The Paleo Solution
Episode 11

Andy Deas: Robb Wolf. Andy Deas. How are you man?

Robb Wolf: Good, I've got a cat on my lap and nothing weird with that. He just planted himself there so…

Andy Deas: Well, I have an enormous Dutch Bros. Coffee, and you know hopefully that will get me through the hour or whatever this goes. And I was also thinking, you know, we didn't really celebrate last time we recorded that we hit double digits 'cause this is actually 11 I believe we're recording today.

Robb Wolf: Nice! Right on! Well, Woo-hoo! And I think we're up to about 6 total listeners, 4 of them in a rest home so…

Andy Deas: I feel like we're going to overuse that 6 listeners joke. We have to come up with something clever and unique for next week.

Robb Wolf: Yeah.

Andy Deas: I like the guy on the blog that posted -- you know he enjoyed it every week when Robb said, "Oh you know, I survived this week you know, and the snipers didn't shoot me outside my house" or something.

Robb Wolf: Yeah, it doesn't appear that I'll be rendition-ed any time soon, although if we do feel the team at the CrossFit games, I will probably be wearing some sort of a disguise.

Andy Deas: Maybe a big beard and an Afro.

Robb Wolf: A giant beard, yeah. I might get that or something so…

Andy Deas: That would be awesome. All right! Well, here we are. We got a group of questions. I don't think anything too controversial this week Robb, maybe one or two but, you know, hopefully we'll keep your blood pressure low considering we're recording this in the a.m. and you got the cat to kind of calm you.

Robb Wolf: To calm me, yeah. I'll bring in a fish tank, that's supposed to drop your blood pressure too so…

Andy Deas: All right! Well, the first question is -- a kind of question about counter argument so, “Robb, I would love to see a podcast on common counter arguments to Paleo nutrition and good rebuttals. In other words, as a trainer, when we recommend this type of nutrition and the client says ‘well, my doctor says…’ what are some of these common worries? And what should the appropriate response be?”

Robb Wolf: You know we literally could and maybe we’ll see if folks like what we do here, the little brief treatment that we do here. This literally could be a whole -- probably an hour-long podcast just on this and so we’ll kind of touch on it briefly. If folks are interested then we can get in a little bit deeper on it. You know, this becomes a huge problem if you’re a trainer and you’re working with clients and there’s the whole kind of gray area of like recommending any type of food you know, an approach at all.

Obviously, if you recommend the food pyramid then I guess you’re into good graces. If you recommend lean meats, fruits and vegetables, nuts and seeds then somehow that’s not in the good graces. I’m not quite sure how all that stuff works, but folks do end up with these really common counter arguments. And I think one of the most common ones that pops up is that -- and Professor Cordain touches on this. I don’t know if people know. If you go to the Paleodiet.com, you click on the “Published Research,” then Professor Cordain has a common counter argument paper that he had published.

And in that, he tackled a couple of the -- that he is one of them -- it’s basically the statement that, you know none of these Paleolithic ancestors lived that long, they had short brutish lives, and so they didn’t live long enough to be able to manifest cancer, diabetes, heart disease and all that sort of stuff. And on the surface that sounds great but the problem that we have is that we have contemporarily studied a hundred gatherers including Yuchi Indians of Peru, the Inuits, the Kunsan of Sub-Saharan Africa.

And these people have been very extensively studied anywhere from like 30 years to 100 plus years and these people show that standard kind of hunter and gatherer health profile, which is that they really don’t have any type of cancer, diabetes or heart disease going on until they started to obtain a westernized diet. And a subcategory of that is that, you know even if -- you know, let’s say over the course of time we are more likely to develop some sort of degenerative disease, there are still people who develop cancer, diabetes and heart disease comparatively going ages.

And so we're still not seeing any of that in these hunter and gatherer groups.

So that's one of the big main points I think, and you know when you start arguing with people, or trying to persuade people on this stuff, really you've got maybe 3 different categories of people with all these, maybe 50% of them may be open to this potentiality, 50% of them or you know 25% of the remaining 50%, you might be able to persuade them to do some reading on the topic and they may come around to at least entertaining the potentiality and the remaining 25% like they're never going to be swayed by any amount of evidence. They've got their mind made up and they just like to argue a lot.

Nikki's cousin-in-law I guess is what you would call him is exactly that person. A real bright guy, good dude but it doesn't matter what the topic is, he has always have the counterpoint to whatever you happen to be talking about, and he's always singing the song about like balance. And the balance -- I know I'm getting a little off topic but the balance thing is kind of funny, people will throw this notion out there about balance but then they have absolutely no qualifier for what that means.

I remember driving through -- I got lost in Oakland one time. I remember driving around there and I just noticed that there was not a single like -- you know legitimate supermarket or even like a corner market where you could buy like fruits, vegetables and fresh meat for miles, and miles, and miles away. And so, what does balance mean for an area of town in which the only things that you have to choose from are convenience stores and taco trucks, you know? I mean it's just kind of a preposterous notion but that's a whole other side deal.

And another real common counterpoint about the whole Paleo thing is the high protein intake -- high dietary protein intake is going to give you renal disease and absolutely is not like a simple Google search on this topic, high protein diet, renal disease, kidney disease, either one and you've got a slew of scientific resources on that that show that unless there is some sort of pre-existing renal or kidney disease, high protein intake is not factoring that, it may actually improve renal function. So that's another very easily put to bed question. There's always protein debate that's floating around which -- we did that via the performance menu. I think we had a link to that a couple of shows back Andy?

Andy Deas: Yes, we did in the show notes, yup.

Robb Wolf: So the protein debate is a great resource for a ton of different, you know kind of Paleo counter points. Cordain did an amazing job on that, I think he actually ends up addressing more issues in the protein debate on this kind of counter point than he did in his counter point paper, so that's another good piece. From there I guess you just kind of have to tackle a thing at a time. You know people will say "Well, what about the Asian diet?" That's always a great one.

You can point out the differences between Okinawans and then the standard kind of Japanese population. The Okinawans eat more protein in total. They get the bowl of carbohydrates from kind of yam and sweet potato. They live longer. They tend to be 6 to 8 inches taller because the yams and sweet potatoes don't have the anti-nutrients that rice contains, and so they end up getting taller, when the Japanese -- you know first generation, the second generation Japanese-Americans and they're being taller than what their parents are because of the more nutrients and their diet.

So there's a bunch of this stuff that you can kind of put to rest but it takes a little bit of time. And ultimately -- luckily I'm in a point of busyness where I just don't have to spend that much time convincing people. You know folks are more or less kind of voting on what we're up to and so that convincing side of things is minimized. One final thing that I'll say on this, and again, like if people find this an interesting topic we could really get in and flush out, say like 15 or 20 points and get in and really look at each one of them very detailed. But the final thing that would just say is that there is still -- if you Google Flat Earth Society, there are still people on the planet who believe that the planet is flat, and that we never went to the moon, that the whole NASA thing is a farce.

And so you know there are people depending on, you know how big of a jerk you want to be, you can say they're either naïve or they are idiots and you know to some degree that's true with the whole food thing. There are people that are just absolutely going to be convinced over whatever it is that they're convinced of and that's it. For myself, even though it's horrible -- possibly horrible to admit it, I run the whole spectrum. I've done Standard American Diet, I've done Vegan, I've done kind of Lacto-Ovo Vegetarian, I've done uber low carb kind of Paleo-esque deal, I've done higher carb more along the lines of the Paleo diet recommendation that Cordain has done.

I kind of feel like I've done every single thing I can and granted that's only N equals 1. It's only a standard size of one. But I've at least got my own experience. I have blood work at each one of those nutritional regimens

and whatnot, and I have some performance values and I know how I look and perform and all that. So I've got a good benchmark on that. If somebody is making some sort of an argument that any you know nutritional protocol or exercise protocol does or doesn't work and they haven't played with it, I think they're just full of shit.

And I think at some point that's where the rubber really hits the road and I think that that's where -- if you are talking to someone and trying to educate them on this whole Paleo approach, there's obviously a big spectrum of what the whole Paleo thing means or real high performing athletes. They probably have more carbohydrate in their diet for -- you know, generalist people would probably have less. With that said, the commonalities are more -- the thing, the separations and we can always hang our hat on how the person looks, feels and performs and we can track our markers of health and disease. And there's no Flat Earth Society element to that. You know it's very quantifiable or very approvable but people just need to get in and try it.

And I guess that would be the thing that I would leave folks with if they're having some sort of conversation with people on this topic is, you know throw out their "Hey, why don't you try this?" "Why don't you gauge how you look, feel and perform?" "Why don't you do it simple and work before and afterwards, and then let's see how it actually works for you." And then it's not an argument, it's not some sort of arm-wrestling match or something like that. It's really just around personal experience.

Andy Deas: Yeah. And I think -- you know I have two thoughts on this one, Flat Earth Society Robb, I notice that the more -- in the gym this morning at one of the terminals that webpage was up, so clearly you were spun up talking to somebody over the weekend.

Robb Wolf: One of our new clients in the honoring class his father was a local physician and he said that his dad is interested in all these stuff, but he's very much stick in the, you know American Dietetic Association like high-carb, low-fat kind of thing. All of his studies have been done with that and so I was -- I pulled that one up and told the story the other point, so yeah.

Andy Deas: And then the only other thing is that when you hear Cordain talk, I think he always kind of has this sentence or phrase that he uses where he's like, "I have a hard time believing people when all I'm asking them to do is, "Why don't we increase the amount of fruit, veggies and lean meats in your diet?" You know even though we're pretty Paleoed out, like I don't know how that -- you know what are you going to eat instead of that that's any better? Do you know what I mean?

Robb Wolf: And you know he in his book did a comparison of American Dietetic Association recommended diet including greens, dairy and all that stuff. Randomly 2,200 calories of it through a nutrition analyzer and then did the same thing with the representative Paleo Diet and the Standard American Diet, or not even a Standard American Diet, it was like American Dietetic Association recommend deal like low fat, dairy and all that sort of jive.

You didn't even meet the recommended daily allowance on much of anything on that value, like you are in deficit on most of your vitamins and minerals whereas the Paleo diet, it look like you were taking a nutritional supplement and the only things that you were deficient in were vitamin D and Calcium, and the more we understand the role of acid base balance and the fact that we got a bowl of our vitamin D from sunlight then it all kind of made sense. It's like, "Oh, okay this stuff it's kind of --" And you know it actually makes sense logically on the first orders of principles, you know evolution or biology and nutrition being a subset of biology, that all made sense instead of just like some random studies that have no basis in reality.

And yeah, I mean Cordain's basic deal was like, "Hey folks let's try eating some more lean protein and then displace the grains, legumes and dairy with more fruits and vegetables." Is that a reasonable supposition? And it makes people like Chico State, and nutrition that are just like, you know, burning the succulence and just going wild over this thing. They're just out of control over this, so it's really funny.

Andy Deas: Insert a weekly Chico State and nutrition joke, okay. All right! Good question. Yeah, so folks you know put comments up if you want a further fleshed out, you know realistic counter arguments there. That was a solid 12 minutes of Robb Wolf knowledge, and I think for today's show that's enough but we could certainly flesh that out if folks who really want to kind of spend some time looking at all those dimensions.

Robb Wolf: Yeah, and that you can just give us some specifics that you want because I mean it could be zillion acid base balance, Calcium, Magnesium, bone mineral density, you know the kidney thing touched on, like protein and cancer like -- it could be a bunch of different stuffs so…

Andy Deas: Yeah, yeah. That could be cool. All right! Good. Next we got a question from Ryan, it starts off with, "Can you talk a bit about cortisol and how to reduce or control with diet?" So a little bit of background on Ryan, 6'4" 260lbs, Brazilian Jiu-Jitsu 2 to 3 times a week, CrossFit with extra strength

work, workouts are 4 to 5 on, 2 to 3 off, mostly Paleo, occasional cheat or binge, was doing the anabolic diets, switched to Paleo to give it a shot because he's been stuck at 260 for about six months. He's been happy on Paleo and doing well but needs plenty of fruit to keep up with the Jiu-Jitsu or at least he thinks he does. As for body, his arms, neck, face, and legs are decently lean, all the extra fat is in the belly.

"I don't really have love handles just belly fat. From one of your previous podcast, you indicated this could be from excess cortisol, what should I do to get rid of the gut?"

Robb Wolf: Well, I'm guessing -- like the first thing I would throw in here -- and this is something Mat Lalonde and I have talked a bunch about, Andy and I have talked a bunch about. You know high training athlete like Glen Cordoza a good example, the IFC Lightweight Champion, the way that we've been monitoring him, are protein and veggies and good fats for most meals, protein and like a yam or a sweet potato for post-workout meals. The yam or sweet potato is made up of starch. Starch is made up of glucose polymers. It's glucose strung together and that glucose tends to replete or replenish muscle glycogen preferential to fructose which tends to replete liver glycogen.

Like if you get in Mat Lalonde talking about fructose, you would think that it's Satan incarnate. I mean he's -- folks think that I'm over the top on this stuff, like Mat is like, "It is poison. You shouldn't eat any of it." Like he's even at the point where like blueberries and stuff or not really a worthwhile tradeoff and you can eat like you know spinach and kale and stuff, and get the same like lutein, you know all that sort of jive.

So the first thing that I would recommend for Ryan is that he would probably shift the weight from fruit, for his carbs and more towards like a yam or sweet potato. And he keeps that stuff only in post-workout periods. He should then keep his feeding consistent to go back to his question about how to mitigate cortisol, consistent feeding is really, really important. And that's one of the issues like Edo and poly -- can have about any type of fasting or intermittent fasting is the potential for some sort of a cortisol exacerbation. Sleep is obviously a big deal with that. We've talked about this a bunch.

The problem that we have seen with some people who are over training and/or not sleeping enough and/or incorporating intermittent fasting is that they start retaining fat right at the umbilicus, right at the belly button level. So that's kind of where you would be looking at for that cortisol stuff. So we would make sure that you eat consistently, that you sleep as

long as quality as you possibly can, control stress levels as best you can. Like for me, I really had to mitigate my coffee intake even though -- like I've said I've tried to commit suicide with a frappo and I failed, but I think I've managed to really goof up my renal as a consequence to that.

So that's the stuff I would tackle. I would tackle post workout nutrition in a better way of just fruit or with more yam and sweet potatoes. Stay consistent in your feedings throughout the rest of the day. And you should see some good benefit to that. We will probably at some point do some sort of like a short video segment on *[indiscernible][0:18:22]* and how to figure out your dosage on that because you can seriously goof yourself up with that stuff. So I'm not really going to get into details on that right now. So in a.m. like a gram of buffered vitamin C can also help with the cortisol, but I really think in this case, probably Ryan is just getting too many carbs and too much on fruit. I would chip more on yam and sweet potato and knock the greens out kind of immediately with just some you know -- yeah.

Andy Deas: Yeah, I'm looking down at the kind of the last two sentences, he says he gets 8 to 9 hours of sleep at night except he does wake up a lot, and then go back to sleep. Boy and sometimes as they talked that that can be some of that funky cortisol stuff.

Robb Wolf: Right. And the key is doing Jits -- I know this has been a problem for me. I've really been wanting to get back into doing Brazilian Jiu-Jitsu, it's almost always late at night and late for me is, you know like turning towards like 5:00, 6:00, 7:00, 8:00 and pretty late it's like 8:00 or 9:00 at night, that's when I used to do Capoeira. It was always super late at night and I always had early jobs and so I would be super active relatively late in the evening and then I was just awake.

And my sleep would be disturbed. I didn't get any sound sleep, so if you can, like getting a Jits class that's a little bit earlier in the day would help. Like that's a problem for me, like even doing CrossFit type stuff. Of I'm doing any type of intense Metcon or heavy lifting, if it starts getting past like 5:00 in the evening it definitely keeps me awake later. So that's some stuff to consider too.

Andy Deas: You know and I think the only other thing I would get on my soapbox about potentially and maybe you can touch a little bit on -- yeah, I would handled this with Glen just to -- I think there's some differences in volume but you know Ryan is doing Brazilian Jiu Jitsu two to three times a week. He's also doing CrossFit with extra strength work as much as I can like I wonder what that CrossFit programming looks like. Like I think when

you're talking about, you know potentially someone is doing Jits it's pretty -- you know metabolically demanding.

I get concerned about how much time we're spending outside of you know the training within CrossFit land and trying to build more metabolic capacity or really burning yourself out versus focusing more on some physical qualities that you may not be developing through or some of your Jits training.

Robb Wolf: Yeah, totally. Like with Glen if he's in off season then we'll do a little bit more kind of classic CrossFit style stuff in addition to his strength work. But any time he starts getting near kind of a fight camp then the metabolic conditioning pretty much drops other than despite of conditioning. And so that's something to really keep an eye on. Ross Enamait stuff is great on this because the dude is a beast. He's a phenomenal boxer. He has trained athletes from MMA to boxing to Jits and all that. Like we have too but I think it's nice to go outside to other communities and look at what they're doing and Ross -- in his books, the Never Gymless and then the other one is Ultimate Intensity -- Unlimited Intensity -- I forget the name of it. It's a great book.

But he makes the point again and again and again, if you're a fighter then you really need to keep an eye on what -- you know how much you're doing so that you can focus on the fighting and the strength and conditioning needs to be supportive and adjunctive to that and not in place of that.

Andy Deas: Yup.

Robb Wolf: There have been a ton of kind of big name Jiu-Jitsu players who would get in and start doing standard CrossFit stuff and they get excited about it because it's you know another competitive environment, and something fun and there's always a bunch of hot chicks rolling around. And then the Jits game starts hanging because they are crushed and that you need to keep an eye on you know, "Okay, what is my focus?" If you're off season, then that's great. You can kind of shift gears a little bit but unless you're a professional in this you really -- like Andy said, you need to keep an eye on where are your focus is at.

If he's rolling three days a week, I would think maybe one kind of circuit, almost fight gone bad ask sort of thing a week and then rotate that. And then maybe two days of like upper body, lower body you know two days where he's doing upper body and lower body both days of strength work, like a press and a squat one day, a dead lift in way to pull up the other day

and that would be about it. I think that's going to be about as much as you're going to be able to stick into that program.

Andy Deas: Yeah. And I think the only other thing goes back to you though tracking some benchmarks overtime and kind of seeing what variations in your volume of training does to some of those benchmarks.

Robb Wolf: Totally, totally.

Andy Deas: Yeah. It could be beating yourself into the ground or we have the folks on the, you know recovery giants you know that's --

Robb Wolf: Yeah, and if you've got it then definitely run with it. But I -- well, few folks have that.

Andy Deas: Yup.

Robb Wolf: And that they usually have been in a fit from being smart and doing a little bit less or at least less and punctuated doses like every fourth week, a back off week and stuff like that, so yeah.

Andy Deas: Yup. All right! Good question. Next we got a question from John, "First off I wanted to thank you guys for the work we put into the podcast." Look at that, he loves it. See that's positive feedback Robb.

Robb Wolf: Is he listener number five or what?

Andy Deas: Well, judging by his numbers he's not in the rest home community so…

Robb Wolf: Okay.

Andy Deas: So he gave a little background, he's 5'5" 146lbs. 2 years into CrossFit, 7:00 Helen, 14:40 Filthy Fifty, you know 825 CrossFit total. Did Zone and Zone Paleo for eight months and was kind of freaking out about everything having to be weighed and measured, joined the club, he had to make sure all of his almonds were the same size and shit.

You know I want to share a little tidbit, I'm not going to mention names but there's a gentleman that I used to workout with in Arizona that was to known to carry his almonds around in his pocket even to parties to make sure he would, you know get his 75 almonds a day. So you'd see him over in a corner of a party like having a beer or something and then in between you know taking a handful out of his pocket, counting out his number of nuts and secretly consuming them.

Robb Wolf: Yup. But I've met this guy and he's jacked, and his girlfriend is smoking hot so… It may be where he needed to go. I know exactly what you're talking about, so if you want to be jacked in and have a smoking hot girlfriend then you should walk around with your -- doing the allotment of almonds.

Andy Deas: I think he needs to stop that practice, and he's still jacked and his girlfriend is still super hot so…

Robb Wolf: Oh, okay cool. We can talk about it all day.

Andy Deas: All right! So after he quit having his almonds the same size, he transitioned into a strict Paleo diet. He's no dairy except the heavy cream in the coffee, sleeps well 8 to 9 hours. He started IFing about 5 months ago and loves it, very liberating not having to eat every 3 to 4 hours. Also, since started IFing he has seen huge PR's and Metcon wods, and strength in oly lifts, cool!

So two questions, (1) he needs coffee in the morning and always puts cream in it. Since he's fasting until around 3:00 is the cream breaking the fast and hurting the effects of it?

Robb Wolf: You know I mean, technically it kind of is but there's a reality that -- any type of modulation in our caloric intake, like if we eat -- and some good studies have shown that people simply eating less on given day, say like they eat 40% less on the X amount of calories day one, then 40% fewer calories on day two and they kind of cycle with that. They end up saying a bunch of the benefits that we see with intermittent fasting. So it does kind of break the fast but then at the same time it's not a huge caloric intake and it's all fat. So I mean to what degree that affects things? I have no idea. And if he's still functioning well and he's seeing performance improvements, man, I wouldn't mess with those. That seems good to go.

Talking with Martin Beckham, the Lean Gains guy and e-mailing him a little bit. He really feels like about 16-17 hours is about optimum on the intermittent fasting, and some reasons related to -- that's how long you've got a little bit of liver or hepatic glycogen storage, and usually that's how long you'll be able to avoid really digging into gluconeogenesis, breaking down muscle tissue to make glucose to keep your brain going. Even when we're very, very fat adapted in ketosis, we still convert or we still need some glucose to run like the brain and some of the red blood cells and all that, so we have some tissues that needs some glucose. So

for Martin what he is trying to do is get like the minimum -- or maximum benefit, minimum cost and he's around that 16 to 17 hour mark.

So this is something that he might consider if he may be pushing the fast even a little bit too long but obviously he's still making games but that's just something to keep in mind.

Andy Deas: Yup. Cream, that's good stuff.

Robb Wolf: Good stuff! Yeah.

Andy Deas: I remember those days. Anyway, next question. He takes whey protein in his post-workout shakes and just came across "hemp hearts" and was wondering if these would a good sub for whey powder?

Robb Wolf: I would just stick with some sort of like humble for the -- instead of the hemp hearts. It's a joke. I think the whey protein is fine post-workout, like this dude is leaning and jacked and have great numbers so he's the perfect person for doing some post-workout dairy. I think that's fine. And I think for what he wants which is really enhanced recovery and maybe even a little bit of hormonal tweak with that insulin -- insulin like growth factor, growth hormone, all that stuff that the dairy definitely hits, the hemp hearts are not going to do that. So I would stick with the whey protein.

Andy Deas: And then you want to take a quick look at his list of supplements here Robb. Do you see if there's anything you think we should throw out while we're on the question?

Robb Wolf: He's doing vitamin Ds and vitamin E, Magnesium, Zinc, glutamine and creatine, that all seems fine. If he likes it, seems good to go, I don't see any problem with any of that.

Andy Deas: Yeah, cool. All right! Good question! The hemp hearts thing, you know, it's funny I think we're talking the other day how -- like questions come in cycles. Like just recently you know Mark Sibson had a thing about -- you know a similar thing. You know this hemp protein has become really popular, what does he think of it? You know is this primal? And it's just funny how you -- you know you kind of get these little waves of these similar questions.

Robb Wolf: Right, great.

Andy Deas: Hemp hearts are magic. They will turn me into Super Mario.

Robb Wolf: If that's the case then I'm all about it.

Andy Deas: Seriously, sign me up.

Robb Wolf: It would probably give up one or two testicles to be Mario so… But it would actually probably mean like three of four additional testicles to become Mario so…

Andy Deas: Seriously. All right! Next we got a question from Russell. He cited two kind of little case studies which I won't ready but you know I encourage the listeners to read kind of -- you know he finishes his quote of the case study saying like, "Two small cases but like you said, it's like this stuff almost works," which I think is what we find.

Robb Wolf: Great.

Andy Deas: So moving on to the questions, past 18 month, his diet has gradually evolved from Zone, Paleo Zone with dairy to Paleo. Recently about 1.5 months ago I dropped dairy and soy and finally saw a noticeable difference in body comp. However, my workout intensity has currently mediocre at best and feel my diet is better than it has ever been. Generally trains around 1:00 p.m., this allows for a 6:30 a.m. breakfast, late morning snack and then a 2:30 p.m. lunch, dinner is usually at 7:30 and bed by 10:00.

A couple of questions here, "Workout intensity is mediocre and I'm exhausted when I get home, thus, pretty unproductive before I head to bed. The only non-Paleo item I'm eating is a builder bar after or before my workout sometimes if can't get the real food. Any thoughts on why my intensity level is slacking?"

Robb Wolf: I would be curious how he is handling the post-workout meal, like is he doing some carbs in there and you know Mat has kind of illustrated with his stuff that it's not a do or die thing to do carbohydrate post-workout for some people. I think for other people it's really, really important and that's something that folks need to tinker with and check out. Also, you know how many days a week is he training? Does he have any time off? Has he ever taken like a full week off within, you know like go three weeks, take a back off week, go 12 to 15 weeks, take a full week off like not in the gym at all.

If folks aren't doing that stuff, like they're never "periodizing" or tinkering their training volume, you're just going to get cooked at some point. It

doesn't really matter what your nutrition is, like you're going to be zorched at the end of all that.

Andy Deas: Yeah, I think this is a case too where -- you know it sounds like he's pretty busy. It sounds like his diet is pretty claimed. Be curious also how much he is eating. And so for some folks, I find with men sometimes, they'll kind of get to the under eating standpoint when they start going kind of strict Paleo.

So this is one where you could do a meal log just for five days, and just kind of see where his caloric intake kind of fits overall. You know I'm kind of curious what his total fat looks like because obviously in cases when you are possibly underfed, generally you're not going to feel real good and perform really well.

Robb Wolf: For sure. Like I've been tinkering with leaning out a little bit just kind of cut back my fat intake and my in the gym sessions have been miserable, absolutely miserable. And I definitely leaned out but I didn't feel all that great and it's kind of a tradeoff back and forth on that. And so what I'm going to do is just kind of tackle that in a staggered approach where I do a couple of days a little bit more caloric restricting, a couple of days normal intake, kind of classic bread patty fields and that sort of thing.

And I think that that works pretty well. You know your point about the lack of food is probably a big one because man if I'm just hammering calories, it is so much harder for me to over train -- my perception of over training, it's as if I'm being kind of moderate in my fuel intake, for sure that's a really good point.

Andy Deas: Yeah, and I this more common with men, you know. I know we have a couple of dudes, like I know we met that guy this weekend that weighed 105 or 85lbs. he had no problem consuming like 5,000 and 6,000 calories a day but most folks I find -- you know don't end up on that side of the continuum naturally.

All right! And then, questions 2. There hasn't been much discussion on pre-Wod meals. We always talk about recovery eating, but what is the best thing to do pre-Wod? I was looking at this specifically because last year at the Rocky Mountain qualifiers, he was top 15 in the first event, went home ate some turkey, sweet potatoes and nuts, and then preceded the crash. He had a caffeine drink prior to the wod, which is pretty typical. He could not wake up for the second wod even though he had about three hours to rest.

"I gave it less than a half hearted attempt and got destroyed. Immediately afterwards someone handed me a Builder Bar and I wolfed it down. Within 5 minutes I felt like I could go back and do the workout again and do it better- right then. So on non-multiple Wod days, what is the best pre-game food, and on Competition days, what is the best in-between Wod food?"

Robb Wolf: If we touched on this a little bit at one time and the pre-wod deal depends on what type of wod it is because a filthy 50 is going to be a really different pre-meal need versus like five by five backs wod. So if you're doing strength work, I think like some protein only is probably a great way to go. If you're doing some sort of metabolic deal, then you need to figure out what your digestion is going to handle.

One of my last CrossFit journal pieces that they put up, like explorations and nutrition or something like that -- I don't even know if that stuff is still out. It may have disappeared but basically look at the CrossFit gamer, like a theoretical CrossFit gamer, and you really need to figure out like what you respond best to. Like I've seen people who do great with a pre-game meal like they'll do an orange and two ounces of turkey, and they just set the world on fire. They crush the workout, they have great digestion, they have no problems with that.

With me, I would be barfing the stuff up, and so I need to be almost a little bit hungry going into kind of a metabolic session or doing a hard Jits, wrestling deal or something like that. So it's very, very, very subjective like you have to play with that and you have to figure out what your stomach responds well to. This is all stuff that you have to game plan ahead of time and I just -- the post-workout meals I see a lot more consistency. The pre-workout meals it just seems way more variable. I see more variability than I do in consistency.

They're just these guidelines of like with a strength work you seem to do very well with protein pre-wod although than -- you know Mat Lalonde and some other people pointed out that we -- maybe get some better hormonal adaptations from a little bit of fasting pre-wod, so that's even a very debatable point you wonder of all the -- you know eat, eat, eat stuff is being skewed more by the body building scene than actual, like legitimate need to pre-wod fuel. But then when we start looking at something like metabolic conditioning, like the run dead-lift example that he had, you just need to figure out what -- well, with your stomach can game play some of this stuff.

Andy Deas: Yeah, and I think --

Robb Wolf: You know post-workout meals are critical but multi-event day you're going to have to use some sort of a dense carbohydrate source, like a whey protein plus maltodextrin, white grape juice might be an option because it's mainly glucose. It has got a little bit of fructose. On multiple event days, you do want a little bit of fructose in the mix because not only are you trying to replenish muscle glycogen, you're also want to top off a little bit hepatic glycogen, liver glycogen because that is going to control your blood sugar levels from event to event, like from minute to minute.

Andy Deas: Yeah, and I think this is -- we'll touch on this -- you know I think a little bit on a kind of a game day eating stuff on a later question from speed, about some endurance stuff. But I think back to your comment about periodizing training, and this is one where you know I'm generally -- you know I'm on the low-end of what we call the "recovery spectrum." I'm not a fan of multiple day trainings but I feel like if you're going to compete in some sport or event like the CrossFit games, then you need to have periods in your program where you're playing with two and three or whatever, you know day wods so you can (1), get used to it.

And I'm not talking about everyday but also experiment with your food intake to try to get the best feel for what's going to work for you when you go in there. You know I think it's a mistake if you're only getting -- if your whole year looks like three on, one off or something and then you roll into the qualifiers and you're going to do five events in two days, like for most folks they don't feel like they're going to perform their best unless they've played with what kind of food they can deal with. You know kind of the ratios that they want to mess around with, like OPTs programming, right?

There are periods where they're doing doubles or even triple days, there's a period where they're taking a rest, there's you know periods of single day workout, and I think you really have to experiment and periodize with that depending on kind of what goals you are going after and what kind of competitions you're going to enter.

Robb Wolf: Absolutely. I did some consulting with a girl who did really well within the East Coast qualifiers and prior to -- I forget the exact sequencing, but they did one event. She did really well with that but she was pretty knackered afterwards and I asked her how she had game planned all of her feeding beforehand and she did nothing. I mean just absolutely nothing. So folks will focus on their oly lifting and their gymnastics and the running and all that, and then the food is just like -- is completely you know not even analyzed, and you really have to look at it in the context of your training

volume, your training cycle, where in the day you're going to be competing.

You know like the 2008 CrossFit games we were operating with an assumption of about 3 hours between events and then in the 2009 CrossFit games like there were people who were less than 45 minutes between events. So the ability to replete, to refuel after that was completely changed and that's a tough one, and then I think this year like we're not -- the folks are not really going to know what the events are until like the day or something like that.

And so you need to really try to game plan as many different scenarios that you can, and if you are not playing with how you react to various types of feeding protocols, and make sure that you don't get gas, you don't get indigestion and all that sort of stuff and you need to be able to respond appropriately and all that.

Andy Deas: Yup. Good question. All right! Next we got a question from Ken, he has been living what he believes is Paleo lifestyle and diet for the last year. In his readings and now life experience, there seems to be one huge issue that very smart people seemed to believe very different things. He would love your current thinking on this issue.

The issue is LDL particle size and LDL particle total number. When you eat and supplement this way, you will likely see your particle number very high or even increase. No doubt the proportion of small versus large particles will improve substantially and that is definitely good but how important or dangerous is the high LDL particle number in your current thinking?

Robb Wolf: Cordain and some other folks just had kind of a global view of the cardiovascular disease risk and they tackled this. And their perspective was that that the LDL count was very minor and it's affecting the total cardiovascular disease potential. Definitely the size was much more of a factor. Small dense LDL particles are usually generated from a high carbohydrate environment. And so when we see high triglycerides we tend to see small dense LDL particles which are oxidizable, they tend to get stuck into kind of nooks and crannies of the vascular bed, and this is where we kind of end with vasculosclerotic lesion and cardiovascular problems.

So the tradeoff here that we're trying to find, your common wisdom from our docs and whatnot would say we need really low LDL counts so that we have fewer total particles floating around that can cause some sort of

a problem but what the -- so what the counterpoint to this is that it's not so much how many of them are there, it's how many of them are small versus how many of them are large. Large fluffy LDL particles tend to metabolize normally to pass through the vascular lumen without problems, they pass in the liver without problems and so they tend not to be a cardiovascular disease risk. What's his name again here? Ken.

Andy Deas: Ken.

Robb Wolf: Ken, shot us some numbers. The numbers that he shot are -- I'm not super familiar with how they report it, but what he shows is that initially the count goes from -- the whole particle number goes from 18-42, which it seems odd, but I'm not sure what units we're using to characterize that, and I'm not sure if in addition to the LDL particles or doing VLDL's and what not, so we're going invite him to chip in, maybe like scan his full report so we can get a perfectly good look at that.

But the small numbers that he has are 8-78, so they're comparatively high, and again, I'm used to seeing these stuff as kind of a histogram, like a graph that shows relatively proportions of small versus large and we're not getting that out of this, so I'm not sure what the – if we can affirm from this that out of 18-42 that 8-78 of them are small dense, then we probably got a relatively high situation there, and that's back in April 2009, and at that time also, his triglycerides were 94. If we scroll down and folks will have all these stuff on the Podcast notes, we go down to December 2009.

His total count is 21-13 so it's up a little bit, but his small dense count is now 2-12. So as a fraction of the total LDL count, it has dropped precipitously and then also his triglycerides are much lower. So my t-come is, is that his cardiovascular risk profile should have improved out of this. We could maybe balance this. Is it a Grey? Dr. Grey, the guy at Heart Scan Blog?

Andy Deas: Oh Dr. Davis.

Robb Wolf: Davis, Davis. So we can maybe hand this over to him, maybe bring him in on this and get his opinion on this. But my opinion on this would be, that we've seen a really dramatic shift in the small dense LDL particles down, and so there's much fewer of those, so we should have much less of a problem. We see a decrease in the triglycerides, so that's usually an indicator that systemic inflammation is less. But again, we're just going off of some numbers that are dropped in on this report, and so we don't see the total picture here.

Andy Deas: Now, what your experience Robb, as far as what you see generally with total particle number, LDL's kind of a shift to more Paleolithic style of eating, so not necessarily worried about the size. Do you see as far as just the general total number, do you see that remaining relatively consistent? Going up, going down? Any thoughts on that?

Robb Wolf: It seems pretty variable. Some people, it will actually drop a bunch, some people will go up a ton, some people will bunch up a little bit, like there seems to be quite a bit of variability on that. Michael Eades talked about this, in Protein Power Lifeplan and that's why he makes the point that the LDL particle size is more important than the total count, because you naturally have a comparatively low count but a very, very acrogenic potential because even though your total number of LDL particles is low, all of them or very nearly all of them are small dense and highly oxidizable.

We just were working with a client who suffered a heart attack in his mid 40's. He had pretty high triglycerides, like around 160-180 triglycerides, not super high but relatively high and then his HDL's were very, very low. His LDL's were not super high but the particle size was horrible. And then he tweaked his food along Paleo guidelines. His total count went up just a little bit, but the particle size, the small particles disappeared, the large particles became the predominant feature and his whole cardiovascular risk profile has improved.

The guy has a stent. He's being going to his normal cardiac rehab telling his docs and the cardiac rehab folks what he's doing. They're horrified but they see him improving every week and so they're curious now about what's going on and I think he's a really good example that this stuff definitely works. And again like the global approach on this -- in the show notes we can put a link to his paper where Cordain and some other people, they basically say "Yeah, LDL particles are a factor but they're a very modest factor as compared to a bunch of other issues."

Andy Deas: Cool. All right. Good stuff. Next we have a question from -- I'm not even going to try that name Robb. You have a go -- you have an attempt at question number 6's names?

Robb Wolf: Hanneke.

Andy Deas: All right. Now if you butchered it, it's not my fault. Anyway, he came across this article on this website, Thebsdetective.com, which believe it or not, I've never actually been there before so that was interesting. And the

gentleman that writes on Thebsdetective.com thinks Gary Taubes is a BS'er and he was wondering what your thoughts are on that.

Robb Wolf: Oh man. This is the guy -- what's his name James Krieger?
Andy Deas: Yeah, Krieger or Krayger.

Robb Wolf: Krieger. I kind of like his approach, like he's pretty thorough. He definitely takes himself very, very seriously which is okay I guess but -- so he gets in and he takes Gary Taubes to task on some stuff you know like the carbohydrate hypothesis that carbohydrates are the new kind of the main cause of fat gain and whatnot, and so he ends up kind of dissecting this whole thing and I kind of like how he tackles it. But the thing is, is that it's just a very narrow view of this whole thing like the Ancel Keys Study where these guys are on a high-carb, caloric restricted diet. They're starving, they're real hungry, and then you look at some of the stuff that Michael Eades has talked about in which people on a very, very low -- and Taubes talked about this too.

They're on a very low carbohydrate diet and similar levels of caloric restriction and they're just not hungry at all, and I thinking that this is, something -- you know Laos McDonald and some other people; they're kind of deprived, a low-carb deal and Paleo deal and all that. They're like "It's all calories. Calories are all that matters and like fat loss and all that." And it's obviously true up to a point but then there's this reality that when people curtail their carbohydrate intake, they end up having a much better ability to control their total caloric intake.

And this guy, Krieger, actual alludes to that later. He says "Yeah, I like low carbohydrate diets for the people who respond well to it." I find most people respond very favorably to it – the 10 or 15% that don't – like you figure it out within about 3 weeks and then you can find where they do better on a higher carbohydrate intake so the analysis he does here is interesting but it doesn't play to the fact that in free-living humans we see again and again and again. When people focus primarily on food quality and on carbohydrate control that they tend to be more successful on body composition and fat management then they do on any other type protocol.

Now, all these guys will argue that the end reason for that ultimately is because of caloric content because protein is satiating and all that sort of jive, and then they'll all be true but it still is you know -- the fact is that this basic approach of a low carbohydrate deal is going to ultimately work better. There was one other thought I had with this. He mentions in here that – Krieger that insulin is anorexic – that insulin is satiating in some

way, and I have just never ever seen that anywhere and my experience of this has been so contrary to that and everything that we understand about like leptin metabolism, like this is one of the problems with the low carbohydrate diet or even like a cyclic low-carb diet, we're trying to make people big and you know put muscle mass on, they're just not hungry.

So when he threw this one out here – I haven't followed up on all this, it's a ton of material, but that one just seemed like, out on another planet. I've never heard of that one before, which is either a deal based on insulin levels and future body gain -- I'm not really going to hit that. So the fructose deal, it's kind of funny, he ends up talking about fructose and it seemed like it was kind of new to him, that fructose although, not – you know, being high glycemic index, it's actually high glycemic load and actually produces a whole lot of insulin and insulin resistance. That seems to be kind of new to him, so I'm not too sure where to tackle that.

I don't know I mean I kind of like the guy's approach, it's very systematic, but I just think he's taken a really narrow view of this whole thing. He calls Gary Taubes a "bullshiter," at the end of the whole thing he says "But I generally like low-carb diets for the people that they work in." And I guess he's just trying to get in and argue some nuances about what the mechanisms are which I guess that's cool but I just don't see these things quantitatively adding all that much to the conversation in this deal.

And then you know the leptin thing, this one maybe we could come back and look at it in depth but it's – man, it's just so much material to carve through, but I don't know folks – if folks look at this and they look at what he has to say and what I've commented on this and you want to see a deeper analysis to this we definitely get into it. I'm just trying not to make it a one-hour show just on this one question.

Andy Deas: Yeah, and this was one of his analysis. I thought it was -- you know after for its length, considering how long good calories and bad calories is.

Robb Wolf: Yeah, I mean that's like a 700-page books so it's -- yeah. Yeah.

Andy Deas: But yeah, anyway. Next we had a question form Tom. He says, "You tend to speak highly about the use of coconut as a fat source, but it seems like coconut is a rather exotic food from an evolutionary standpoint. It probably was not widely consumed until Neolithic times and even then it was probably available only to a small group of humans. Just because we haven't eaten it for hundreds of thousands of years does not mean it is bad for us, but I was wondering if you have any thoughts on the matter."

Robb Wolf: Shoot. That's a good question. I think Cordain and Pedro Bastos just did a post on coconut and I haven't even been able to read it yet. Somebody actually just alerted me to it, but talking about how it's not insulin – you know doesn't produce insulin resistance and some other issues, it's interesting from the evolutionary standpoint. You know olive oil we never used in an evolutionary context. It's a high monounsaturated fat. It appears healthy although you'll get some people who will argue with that point and say that even the fact that its monounsaturated it's bad because it still has a higher oxidizable potential to it and everything.

But not everything that we ate – you know what, if you were to say purely ancestral diet, we'd probably have to look at you know kind of Sub-Saharan Africa as being the primary driver and that as we expand out from that area, you had foods that we're -- you know, either more or less similar or dissimilar to that ancestral environment, and then we have potential for maladaptation to these noble foods and we see that a lot with the foods that were in the America's. All the tomatoes, potatoes the eggplants, all the nightshades type stuff. Some people see to do okay on that stuff. Some people they seem to be really problematic. They definitely have gut irritating potential.

So it's -- gee whiz, I mean I not even too sure how to tackle this thing, so it's a really good question. But the fundamental thing is folks seem to eat coconut, they seem to do well on it, trying to couch it in some sort of an evolutionary context. If you buy into the aquatic 8 scenario, then maybe we were eating coconut fairly early on. Other than that, short chain saturated fats has been a part of the ancestral diet for the whole run because these are a part of grass-fed meats and even grain-fed meats and they just tend to play a lower role on those meats, whereas coconut is almost 100%, these MCTS, Medium Chain Triglycerides, the 13-14 carb and saturated fats.

Andy Deas: Yeah, I think this is a great question. But it's one that I'm not sure there's an easy answer to. I mean there's a ton of stuff like you say olive oil. There's wonderful caffeine that I'm drinking today that obviously in certain parts of the world wasn't consumed in Paleolithic times that, you know, we still enjoy.

So I always go back to that – your comment about you know we're taking this viewpoint, this framework, this technology of the Paleolithic or ancestral diet and then kind of applying that to modern times.

Robb Wolf: Yeah. Because there's really good studies that indicate that coffee consumption is you know kind of a dose response. The more coffee you

drink, the better your insulin sensitivity, the longer you live -- and obviously then also we've talked about like renal fatigue, and how that can be overdone. But there's some sort of good stuff that comes out of drinking coffee for example.

Obviously coffee was not part of the ancestral environment, but it tastes good and it makes you feel good and like -- you know Chico, the sun hasn't been out in like 2 weeks and I'm ready to wore my brains out, and it's probably the difference between me going on and doing like some sort of a Kurt Cobain gig, and so this is where like I try emphatically, you know I'm so excited about people pushing and talking about the whole Paleo concept, but at the same time don't want it to turn into a religion, don't want it to turn into a saying where people are like, "Oh we get --" You can't throw the baby out with the bath water.

Like there's a bunch of stuff that just is evolutionarily novel, but it still is good for you and there's stuff that's it's old as dirt, it has been around a long time and it's not all that great for you and grains are a perfect example of that, and I think that's where we've to some theory and then we need to mitigate or you know modulate that theory with like, what's our basic experience of this stuff, like what does it actually produce, result wise.

Andy Deas: Yup. All right. Good question though. All right next we've got a question from Speed. I think his first name is Ryan, and I don't know if his name is you know legitimately "Speed," but if that is and – you know he says he's an Ultra Endurance runner, like that's a bad-ass name for a runner.

Robb Wolf: That is very cool.

Andy Deas: I used to swim against a girl way back in the day who was like a legit, you know a super higher performing butterflier, you know a sprinter and her last name was "Hammer." It was just perfect for her event. You know I'm like dude if your name is actually "Speed" and you're an Ultra Endurance Runner, dude gods were smiling on you and your name!

Robb Wolf: They call that a nominative determinism.

Andy Deas: That's right, that's right.

Robb Wolf: I mean if you're Jared Fisher and you actually go out and catch fish and stuff like that.

Andy Deas: Yeah. That's awesome. All right, so a question from Speed. I think this goes back to kind of prepping for game day, depending what game day that is. "So what type of suggestions do you have for an Endurance Athlete's Paleo nutrition needs during an Ultra-event, anything beyond the 26.2 mile, specifically 50 to 100 mile foot races. He adopted the CrossFit and CrossFit Endurance training method March of 2009 and love it. Along with the change in training came a change in fuel intake, switching from a normal high carb to a Zone approach and then a 90% Paleo Zone."

"The How do you look, feel and perform markers were always on the high during training; my problem arose during actually race events. After 2 hours during 2 different marathons my energy would just plummet. I know part of the reason was not enough calories. I was scared to intake any of the normal race grub (gels, m&m's, PB&J sandwiches) due to possible gastric distress. (Obviously a bad idea when you're 20 miles into a race.) He spent a lot of time on the CrossFit Endurance forum asking questions and plan on attending a cert that will have BMack or Borg presenting this spring, but my first scheduled race is before that cert. Any help on the subject is greatly appreciated."

Robb Wolf: You know this is that thing again where like training nutrition versus game day nutrition are just 2 completely different animals. And again, to some degree you need to game play this stuff. I am by no means an endurance athlete or an endurance coach, but we've seen people do really, really well and I thank BMack and Carl and the endurance dudes, even some of the stuff that I've seen Mark Twight comment on this stuff. A general day to day training it's a high fat Paleo-esque sort of diet, and when game day rolls around, you're going to need more carbs. Period.

How you get that stuff I think can really determine levels of success and whatnot. The deal that I have with gels and goo and stuff like that, it tends to be very hydroscopic. It draws water into it, so you can get some serious gastric upset from that. It also tends to be very, very kind of acid forming. People forget that when we're lactate producing machines, we're inducing an acid load on our body and that's needs to buffered and that can be an issue. That's more stuff like Cytomax and I think there's Cytomax now that has some whey protein in it. That stuff is legit. That is really, really good.

I even got roped into doing like an 80-mile mountain bike ride in Montana and this was back when all I was doing really was power lifting and a little bit of kickboxing like I didn't have anywhere near the kind of metabolic conditioning that have now. And I used that Cytomax and I just had a

constant titration of this stuff going and I just stayed under my red line, like when my legs started spicing up a little bit form lactate production, I would just spiral back my arch rims on the pedals and I kept up with these guys who were – all that they did really was mountain bike.

So, I had a pretty good sized engine, and then I fueled really smartly and I kept up with them fine. The issue that you're going to face on longer events is that you're going to need everything – carbohydrate, protein and a little bit of fat. But usually the amount of fat is less. You're going to need some protein because as you get deeper and deeper into the race, your body is going to be so hungry for carbohydrate, it will start metabolizing branch chain amino acids and converting those into glucose – Gluconeogenesis. All that you're left then with is stuff like not tyrosine, tryptophan. Tryptophan is the serotonin precursor.

So folks that are in very, very long races will actually start getting lethargic and fall asleep. Like they'll be jogging along and then literally just kind of like fall into the ditch and fall asleep because they had so much tryptophan going through the blood brain barrier because they end up under fueled on protein, so you need some sort of a protein carb combo. I know like Brian Mackenzie ends up eating stuff like pizzas and cheesecakes when he's out on his hundred mile races. Like he orders this stuff ahead and like pre pays with his credit card and you know dude it literally waiting at checkpoint Charlie – oh man, I should turn off ring central. Crap. Sorry folks.

Oh yeah, that thing off. So like this pizza will be waiting for him, but he does okay with it. Like these guys mentioned how your stomach is going to deal with the pizza or a cheesecake kind of game day -- I don't know and that's where I would be more inclined to stick with like a Cytomax, or something like that that has like a lactate buffer. Some sort of a buffered lactate solution, plus protein, plus some sort of maltodextrin, and maybe just a little smidge of fructose in it for, again, filling up that liver glycogen - you're going to have to address that also.

Andy Deas: Yeah, I swear at some point they're on the CrossFit journal video. There's video at least a part of BMack talking about this because I remember him talking about the burgers and the pizza that he would, you know, periodically keep in his diet because he would need to be able to consume that stuff during race day, but I think and as you said, we are by no means the endurance expert for like far afield from that.

Robb Wolf: Yeah.

Andy Deas: But I think if you - like Dean Karnazes like the Marathon Man guy that ran like you know a zillion marathons – kind of consecutive days. If I recall correctly from reading that book – maybe I'll dig it up – but he had something similar where I would consider his diet's pretty Paleo and then same thing though, the fuel his performance during the races he would do that similar kind of thing – he'd have pizza, he'd have cheesecake, you know, one to get enough calories and you know also to get some of that that kind of starchy carbs in there.

But I think, you know, kind of like you see with some of our military folks it will eventually you know be -- you know possibly deployed in Iraq and eat the MRE's which will you know will cause some gastric distress. They may have to keep a small amount of some of these foods in their diet throughout the year to help their stomach be prepared for game day.

Robb Wolf: Yeah, and again you just have to play with this stuff and place it out and see how you do. I think from a no gas no problem with the gastric emptying and all that, I think stuff like Cytomax with protein is a pretty good option. I also think people get sick of things like that, and so that's where some solid food actually becomes kind of nice. Something a little tastier, but you're just going to have to play with it. But I wouldn't shy away on game day from stuff that you normally wouldn't eat, pizza, you know cheesecake whatever. It would destroy me. I wouldn't be able to go with an option like that, but you can always construct something that is protein, carbs and fat from sort of a kind of Paleo sort of source.

We've done Pemmican before. Where you like -- coconut oil, grind up a bunch of nuts, put coconut oil on top of that and it solidifies and then you have some dried fruit mixed into that and that's delicious and super caloric, but again you need to make sure that it's the right air fuel ratio. Well, the thing – a big, big factor that you need to consider, usually in the 100-mile foot races, although their horrible and their grinding and all that, people are not setting blistering paces on these things, so you're generally kind of staying below your lactate threshold. You may have periods of time in which you go above that, but if your event is of a low enough intensity then gastric emptying may not be an issue.

But if it's of high enough intensity or you eat a big enough meal or the meal has enough fat in it, then gastric emptying is going to become an issue and you shunt blood away from muscles into the stomach, and then you're going to end up with cramps, you're going to end up with – or if you're performing so at such a high level, you actually shunt a lot of blood away from you abdominal viscera, and you can't digest food, so I mean - it's just a lot of shit that you need to keep your eyes on and you need to

practice it. There's no solid recipe that I can give that hits everybody. There are some basic guidelines and you have gained plenty of stuff.

Andy Deas: My favorite part of his question Robb is -- he was like, "After 2 hours during two different marathons…" I'm like, 2 hours into your run, I probably would die.

Robb Wolf: Yeah, 2 hours into a drive finally you're feeling fatigue, so yeah.

Andy Deas: All right. Good question. I think that was good one. A little different than the standard -- we don't get a lot of endurance questions Robb. I think that's because people know you don't like or do anything longer than like 5 minutes.

Robb Wolf: We have scared them almost as much as the vegetarians, so yeah.

Andy Deas: All right, next we've got a question from Kyle. "My wife and I have been batting around/exploring the idea of going Paleo for a couple of months now. As I write this on January 4th he's am officially half way in to day 1." All right. "His question is geared more towards his wife's potential experience than his own. She is a rather competitive runner and rather well muscled for being as lean as she is (meaning she could easily handle a few more lbs/body fat). We recently discovered that she is pregnant!"

Congratulations to you and your wife Kyle, that's awesome. "We are thrilled with the news but a little curious as to what the implications might be for her going forward with moving towards Paleo. Is there anything that she needs to be particularly aware of?"

Robb Wolf: She'll be healthier and the kid will do better and she'll probably perform better. I mean it's really funny how -- with the pregnancy deal seems to like "medicalize" -- all of a sudden the mom and the baby are like these medical experiments like, everything else is out the window, you know it's like, the food needs to change, you know they can't exercise, like just everything becomes an issue, and I know that people take it seriously and that's good and that's really important.

But I mean the fundamental thing is that if it's a healthy way to eat or let's say a healthier way to eat, and it think you can argue that from a zillion different levels from like auto immune exposure, allergy potential, simply how much nutrients you're getting in and we end up seeing that there's no way that you can't slice or dice it in some sort of a Paleo-esque approach isn't more nutritious. Now a lot of women will end up having some problems with protein during the early stages of pregnancy, they

just don't want to see, smell, experience meat and I think in that situation that you just plate whatever it is that they like.

And again, you know I'm obviously like the anti-gluten nut. I try to push people towards staying as Paleo as they can. I think it's better for the mom, I think it's better for the baby. If you're going to opt for some sort of like crackers or something go for like a rice cracker or something like that over like a saltine, and it's those minor modifications that I see benefit people again and again and again, and that would be kind of the only stuff I would really push and then obviously keep the mom taking fish oil and she should be good to go.

Andy Deas: Yeah. Good question. Hopefully Kyle you're still well into your Paleo lifestyle. I'm not sure half day really counts because you know.

Robb Wolf: Well, I think it's hilarious that he documented the half day point. Obviously Kyle is counting down the minutes.

Andy Deas: Drink some coconut milk it'll make you feel better. Next we got a question from -- I'm going to say this "Niall" based on my – I have a friend that has a similar spelling – spelled name so hopefully I didn't butcher that. He was curious as to your thoughts on metabolic typing. "I have recently read the book and it seems like a pretty logical idea. What are your thoughts and have you ever tried it?

Robb Wolf: I've read it and it just doesn't make any sense to me at all. It just seems like voodoo and when we've really poked around on it, I just -- when you get into the metabolic typing, they end up recommending like grains and dairy and all these stuff for virtually everybody and the – I just – Oh, gosh! There was a book that Edo recommended to me on kind of like optimizing neurological function or something and I was really fired up about it, and I got in and read the book and I was like, "It sounds intriguing."

And then they got into the food and like they had breakfast that were predicated on like a piece of dry toast and a free egg omelet, you know egg white omelet and stuff and I'm like, "Oh man this is killing me!" And it marginally is built around the metabolic typing stuff. I wish there was something to it. I just personally don't see anything to it at all. Like the fat oxidizers, slow oxidizers -- there's been a bunch of different stuff out there. I just don't see anything beating getting in and doing something that is pretty candid like the low-ish carb Paleo approach and then playing with your carbohydrate fuelling based on what your workout is.

I just don't see much of anything beating out just – it's not very scientific or – well, it's not very jiggy and that you can't create a bunch of like sub-genres of like metabolic typing off of it. So I wish there was something to it. There's a little bit like the blood type diet, like the Dr. Eades, when the blood type deal came out, he was really excited about it and they started playing with it in Neuro Practice and even though it was recommending like a kind of high-carb vegetarian deal for A blood types, he's like "Well, we'll look at it and try it." And it was about as impactful as astrology was on his practice, so that's what I got for it. Play with it and see, but I haven't seen anything worthwhile in it at all.

Andy Deas: Yeah, I don't we've seen with any of those various magic technologies, you know super good results on any of those, although it would be cool if they worked better than what we already do.

Robb Wolf: Yeah, that would be great. I mean that would be spectacular. I would love that, I just haven't seen it. And also I did a very, very extensive written blog post on metabolic typing. So again, like if folks are thinking about a particular topic, by all means throw it into us but also pop it up in the search function because there's a pretty good chance that I've hit it so…

Andy Deas: Yeah. All right. Good question. Next we've got a Question from John. "Enjoy your blog, trying to come to grips with the difference between the PaleoZone diet and the PaleoZone Athlete Model." So I think he means the Paleo diet versus the Paleo Athlete Model. "Can you in a nutshell let me know the difference? I did own the book once but I gave it to a friend."

Robb Wolf: So the way that I break this stuff down in my mind, if somebody said "Zone," then they're talking about a specific weight and measured macronutrient approach protein carbohydrate and fat. They don't make any distinction about food quality. If we hear "Paleo Zone," then we're taking the best quality foods that we can get and slicing and dicing them into some sort of you know 40-30-30 "esque" ratios is usually where that starts. Then when we start talking Paleo Athletes Zone within that context, then we're talking about an increase in fat to make that whole situation long term sustainable. Because the Zone as it's generally written in "Enter the Zone" and in like the CrossFit Journal 21 on how to tackle the Zone, that all-star stuff is a calorie restricted approach, and it's not sustainable long term.

And so you have to increase the fat content to make it long term sustainable, then people ask questions about why you don't increase total wods and I think we've tackled that elsewhere. But that's kind of the

distinction, so Zone is a macro nutrient approach. It doesn't distinguish about, food quality. Paleo Zone, we have a food quality orientation, but with an eye towards some specific macro nutrients. Athletes Model is where we increase the amount of fat to make the thing long term and sustainable.

With all that stuff said I think for the vast majority of people we usually find that the basic Zone protocol is too many carbs for most people. Russ Green commented on my blog awhile back pointing out that there are some people out there that do better on higher amounts of carbs even in the Zone, and that's absolutely true. That's something that we need to keep in mind, but I will still kind of default back that the vast majority of people end up benefitting, from what I've seen from a sub-Zone level of dietary carbs.

Andy Deas: So Robb, now I'm going to ask the question that I think John was asking. It's hilarious. We've both read that question and I think we've interpreted differently. So what I think John is asking is what the difference between the Paleo diet book is and the Paleo diet for athletes book model. Because I don't recall any either of those books, the Zone words, so I'm not sure what – so anyway, why don't you throw out the differences between those two as well and then we've hit it from all angles, and I don't know if you're right or I'm right, but hopefully we've had answered John's question.

Robb Wolf: Well, I definitely didn't get that, but I mean Paleo diet for athletes is basically a way to measure kind of Paleo diet. They break it into an "In season" and an "Off season" protocol. The "In season" -- or the "Off season" protocol tends to be higher protein and lower carb, although it's not really low carb by what I would say but it's lower, and then the "In season" protocol ends up ranking up the carbohydrate. You start taking more advantage of some stuff like maltodextrin for post-workout, you know, glycogen repletion and all that, restoring muscle glycogen, and that's kind of the big difference, but you know that's what the Paleo diet for athletes is.

Andy Deas: Yeah, so hopefully John, somewhere in that we got the question right and got you the answer.

Robb Wolf: Quite frankly, it was -- even a different question, we failed on all that like, that that would be consistent with us, but yeah.

Andy Deas: Robb, will you have some faith in our ability to read questions?

Robb Wolf: I will try, but I'm consistent in my application that we'll probably botch it so…

Andy Deas: Well John, if we didn't answer your question, let us know and we'll take another pass. All right! Well, I think that's it Robb, we're at 1:15. I feel like we're bleeding upwards every week so I'm going to have to – you know our standard number of questions, we might have to dial them back, because we're talking too long, we're having too much fun.

Robb Wolf: Well, and I'm really trying not to deviate back to the science too much but that tends to happen also, so yeah, we'll try to stand on task, I'll probably just run over?

Andy Deas: Yeah, and we'll work on also getting a short video clips into queue so that we can start putting those up as well.

Robb Wolf: Yeah, the two that I really want to tackle immediately are a protocol for using digestive enzymes that contain betaine hydrochloride because I think that's the huge factor for a lot of folks. And the other one is a -- hopefully a simple protocol for dealing with cortisol management and using some *[indiscernible][1:16:32]* and that whole thing because that stuff is very powerful and can definitely goof you up.

Andy Deas: Yeah, perfect! Well, I think Robb with that, we are done with episode 11, and go back to working on your book.

Robb Wolf: Okay, will do.

Andy Deas: All right man, I'll talk to you next week. Thank you.

Robb Wolf: Thanks Andy.

Andy Deas: All right, see you Robb.