everett: I think someone did point that out to me on that day, it was pretty special.

Robb Wolf: Yeah, it's kinda cool. But the controversial truth podcast is rolling at the icanfixamerica.com. What else have we got cooking? I think that's kinda the big stuff. The Olympics trials are winding up and I only got to see sprinting and a little bit of gymnastics. But that was cool and got the full on Olympic gig rolling in. What have you got going on? You have a competition coming up soon?

Greg Everett: No. Well, yes and no. There's a little meet this weekend that one of my lifters is gonna do. Well two of them are gonna do but I actually won't be here. I will be out of town which is unfortunate so my good line me buddy Rob Eric will be coaching them and doing a great job I am sure and then actually I did a meet in L.A. last weekend or two weeks ago or something like that.

Robb Wolf: Nice!

Greg Everett: Which is the first one I've done in almost five years so it was kinda fun.

Robb Wolf: How does it feel to getting back out there?

Greg Everett: You know what, it actually didn't feel nearly as bad as I thought it would.

Robb Wolf: Right on!

Greg Everett: I didn't feel as old as I expected to so that was good. I went five fir six and did what I needed to do and I expected to do so I was pretty pleased with that so I got to see my buddy Mike Ray hang out with Bob Takano and Sean Waxman for a little bit.

Robb Wolf: Dude good times, nice!

Greg Everett: It was in L.A so I got fly down that morning and fly back that afternoon. No worse for the wear.

Greg Everett: Cool.

Robb Wolf: That's another thing I guess floating around out there. Folks have been pasturing Joe Rogan to get me on to the Joe Rogan podcast and if I can make the travel stuff work I'm gonna be down there recording that on July 26. I am not sure when Joe rolls his stuff but I will be on the Joe Rogan experience here sometime soon. I have been talking to Joe so thanks everybody for humping his knee to get me on that, that's a huge podcast and I think that will be a ton of fun.

Greg Everett: Awesome.

Robb Wolf: Enough jibber jabber, enough talk.

Greg Everett: That's right. Let's see here, this question which is grammatically not actually a question but does have a question mark at the end and that is women run better on less protein?

Anna says, Hi Greg and Rob I just came across a study and then a news article about the differences between women and men and optimal protein consumption. The general idea is that protein help men recover from endurance sports, cycling in the case of the study and improve their performance whereas, women felt no significant difference or protein even decreased in performance.

Do you think there is a biological difference between the genders that might cause this to happen? Does this changed your recommendation about how much protein women should consume? Or is this only applicable to endurance athletes and the same recommendation hold for strength training?

Additionally, how do these findings fit in with your weight lose protocol Robb? Still one gram of protein per pound of body weight per women? Here's the link to the article, look forward to hearing from you both thanks for all the great work and entertainment you both bring.

Robb Wolf: So, we've known for a long time that women tend to be better at mobilizing fat during exercise. I don't know if it's in the book or maybe it was my old seminar but I would say women are good fat mobilizers or something goofy like that.

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But that's been pretty well understood for a long time and there's been a sense that maybe at some point on the ultra endurance side of things women would eventually start beating men on endurance athletics because they can access body fat for energy better.

There's some biochemical metabolism related things that maybe makes sense. If men are not accessing body fat for energy then they're probably digging into their branch chain amino acid stores at very high work output. So more protein is probably gonna help to buffer that situation.

Also I think that the link that's here is not super detailed on the protocol that they used in tracking this. So this is assuming that the science is even good, that the finding is legit and all the rest of that stuff which may in fact not be in which case we're just making all these stuff up but that's generally what we do anyway. But there's a little bit of a reason for potentially - there might be some legit metabolic reasons for these stuff.

As far as the weight loss protocol, the reason why I end up recommending this gram of protein per pound of body weight is because people particularly, if they are overweight they have been overweight a long time, they have this broken neuro regulation of appetite. They are almost just paralyzed by this idea of being hungry and this is maybe a stretch in my analogy.

But when Nikki and I we're getting ready to have Zoey and we're doing all these birthing classes and all those stuff it was interesting to discover that pitocin, when they gave mom's pitocin which helps to induce labor it causes contractions in the mother which are super physiological in intensity.

So normally and I got to see Nikki's contractions during this whole thing and I was kinda thinking uterine contraction but in fact it looked like some sort alien kinda gig because from the base of her skull down you start contracting and you can see all the muscles and intercostals and everything contracting.

Nikki did the whole thing without drugs and that was really really intense as it was. Basically you put a mom on pitocin and the contractions are super physiological in intensity which means that the mom is gonna need some sort of pain management because as it's kinda pushing the borderline on that.

The analogy here is that if somebody is metabolically broken, I think that they have a hunger response which is super physiological. They get a

degree of hungry which..., what is it, “hangry” which is when you’re hungry and you’re angry. I remember getting that way when I was on carb rollercoaster and some kind of metabolic broken stuff.

I think if you’re reading lowish carb or more paleo or if you’re just lucky to be metabolically wired up so that you can access body fat in between feedings then I don’t think you get to that “hangry” stage. If you aren’t wired up that way, I’ve had a lot of clients that they just freak out at the idea of being hungry.

And so I recommended the gram of protein per pound of body weight which for a lot of people I find is very difficult for them to meet with whole real food. But what it does is it really hits that neuro regulation of appetite that people are not hungry. Protein has a thermic effect, its got an insulin sensitizing effect via glucagon and stuff like that.

There’s a branch of reasons why eating at that higher level of protein would be smart in my own opinion and then we just had our hormonal expert a couple of weeks ago. He was recommending about .8 grams per pound of body weight I believe for females. His was a little bit less but that maybe lean athletes versus overweight folks and stuff like that. I think I meandered around that topic pretty well.

But I can see some reasons why men would be different than women a little bit on the metabolic machinery. I still think for the weight loss protocol having people shoot for a gram of protein per body weight makes sense on a variety of levels. Ultimately, you just got to get in and do some tinkering. These are just hopefully like throwing darts. It’s getting you pretty close to the bull’s eye and then you’re gonna have to tinker and figure out how to get it.

Greg Everett: Cool.

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So if you can do site injections of pitocin into one’s bicep for example.

[Laughter]

Would you be able to get huge guns because you got bigger contractions?

Robb Wolf: I don't know.

Greg Everett: I would never try it of course.

Robb Wolf: I forget the mechanism on pitocin. I know it has to do with calcium getting in - I forget the pharmacology on it. So I don't know. If you did some sort of like a clamp you could inject it one part like the brachial artery and then pull it out at the wrist or something and not have it go to the system and maybe you could get some huge guns that way.

But just talking to Vinny down at like Gold's Gym would probably be a faster way to go [Laughter] and potentially not cause like a humeral fracture from your bicep like ripping your arm in half.

Greg Everett: That would set you back.

Robb Wolf: That might set you back. Yeah chicks dig casts. So there's that too.

Greg Everett: Cool. Alright. Let's see. We've got an intermittent fasting question here today. Alicia or possibly Alicia says, hey Robb and Greg. I'm a long time listener. I've been following a Paleo diet for about two years now. And yes, it's totally doable on a broke ass college budget.

Thank you for clearing that up. Your podcast is absolutely amazing and literally keeps me sane when stuck in traffic on the way home, my cortisol levels thank you. I wonder if anybody listens to us when they're not stuck in traffic. It's the venue for.

Robb Wolf: I think this podcast is almost kind of like you have to be in almost a solitary confinement, kind of option [Laughter] and the only other option you have is kind of like marking the passage of time with fingernail scrapes in the cement wall or listen to this.

Greg Everett: Oh well. At least we're providing a service then.

Robb Wolf: Yeah totally.

[Laughter]

Greg Everett: A quick back story. I recently fractured two of the metatarsals in my foot as well as nearly tore a tendon in my ankle. Prior to this, I was incorporating three days of heavy liftings, squats, dead lifts, etcetera as well as a couple of days of running into my week.

So my new found sedentary life is something I'm not used to. I have always heard about the benefits of intermittent fasting but feared that I wouldn't be able to get all the nutrients required for all my activity.

[Clears throat] But since the most activity I'm getting now is hallowing around campus.

I've been practicing intermittent fasting since injury took place about three weeks ago. So here's my question, due to the differing nature of the female hormone build, do you think intermittent fasting could be detrimental in the long run? Reproductive health and insulin or glucose levels, etcetera.

Most of the studies seem to focus on male test subjects. Now, I was wondering if either of you guys knew of any potential adverse effects on women. The only study I found was this. And we'll put the link in there. Also, will procrastinating studying for my upcoming finals i.e. impending doom. I found this online for the Squatchy lover in all of us.

Robb Wolf: Which is bad ass. It's a Squatch hat.

Greg Everett: T-shirt or hat [Laughter] Squatchy hat?

[Laughter]

Robb Wolf: And it is bad ass. I remember college and I would - the only time that my house is clean

Greg Everett: You do? [Laughter]

Robb Wolf: Yeah, vaguely.

Greg Everett: And you did it wrong then

Robb Wolf: Totally. Even at Chico state. The only time my house is clean was finals week. Like I find any other excuse beside studying for the most part 'cause - yeah. You just are ready to be walked, walked out and shot by the time finals rolled around.

The whole intermittent and fasting thing - We've talked about it a bit and I just see this again and again as you need to do a, I guess kind of a life analysis and kinda look at what your stressors are. You're in college obviously which to me seems stressful.

But I always taken like 26 units of Chemistry, Physics and Calculus and just being a jackass because I was also in 6 different clubs and chasing girls [Laughter] and all the rest of that.

Greg Everett: Is it a Motley Crew Appreciation Society?

Robb Wolf:

Indeed, yes.

So, if you are not super stressed out then I think you could probably dropped in a little bit of intermittent fasting and it wouldn't be a big deal. It would streamline your life. A little bit of nutrient partitioning I think is good for recovery. Intermittent fasting tends to release a little bit of growth hormone.

Growth hormone tends to be even more potent in a lot of ways for females than it is for males. There are a number of people that when they look at CrossFit females and the way that they're just kinda fucking yoked relative to the guys most of the time that there's some sort of a growth hormone signalling because of the continuously high lactate levels and all those stuff.

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I could make some arguments where intermittent fasting would probably be beneficial and maybe fine for a recovery scenario but, it's all predicated on what are your other life stressor and being in college seems reasonably stressful.

If you're getting nine hours a sleep at night. And even though you're studying and doing all the rest of that, I guess the main deal was if you are getting as much sleep as you want, like 5 or 6 days out of 7. Then I would say you could tinker with some intermittent fasting and probably be okay.

But, definitely the things that start going south, particularly for females would be like a normal menstrual cycle and things like that. So yeah, they're definitely could be untoward problems, things that you would want to avoid.

It would be very very similar to like the whole female overtraining triad where you're not getting enough calories, not enough fat and doing too much training. And so you would end up seeing a lot of the same issues pop up in an intermittent fasting scenario as you would in an overtraining or an underfed scenario.

As always with the intermittent fasting, you do want to get in the total amount of calories that you would otherwise get in. Otherwise you're in both a punctuated eating schedule and a calorie restricted scenario which then you're doubly kinda hammered.

So, there could be some good reasons to do it. There are equally could be some bad reasons to do it. And you just kinda have to do, in my opinion, a life analysis and figure out where you are with stress and sleep and all the rest of that and then just tinker with this.

And, keep in mind that, say like you have two particularly long days, it's like Tuesday, Thursday. Maybe those are the only two days a week that you intermittent fast like say it's just a pain in the ass to get out of bed earlier and eat because you're gonna be hobbling around in crutches. And so you pack a lunch and you don't eat until noon that day.

But then Monday, Wednesday, Friday, weekends, you load up the feed bag and eat pretty good and kinda make up for your skinny days on Tuesday, Thursday. So, I guess, just be smart, do an analysis, figure out what you've got going on and figure out if it makes sense to do it. And, if you do do some intermittent fasting, just don't be a dummy about it. But, you listen to podcast so obviously you are not a dummy.

Greg Everett: Don't be a dummy.

Robb Wolf: Don't be a dummy.

Greg Everett: So I have nothing to add on the whole intermittent fasting and various hormonal issues here. But, the thing that occurs to me reading this is, I get that you can't run anymore. That's pretty clear. But, I don't see why you're gonna be completely sedentary other than hobbling around campus.

It seems to me that there's still a lot of physical activity you could be able to do. You still have, as far as I know, two functioning hands and arms and upper body. If you're really worried about it, and I mean you kinda should be, being sedentary is not a great plan.

I mean, do what you can, find a place where you can get in and do a bunch of pullups and dips and pushups and bench press and press. If you have to sit down, that's fine. There's a million different things you can do to stay active and to not, one, be sedentary and kinda reap the whirlwind of that whole issue.

But, also just to keep yourself sane and to not kinda back slide on the results you've probably been getting from your lifting stuffs, so I would just say, be creative, get in the gym. There's still plenty of stuff you can

do with your, what I imagine you kinda have a boot or something on. Just go nuts.

Robb Wolf: That was one of the good early CrossFit journal pieces where he's basically talking about rehab and - so you tweaked your knee. You're in a ankle to crotch knee brace for six weeks or whatever. That's the time where you can really get jiggy on like trying to get a one-arm chin or press a handstand assuming that you could get in and out of that situation.

Greg Everett: He says it like "Don't fall."

Robb Wolf: Yeah. Don't fall. But you know like Greg said, you definitely - I mean, unless you're kind of like in a full body cast -

[Cross-talk]

Otherwise it is a really good point. Like you've always got some options for continue your training and doing some stuffs that you might not otherwise focuses heavily on. And that's something that popped up when you read the question initially. There was running, squatting and dead lifting. And I don't know if that was just

Greg Everett: There was an etcetera in there so.

Robb Wolf: There was an etcetera in that.

Greg Everett: Hope that could be etcetera covered all the upper body and trunk's strength effort.

Robb Wolf: It was a little bit and I'll get kicked in the balls for this but that's okay, typical chick deal [Laughter] and that it was all lower body stuff. It's all like legs and ass. And that's great but -

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Greg Everett: Just the way we like it.

Robb Wolf: Just the way we like it but I do see females tend to neglect the upper body and then in the other side of that you've got Vinny at 24 Hour Fitness that wears baggy pants during 120 degree whether because his legs are smaller than his forearm.

Greg Everett: A whole other topic.

Robb Wolf: But yeah totally.

Greg Everett: Oh man. All right. Pelvic tilt - I walk like a duck. Beth says Robb and Greg I herniated a disc in my back. Throughout my treatment my physical therapist keeps hammering on me to level my pelvis. When looking in the mirror I can definitely see that I stick my stomach and but out which is not only ugly.

Apparently it's a sign that I'm not supporting from my core. I feel a positive difference when I focus on pulling everything forward but if I don't focus on it I continue to walk around like a lame duck. Can you recommend any good stretches or exercises that will help?

I have a strong core and regularly do planks, squats, leg lifts but I'm assuming that I need to reprogram the neuro somethings rather to actually activate the muscles and bring the pelvis up. Any tips?

Robb Wolf: I just love anything that would involve rehabilitation of pelvi. That just seems like to do it.

Greg Everett: And the neuro somethings. I like that.

Robb Wolf: And the neuro somethings and others. Jim Laird, our good friend, did a piece maybe a month ago, a month and a half ago on this core stabilization and we can dig that up or if you just search his name on the site you'll find his piece on it and he's a competitive power lifter.

He's been at the elite level in power lifting at various points, had some injuries, did some work with various folks and really got it and just had to start off just basically laying on the floor, feet in a squatting position against the wall and then relearn how to fire your core set of muscles not just the abs but the obliques but the intercostals, the whole bowl of wax and fire it in an integrated fashion.

And so I would be of the opinion that you really need to get in. In this situation I see a lot of people with tight psoas, tight hip flexors, and then inability or poor ability to really fire the rectus abdominus and just the whole bowl of wax but like lower abs don't really fire all that well. I know that freaks out kinesiology people on the whole thing's supposed to fire right.

I see people have huge problems with knee raises and L sits and stuff like that and if you're really feeling around their core when folks are trying to engage they're just not getting a really solid bracing and that stuff just

takes time. It literally may involve some layering on the ground and relearning that stuff and it takes a bunch of time and a bunch of focus.

You need to be aware of your posture when you're sitting, when you're driving, when you're working and all that stuff and it just takes some time and effort. I had never had a back problem and it's funny how life comes back around. I worked as a physical therapy assistant for a number of years and people would come in to the physical therapy clinic for a variety of issues but the low back people always ice them and stem them and do all that stuff.

And then we go on the back and just shit talk and just like oh my god because people would come in and they were like oh oh oh, just barely able to move, busting a bead just like going from the front door to the mat that we work on them and everything. And I'm like dude are you kidding me? How can your back hurt that bad.

I was very insensitive behind their back and then I was down at the mecca of fitness CrossFit Santa Cruz, got my first exposure to glute ham bench sit up and 75 reps later I've got abdo basically about 12 days later we ended up pulling some max dead lifts and I had never ever ever -

If I failed on a dead lift it was just the weight didn't go up but about 12 days later I was still kind of janky and the abs from the glute ham sit ups and when I failed on this dead lift - which was interestingly it was like 425 which was about 50 lbs less than what I was normally pulling at the time -

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But when I failed I failed by low back flexion event, under load and at very high velocity and basically I had to crawl from my car to the apartment I was staying out at the time and it took me 45 minutes to cover that ground and that was awesome and changed my perspective on what significant package can feel like.

And it's taken me ages to try to rehab that stuff enough. If I'm not really focused on my posture, if I'm sitting a lot writing then I've got to be doubly focused. The times I tweak my back now are when I spend 6 or 8 hours writing and then I go out in the gym and I warm up and do everything but the act of just sitting ends up I think just kind of weakening my abs and I'm not really firing well. It's really easy to get a back tweak.

Greg Everett:

Yeah I would just reiterate what Robb said at the beginning of this. The classic roots of the whole anterior pelvic tilt are super tight hip flexors. A lot of times they're tight because they're weak but of course they can also be tight because they're too damn tight and you don't have anything balancing them out.

So tight short hip flexors, weak glutes or glutes that are not being activated, really tight erectors and weak abs. So you're basically trying to approach the whole thing like if you're balancing the front and back of the things that pull on your pelvis. If you can break it down into that simple of a model then it's a lot easier to deal with.

So plenty of ab work where you're focusing on - we'll get to this later but not really hip flexion but focusing on spinal flexion or at least static holds in a neutral position or slightly flexed position and then getting some glute activation stuff, glute strength stuff. So your typical glute bridges or single leg RDLs, that sort of thing. There's a million good glute exercises out there.

I'm starting to like more and more the barbell glute bridges just to get some more resistance once you have someone actually understanding and being capable of firing that glutes properly in that movement and then I would be careful.

You have leg lifts listed in here which is to me kind of a weird thing to list. It sounds like you're doing an inordinate volume of them just because you have them as one of your three exercises. I would be careful with that cuz that's just gonna be a big hip flexor exercise and so if you're gonna continue doing them make sure you're getting some serious hip flexor stretching before, during, after.

And then making sure that's getting balanced out with the glute stuff and with the leg lifts also you need to make sure that you're actually engaging your abs and like Robb said the whole lower ab thing is important. I see a lot of people doing this with a lower back that is pretty much an extreme extension the whole time cuz they're abs are not doing anything at all.

It's just pure hip flexors. So you're just reinforcing the problem there when you're doing that. Do plenty of lunges cuz that will kill a little glutes too but it also will naturally stretch the hip flexors. So there's plenty you can do without blowing that back out and again the benefit of course of getting this stuff squared away is that you're gonna keep your back out of such a compromise position.

Oh I know what I was gonna say. Go check out Mike Robertson's website too.

Robb Wolf: And you know I think that's who Jim worked with was Mike.

Greg Everett: Probably yeah. So robertsonstrainingsystems.com. He's got all kinds of good stuff on that sort of topic on there.

Robb Wolf: Then there shenanigans. Hey Gregg with O lifting obviously there's some hip flexor kind of dominance that pops up with the quad development and all that and then in the west side barbell scene those dudes are real geeked on big volumes of low back work like tons of reversed hypers, warm ups with mini vans and doing a 100 reps of RDL or good mornings with pants on so that you don't really get much of a knee centric loading and you just pump those things up with blood and everything.

How much do you emphasize that on folks's training, just really hammering the spinal rector glute tie in and all that jive?

[0:30:04]

Greg Everett: Well, a lot. Part of it is just the nature of the sport. We don't necessarily to emphasize it much and you'll still get a lot of emphasis on it just because every single thing we do is in spinal extension. There's nothing you ever do in weight lifting where you're in a flat back position unless you are really doing something wrong.

All your squatting, your pulling, all that stuff is just reinforcing that extended spine position, kinda strengthening those erectors and the whole posterior chain, even though people like to say there's not enough posterior chain work.

But I'm a big fan of back extensions, good mornings, stiff leg, dead lifts, all that stuff and I like unweighted back extensions for high volume especially with new people, I'll have them do 40-50 back extensions every single day they train

One, because it helps them learn the feeling of extending their backs properly, but two, it helps them get the extensors stronger and so obviously that's really important when you're trying to lift heavy weights, and if you're not lifting those weights properly, with regard to your spinal position, you're just setting yourself up for injury.

So I don't know that we're quite at the level of the west side guys who are doing 500 reps a day of some kind of posterior chain and back work, but it's definitely up there.

Robb Wolf:

Right.

Greg Everett:

And we're always doing stuff when we're in more prep phases, doing more strength work—bent rolls, and things like that; so there's always something going on with the lower back. That's why you tend to look at weight lifters and they have gigantic erectors.

I remember working with a physical therapist when we're down at San Diego who would work on my back and she'll look at me and be like, "Spinal erectors aren't supposed to be this big, they're really small muscles."

"No, it's not really that weird. It's just that you work on geriatric bilateral hip replacement patients all day long, and so everything is atrophied and small. And to you, that's normal." So I think there's a lot of potential to get really, really impressive rector strength, the whole set up of spinal extensors, not just the spinal erectors.

And it can be done very well without causing this kind of problem and I think, one of the weird things with the whole, I guess you can call it Lower Crossed Syndrome into your pelvic tilt, is that a lot of times people who are experiencing it feel like it's their erectors that are too tight and they're constantly stretching that lower back which I think is generally misguided.

Sometimes it is the case; sometimes the erectors are really tight but you've gotta be careful with that because a lot of times, that pressure, that compressive feeling you're feeling on the lower back is because your so psoas are so tight, it's pulling your spine into the hyper lordotic position.

And so you're exacerbating the problem by always stretching out your back and never stretching out your hip flexor. So be careful with that. Do some smart self diagnosis and evaluation and make sure you're covering all the basis and shooting for balance rather than picking one thing and going nuts on it and potentially screwing yourself up.

My favourite end to your public tilt story is "My now wife." This was probably 6 years ago when we first met.

Robb Wolf: Oh, this is awesome. I know the story.

Greg Everett: And anyone who's seen her knows that she is severely hyper lordotic. It's pretty bad. She's got the world's shortest hip flex. She needs about a 3-inch cadaver graft on her to get her back to normal< so I was working on her. I got my thumb below her ASIS and rubbing on that rectus femoris origin. Oh you have got to stretch this stuff out. And she said, "What do you mean? Isn't that a bone?"

[Laughter]

It was so hard and so tight that she literally thought that whole tendons origen was a bone. So don't let it get to that point. That was basically 10 years of training, never doing any ab or corrective work, never stretching, never foam rolling, and she ended up with bones for rectus femoris. Let that be a lesson to all of you.

Robb Wolf: When a body is subjected to a long term of annoyance and stress, you get inflammation, you release calcium—this is part of the process of osteosclerosis and the decalcification of the arteries.

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But whenever Greg would tell me the story about Amy, I remember there was some deal. We're like 1800's cavalry men. You'd see the skeleton on these guys instead of your ischial tuberosity down in your hips. These 2 tad, some sort of funky-like bone growth, literally, they will build these saddle-like bones.

It was soft tissue like part of the glutes or something like that. They would ossify and turn into bones. So you can do some amazing morphological changes if you don't address some of this stuff. It's pretty amazing.

Greg Everett: Excellent. Alright. Let's move on to creatine. Training crutch or comrad. Luke says, "Hail solutioners! In an effort to keep this question short and sweet, I will get right to the wild game meats and sweet potatoes of it.

I have experience the significant discrepancy between my one rep max efforts while supplementing with creatine monohydrate and those attempts made whilst cycle of creatine. I'm 5'10" and never more than 1 big dump away from 160lbs. My goal is primarily to build my relative strength numbers and I've gone about this in a power lifting oriented/Eric Cressey inspired way for the past 8 months.

In tinkering with creatine, I've done some self experimentation in an attempt to rule out the placebo effect and I'm more or less determined that I'm a positive responder to its important benefits particularly with regard to recovery after heavy sessions.

It seems to me lately that I should be making a distinction between the supplemented wonder of max PRs, squats 95, bench 205, deads 55 as of this writing, and the cycled off one rep max efforts which are often around 8-10% less than the supplemented efforts.

I'm a firm believer that if a lifter can't push or pull a given weight without straps belt and/or shirt, they can't actually move that weight in the real world functional raw setting. Since I have this aversion to gear lifting an interest in real world strength carry over should I be trying to build my strength without the crutch of creatine supplementation or should I quit bitching and be glad I'm responder to this stuff?"

Yes. "Is it possible that the creatine is just masking the fatigue in an inadequate warm up loading scheme for this one rev max effort? And given my responsiveness to creatine, would it be wise to just continue usage considering its many benefits related to recovery and anti inflammation? So much for short and sweet. Anyhow, Robb and Greg, I beseeched thee for thine counsel. Thank you and keep up the great work."

Robb Wolf: I guess a real short answer for this is run with it until the wheels fall off the wagon.

Greg Everett: Seriously, don't think of reasons to make something that works for you not work for you. Just go with it, man.

Robb Wolf: You know, the research in creatine in probably 2003-2004 stuff that I was writing about creatine is just everything that you find, it seems to be neuro-protecting against oxidative stress. Some people are good responders which it sounds like Luke is. Greg and I happen to be none responders. I still use it. I don't think it's masking anything.

It may be taking a little bit stress of the system, I guess, in allowing you to recover a little faster. But you see a lot of its benefits in just eating red meat because red meat has creatine in it and relative to say like a Lacto Ovo Vegetarian Diet get the usually see the performance bump on this so I just couldn't see why I wouldn't use this stuff.

And the creatine monohydrate, there's all this wacky shit that's super expensive like the kilo of creatine monohydrate for 4 bucks and spoon it down with water, post workout, you don't need a glucose delivery system, yeah, it works a little bit better but if you take a lot because it's cheap, you'll finish off in the same spot anyway.

I think it's good stuff, it's inexpensive, it has other health benefits, I just can't really think of a down side. It's one of the rare nutritional supplements that actually does something and doesn't really seem to have a down side to it.

Greg Everett: Yeah. I would agree with all that and then definitely add that comparing creatine into a squat suit or bench shirt—not a fair comparison.

Robb Wolf: Yeah.

Greg Everett: Not even some more. I mean it is you doing those lifts. Creatines are already in the body. You're just bumping up naturally. To me it's like saying, "Well, I'm gonna get better sleep and then my testosterone level are gonna go up. So that's cheating."

[00:40:04]

I was like, "No. You're just trying to optimize your natural abilities."

Robb Wolf: Like a half a cup of coffee is gonna improve cardiac output, it's gonna improve your resistance to fatigue and so you're typically going to be able to run faster and longer.

Greg Everett: Who drinks half a cup of coffee?

Robb Wolf: Well, that's the funny thing. Almost nobody does. The therapeutic window is really skinny on coffees. So if you're gonna use it as an ergogenic aid particularly for endurance activities, it's like 150mg which is a tepid half a cup of coffee kinda gig. But then you go more than that then it's no longer ergogenic, it's ergolytic. And you're preventing cardiac output.

You're preventing neurological impediment in performance and I think stuff like and. I just love like Saturday Night all drugs Olympics gig where Dana Carvey rips his arms off in a clean and jerk.

Greg Everett: It was so good.

Robb Wolf: I'm more on that side. I'm like, "Let's just make human freaks." Like let's unleash the myostatin knock out virus and it'll be awesome. It'd be amazing. Then I can look like John Fragoso other than the tan.

[Crosstalk]

Greg Everett: So speaking of cheap monohydrate versus all these jiggy things, have you looked it all at the creatine that's bound with beta-alanine?

Robb Wolf: I have not. And I was gonna mention beta-alanine as being one of these other things that work well. But I haven't really looked at anything where there perform together.

Greg Everett: Here's why I asked. Because I definitely don't respond well to creatine in general. I mean I've been using it probably for 15 years now. But there's a company called Podium Gold which is owned by Alex Krychev who, I forgot what year it was, is an Olympic Silver Medallist weight lifter under Ivan Abadjiev for Bulgaria.

But he's actually about 45 minutes away from us and he's got a little gym there. Anyway, he makes a creatine that's combined with beta-alanine. And we actually sell it. I started selling it cause I liked it do much and that's what I use now and I've actually gotten a better response from that than I ever got from any creatine and I've pretty much tried everything out there.

The latest one being the whole kre alkalyn thing where everyone was super excited about. It didn't do a damn thing for me. I thought maybe I was imagining it so I think 2 different times I actually stopped taking the podium gold went back to just pre alkaline or just a regular, like a Jarrow, monohydrate. And I can definitely feel the difference.

Robb Wolf: It makes sense. Beta-alanine is one of those supplements and it's all working in that atp creatine phosphate like augmenting that super low gear, 1 to 5, 1 to 8 second max power production.

One, there's good science that shows that both these things work and then the fact that stacking them might work even better, that totally makes sense. I haven't dug around in the literature a ton but it's not surprising because each one individually seems to have a lot of benefit.

Greg Everett: Yeah. Cool. Alright.

Robb Wolf: And what's the name of that? Do you sell it off of The Performance Menu?

Greg Everett: It's called Podium Gold.

Robb Wolf: Podium Gold. Okay.

Greg Everett: So we just sell the little tubs of it. It's expensive. I'm not gonna lie. But if you've got some extra money to kick around that's definitely worth trying.

Robb Wolf: Cool.

Greg Everett: One tub of it.

Robb Wolf: I'll give that a whirl.

Greg Everett: Cool. Alright. Max says hey Rob and Andy.

[Laughter]

Robb Wolf: Must be an old one.

Greg Everett: I'm a 21 year old male on my school's cheerleading team. I'm about 160lbs, 10% body fat, and I do gymnastics, body stuff with sprints 2-4 days a week. I've been Paleo for 1 ½ years with great results, and I'm loving the podcast. Clearly, I have 2 hour practices 3 times a week in which I throw girls into the air and catch their feet with my hands and press them around to hit different stunts."

[Laughter]

He has a good description of cheerleading for us. "It's a lot of heavy lifting and stability work combined. I'm usually feeling good until about halfway through the practice when I sometimes get tired and feel my power going down.

My body at this point is screaming for rest but my coach and teammates are expecting me and the other guys keep pressing it up. Before I was Paleo, I would drink water down Gatorade throughout practice and this didn't happen but now Gatorade makes me feel like crap. So I'd like a different solution. Any suggestions?

[00:45:01]

Thanks so much. I'm slowly working my way through the podcast and I'm now at episode 50 but I go through one a day as I could so I'll probably be live around the time you would answer my question if you decide to.

Robb Wolf: God, I hope it hasn't been that long.

[Laughter]

Greg Everett: Seriously.

Robb Wolf: This would be actually good argument for the creatine, maybe the beta-alanine combo because you get this repeated near max effort things just again and again and again and you may, just as a baseline maybe not getting enough carbs in like definitely wanna some free session carbs, definitely a ton of post session carbs.

So if in the past Gatorade was propping you up, then, I'm just thinking that you're not getting enough carbs in there to keep the whole thing going, and then some coconut water plus creatine might be a good option. But I'm guessing that you probably just aren't getting enough carbs in.

Greg Everett: Yeah.

Robb Wolf: And as I read this, I'm reflecting on my own high school experience in why I played football and did wrestling instead of cheerleading, I have absolutely no idea.

Greg Everett: I got to give it a couple of reasons.

Robb Wolf: Yeah.

Greg Everett: Times were different back then.

Robb Wolf: That's true.

Greg Everett: Let's see here. This was the pre-GLEE era.

[Laughter]

Robb Wolf: That's true.

Greg Everett: Exercise prescription for chronic fatigue syndrome. Curtis says, "First of I just like to say that I love the show and appreciate all the work you guys

are doing. It's profoundly helpful." I don't know about Rob but I'm not really doing any work. I just kinda read question and then copy what Rob says.

Robb Wolf: Isn't this a little bit like the analysis of work early with CrossFit where we'd say if you were running there wasn't work thing done? Cause a load lifted it against gravity?

Greg Everett: Don't they still say that?

Robb Wolf: Yeah at some point.

Greg Everett: So with my question, "Did you have any specific experience and recommendations for training someone with chronic fatigue syndrome. As I'm sure you wear exercises a sharp double edged sword for CFS folks since post exercise malaise is one of the primary symptoms of CFS yet exercise can also generate a significant increase in injury if dosed appropriately.

I think this is an interesting topic since "creative exercise" is one of the few standard CFS treatments endorsed by mainstream medicine yet there is surprising little detail on the type of exercise to be performed, intensity, duration, recovery length, etc. in fact all the information I seem to find is really bad and given by MDs with surprisingly little understanding of exercise physiology."

Not that surprising. "As a former competitive cyclist from exercise kick, I've been searching for a more detailed, evidence based analysis of the world exercise in CFS particularly as it relates to the different pathways oxidation and cortisol release.

I've experimented with various routines over the past few years and currently convinced that simply scaling back my traditional endurance training is not the right approach. Since CFS often involves metabolic issues for mitochondrial functioning and high lactate production, glutathione depletion, chronic inflammation, and HPA disregulation, I feel that CFS sufferers like myself need to adopt a specific program that takes easy issues into consideration.

Although I've always been an endurance athlete and focused on base building, I'm beginning to wonder if extremely short, intense workouts with long recovery periods might be more appropriate with CFS. I would love to hear your thoughts on this topic. A bit of back ground: I've had CFS for 10 years, I'm currently on a gluten-free diet, and incorporate

some of the Paleo principles although I still eat a fair amount of rice and corn.

I've worked with several doctors to address my underline gut dysbiosis, gluten sensitivity and adrenal fatigue. However is still experience really intense post exercise fatigue if I put myself too far. Even a 30-35 minute workout with too much intensity can completely wipe me out for a week or more. Thanks so much."

Robb Wolf:

Well, really good question. And actually a lot of background information on chronic fatigue, fibromyalgia type stuff, talking about the metabolic issues, poor mitochondrial functioning, there seems to be problems with ATP production, maybe systemic depletion of magnesium that might an outgrowth of gut permeability issues, systemic inflammation, glutathione depletion, there's some really good stuff in here so good show, Curtis on covering all that stuff.

Given that we know that there's some metabolic issues or some systemic inflammatory issues, one just tighten up everything do go auto-immune Paleo protocol. I would be willing to bet that you probably a vitamin D deficient also and I would not be surprised at all if you lived in a cloudy overcast environment, like if you were Portland, Seattle, something like that, I would not be surprised by that at all.

[00:50:10]

There're some nutrition things that I would address. I would try to address some lifestyle pieces like get as much sun as you reasonably can, and if we get to it today, we have a sun exposure question which is interesting. And from there, the exercise piece, the intensity, it' kinda going around and around and around on that.

And I see the benefit for the short 3-10 minute MetCon type things and stuff like but I'm almost more of the opinion that, to the degree that people can, they should be going it a 70-80% effort and get some volume in but really, really graded like you mentioned in your question the graded exercise piece.

And I just can't think of a prescription for that without knowing where the person is, like exact;u what is your current work capacity if you do workout A then the results are this, like you've said, that you'd be laid up for a week or more afterwards. So without knowing the base line of the individual's activity, I think it'd be hard to make a prescription.

I think that almost aerobic circuit training where it could be some walking, or rowing or maybe like a really light jog, some relatively low weight, not real spastic lactate producing weight training, so maybe lower rep, or just a work rest interval where you're not really producing lactate all that much and just creating some volumes on that.

And this might be a piece like a Joel Jamieson. We had him on. He talked about heart rates monitor and heart rate variability and everything and I have not hooked mine up because immediately after Joel came on, we had the baby and that was basically I need some sort of a reasonable baseline of sleep to be able to say, "Okay, this is healthy."

Then we can test from there but Zoe is finally starting to sleep through the night a little bit so I'm getting ready to try that stuff on. But everybody from Scotty Hagnas to Eva T, a bunch of people are playing with this heart rate variability, Jim Laird again is also playing with it.

So you might do some tinkering with the heart rate variability stuff by Joel Jamieson's book. He shot me. I've got it here on my desk; the completed Ultimate Guide to Heart Rate Variability Training by Joel Jamieson. You can get that at his website. 8 weeks out. A lot of people are geeking out on that stuff.

I've gotta admit that I'm still suspicious as hell of all of this stuff. I've just historically not been real impressed with quantified self options, all that much other than maybe tracking your sleep and a couple other things but there are a lot of really smart people who function at a high level who are just saying that the heart rate variability stuff is the bee's knees. I still haven't tinkered with it, Greg, I don't know if you have.

Greg Everett: No. Joel sent me the stuff. I was digging around looking for my heart rate monitor and I can't find it so I may have to order a new one before I can start using it.

Robb Wolf: Cool. So I'm planning on starting that up here pretty soon. But I would do all the standard supplementation like the increasing the magnesium supplementation, support, digestion, co q 10, like a Q-sorb form of co q 10, like Jarrow formulas has a good one. I know that there's another form of co q 10 instead of ubiquinone, it's a quinol or something like that.

I forget what it is but it's supposed to be more absorbable like do all your homework on the supplementation side of that stuff, make sure your vitamin D levels are good, get some sun, and then start figuring out what graded exercise really means to you. Figure out a work output that you

can do that doesn't lay you up for days at a time and I would actually go more towards the maybe you pick 20 minutes of work but it's at a really low intensity and you use heart rate variability and heart rate monitoring to dictate what that is.

And one of the beauties of CrossFit style protocol with lots of variation in it is that you get a continually, new response but I think that people who have been over trained, chronic fatigue kinda deal or something like that, doing the same workout 3 or 4 times in a row and maybe just trying to improve that workout from week to week a little bit might be better and then 3 or 4 exposures down the road then you can change the workout ordering.

[00:55:10]

Do some other tweak. But I think, actually, constant variation like that may actually be, for certain people, a little bit stressful. It might be better to give them consistent exposure and then not an interesting thing. Old, old, old CrossFit journal, there was a beginner's program which was a structured program where you did 400 meter runs and specific dead lift protocols, and different stuff like that, and it looked way more like a graded exercise exposure.

Funny enough, it looks a whole lot like on ramp exposure and things like that. So I think beginners or people who're a little bit broken, they would actually benefit from less variety, and more consistency, and part of that is just you laid, okay, so you'll do a workout this week and it doesn't destroy you, just try to do it slightly faster or some minor tweak on that or just do it again because you're still gonna get an adaptation out of that. The main deal is figuring out how to do work without killing yourself.

Greg Everett:

Yes. Alright. Let's see here. Max says, "Greetings. I've adopted the Paleo lifestyle after being overweight and having some thyroid problems. I'm a mid thirties male with 2 children. Now as I recently got tested and found that I've got high liver enzymes and an egg allergy. I'm actually more than twice as sensitive to egg yolk and whites as to gluten and yeast.

This is a bummer as eggs are my got-to morning foods these couple of months while being Paleo. However it also may explain why I don't have the fantastic before and after pics that many people have after 30 days of Paleo since I actually increased my intake during that time. I'm trying to lose weight, eliminate booze completely, and hopefully lean out my liver along with the rest of me.

My question is about choline which and adult male needs a lot of. How am I going to get it going forward without eggs, soy, milk, wheat germ, etc, etc? Am I going to have to enjoy putting liver in a smoothie every morning? Delicious. I can eat 2lbs of raw broccoli per day. Do choline supplements work as I have heard mixed things? Thanks.”

Robb Wolf:

I think choline supplements work great. Chris Masterjohn, the Daily Lipid and then also at westernprice.com. He has talked a ton about choline deficiency and I think that is a real issue that is flying under the radar for a lot of folks and choline is such a critical co-factor in normal liver metabolism and it sounds like eggs are really accessible source for that for most folks so I think the choline supplementation works okay now.

Did he say he can't use soy? I think most of the choline supplements are soy derived though. You'd have to look at that and see Les Sturges like doing it completely synthetically, I think, they're either coming out of agar or soy. So you have to look at that and see what's up with that.

But the long and short, I would say that, choline supplementation is good, alpha lipoic acid, silymarin like milk thistle extract, all of these other liver support mechanisms that you can do like liver cleanse, liver support. I think that that's all smart as well. And yeah, I like choline and check out, just do a little googling, Chris Masterjohn, choline, Daily Lipid choline, there's a lot of really good stuff there and I think that he is fully geeked on that topic. That's my go-to resource for all things choline related.

Greg Everett:

Cool. It's good to have a reliable choline resource.

Robb Wolf:

I like to think so.

Greg Everett:

Okay. Sun exposure and beauty solutions. Jason says, “Dear Robb and Greg. I'm not really sure if this is something you want to address on the pod but it's a topic that's pretty important in selling the “Get more sunlight” line to my very image conscious customers. And there's a link here which is entitled “Shocking proof of how the sun makes you age prematurely.”

Now I get the n = 1 argument and I feel like this maybe a bit over stated. But if I'm going to convince my customers that sunlight is good for the health, I first must overcome their fears of looking like this guy.” I assume that there's a horribly gross picture of somebody's face on that link.

Robb Wolf:

Yeah.

Greg Everett: “I acknowledge my ignorance on the topic. I’ve just never been particularly interested and still would be but if it were not for client worries. Are there solutions to this problem to the extent that it exists? Is there a research I can point to to reassure clients about sun exposure. I say this a lot, but thanks for all you do. –Jason”

[01:00:00]

Robb Wolf: The link is actually really cool. It’s from gizmodo and it’s a picture of a 69 year old guy. And he was a truck driver for almost 30 years; 28 year as a delivery truck driver. And the left side of his face is clearly far more aged, more wrinkled than the right side of his face. Everything in life has typically some cause-benefit analysis.

And for me, we live in Reno now, and I get lots of sun and I’m happy, and I usually try to do about an hour of yard work each day like we’re putting in pavement stones around the side of the house and then the backyard. And I try to get about an hour of direct sun per day and I know that that could, in the long, long run, have some aging effects on the skin. It almost certainly will. Relatively to like if I live in Seattle, Portland, and I lived under a shroud clouds my whole life, my skin does not age that much.

But the thing is that if I live in an environment like that I’m not gonna live that long cuz I’ll shoot myself because I will go fucking bat shit crazy. For me I’ve got this cost benefit analysis where some sun exposure and I think I’ve graded myself up when we first got there and I was really pretty pale then I do 15 mins a day and I’ve kind of worked myself up to about an hour a day.

That’s about where I cap it off and I actually brown up pretty good. I’ve got a decent tan with that and I’ve been getting my vitamin D levels checked and they are really good and when you make vitamin D through that whole sun process then you have seco steroid production that goes just into a ton of different things like serotonin normalization, dopamine normalization, testosterone production.

It’s really interesting. So I think as a baseline you’ve got a cost benefit analysis. I look, feel and perform better and there maybe some long term detriment to this with regards to skin aging but I’m not out there 8 hours a day though.

After I pass that one hour mark say like Nikki’s dad has been helping me put in this paver stones and if I’m out there for like 6 or 8 hours then I put

on a long sleeved shirt and I put on a big brimmed hat and after I get my one hour of upper torso no shirt on sun exposure then I throw on a hat, throw on a long sleeved shirt and I just regulate my input.

So that's one piece to this. Now another piece to this is when we look at this guy this is a very pronounced difference that we've got here but I'm also gonna point out that if this guy's a delivery truck driver he was probably getting a good 6-8 hours a day everyday of sun exposure on that other side.

You've got a pretty high dose on that and then I'm also gonna go out on a limb and probably guess that the dude's diet probably wasn't remarkable, wasn't probably rich in antioxidants, wasn't really high on keratenoids and other colourful antioxidant constitutens which are pretty clearly photo protective for the skin.

So that's probably another piece to this.

Greg Everett:

And he probably smokes non filtered Luck Strikes all day long.

Robb Wolf:

Yeah that could be. That would be another interesting control on this thing whether you're a smoker or did he have that oxidative stress. So as far as selling this stuff to your clients I think that the best sell is just that we know that some modest sun exposure is beneficial.

We're not receommending that you go Jersey Shore and Snookify your self where you look like a really well done piece of barbecue chicken everyday all the time. And so I think that just educating people about the cost benefit story that there are other benefits of modest sun exposure and even if it's like 15 or 20 minutes a day - that's really really modest.

There's even stuff like most people who end up developing malignant melanomas they perceived a burn to a particular patch of skin which then subsequently doesn't really get much in the way of sun exposure later and it's interesting that that really big insult without a lower level consistent hormetic stressor seems to be more damaging than if you were to then ramp up your sun exposure.

Loren Cordain has a really nicely done chapter on this in his book was it The Paleo Answer I think. Life's not a 100% safe. There's cost benefit analysis and fundamentally if people are just really - you know if they want to spray tan and not get out in the sun and get vitamin D via other routes I can't really argue with that too much.

[1:05:38]

For me I just enjoy physically being out in the sun. It makes me happy. It makes the rest of my life good and that all seems worthwhile.

Hey guys so we had a little internet hook down there but I was 99% done so cost benefit analysis blah, blah, blah, all that jive so. Yada, yada.

Greg Everett: Oh man we almost made it. We only have one more question.

Robb Wolf: We could save that one for next time since the internet is getting dodgy on us anyway.

Greg Everett: It's probably a good plan. Cool.

Robb Wolf: So wrapping this guy up. Episode 140. We will have Dr. GI Joe Brasco back on. We had some translational issues on getting doc wired up on Skype so we'll have him on soon. We've got another doc who's an expert on small intestinal bacterial overgrowth coming on. Who else do we have?

We're gonna have Mark Bell on here at some point. I think we're gonna have Dan Pardy of Dan's Plan and then my good friend Ashley Tutor talking about some quantified self stuff at some point.

So we're trying to get some other folks on here so there's not just Greg and I yammering inanely. So we can have other people yammer inanely.

Greg Everett: Excellent.

Robb Wolf: Anything else dude? Did we miss anything? Is that good?

Greg Everett: I don't think so. I think we're good.

Robb Wolf: Sweet. Well I'll talk to you some time soon.

Greg Everett: All right.

Robb Wolf: All right man.

Greg Everett: Have a good week.

Robb Wolf: You too take care. Bye.

Greg Everett: All right see you.

[1:07:25]

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