

# The Paleo Solution

## Episode 18

- Andy Deas: Robb Wolf, Andy Deas, Episode 18, Paleolithic Solution. What's up, dude?
- Robb Wolf: Dude, not too much. I heard from two of our six listeners this morning doing some consult, so howdy to you all.
- Andy Deas: It's sunny today in Chico, which is highly unusual. So I think I'm in a better mood at least a little bit.
- Robb Wolf: You know, it was really funny living in Seattle because the Seattleites, God love all of you, but you folks will stomp around and during the grayest of the grays you would say, all of you collectively, "Ah, the weather doesn't really affect me!" but, you know, which is just like this stoop-shouldered like grinding your way from one cup of coffee to the next, and then those rare days when the sun came out, it was like, "Hidely ho, neighbor!" and bouncing along and clapping each other on the back. And I think you just really needed to be not a Seattle native to be able to really see this and call BS on what was going on. Yeah, Chico has been the shmutz, and today, the sun is out so that's pretty kickass. I'm excited.
- Andy Deas: Those folks that don't believe the sun affects them are like the same folks who don't believe the amount of sleep they have affects them.
- Robb Wolf: Exactly. Yeah. There's just a lot of denial going on with that whole set of folks. So yeah.
- Andy Deas: I also wanted to mention, Robb. I played you the message. I got a funny message from Kelly Starrett after we talked about him a couple of weeks ago, and he wanted to know if we spend any time listening to what we said about him, because I think the fact that you were talking about wanting to defecate in your pants while he was working on you, I think it was an interesting plug for his work I think.
- Robb Wolf: But apparently, it got him a client. So yeah.
- Andy Deas: Well, yeah. Kelly Starrett is magic but you know.

Robb Wolf: Somebody heard that a big physical therapy dude leaning on you can force you to almost poop your pants, and apparently, the guy contacted him. So there you go.

Andy Deas: That could be his new slogan.

Robb Wolf: There's somebody for everyone out here.

Andy Deas: That is entirely true. And then the other thing I wanted to mention was since Robb Wolf has laid down the gauntlet and will actually be finishing his book soon actually, relatively soon considering how long this has been going on I feel like, we are holding off on the supplement podcast and the Intro to Paleo podcast for two reasons. One, so that they don't suck and Robb Wolf currently is a little distracted.

Robb Wolf: These things all suck so I don't know that that's going to help.

Andy Deas: But it's all relative.

Robb Wolf: But what was your second point?

Andy Deas: The second point is you need to finish the damn book.

Robb Wolf: I need to finish the book, and the book ends up touching on a number of those issues anyway, and then once we're done with the book, then we can really sit down and give some legit thought to what we're going to include on the supplement podcast and the Intro the Paleo. And I have a feeling both of those will probably be kind of multi-series things because as time goes on we like to add some stuff to both subjects. Those are the most common things.

I think this podcast and the whole blog, it tends to cater a little bit more towards the more educated individual and all this stuff, a little savvier reader or listener, but still, we have tons and tons of new people rolling in and so we need to make sure that we have the resources to help people go from literally no understanding of this topic to be able to step their way from like raw beginner to intermediate to more advanced material and all that.

And so the supplement podcast and the Intro to Paleo podcast, we want to do a really good job on it, which will probably almost doom it to being our most schlockiest material imaginable. But that's the plan anyway.

Andy Deas: Or like your book, it will take six years to finish.

Robb Wolf: Hey, man, I'm going to beat De Vany. That's all I can say.

Andy Deas: But he tried a different approach that didn't work obviously. Remember he was like selling one chapter at a time and you know.

Robb Wolf: There's been a lot of iterations on that. Yeah, yeah.

Andy Deas: But I really feel like the first time I talked to you about it was like 18 months ago in Arizona and you were getting close, but man.

Robb Wolf: Yeah, but I've been talking to people about 36 months prior to that about writing a book, but it's been a hell of a process. I think subsequent projects like Cordain and Welbourn and I are going to collaborate on a Paleo Diet for Power Athletes. So like Cordain and Joe Friel did a Paleo Diet for Athletes but that really was just like run/bike/swim kind of gig. It was all endurance based. This is going to be focused on power athletics - football, track and field, just trying to get bigger and stronger, so definitely an emphasis on that power orientation and then also the programming that will go with that.

And then working on a fight prep book that is really just taking that -- I did a P Menu article called "Fight Prep" a couple of years with Glen Cordoza as kind of the subject, but Glen has written about 13, 15 books on MMA and Brazilian jujitsu and all that sort of stuff. So he and I are going to collaborate on a book that will be like hopefully the huge one-stop shop compendium for any type of like pugilistic art preparation - wrestling, boxing, MMA, periodized training, good nutrition, weight cutting, like the whole ball of wax.

Andy Deas: Nice!

Robb Wolf: So hopefully, the subsequent books will happen a lot faster than this one. I actually have a pretty good system down now. So we'll just keep rolling with that and then I'll quit talking about doing something and not do it.

Andy Deas: I'm just waiting for one book to come out. I don't worry about the other lists of projects.

Robb Wolf: Exactly! Exactly!

Andy Deas: Just focus, Robb. The lines on the road; follow the lines.

Robb Wolf: I thought it was make the wheels fall off the wagon.

Andy Deas: No, that's what you typically do. We're trying to avoid that approach.

Robb Wolf: Okay, okay.

Andy Deas: All right. Are we ready to do some questions?

Robb Wolf: I think so. I think so.

Andy Deas: In like two weeks we're going to be on Episode 20, man. So we're --

Robb Wolf: It's horrifying.

Andy Deas: Really. I've never thought we would see this. This is going on far longer than I would have imagined frankly.

Robb Wolf: And really much longer than it is reasonable by anybody's estimation, but we'll keep running with it.

Andy Deas: Nice. All right. First question is from Lisa. She wanted to let you know she loves your blog and everything it has on there. She has a couple of questions. "Can you explain some of your cheat days a little bit more to me? I have been pretty strict on my Paleo/Zone diet, and I'm kind of nervous to cheat. I know it's all psychological.

First, how often do you cheat? Second, what do you typically cheat with and how much? And third, how does this affect you? I am training for sectionals, which is March 13 and 14, and I'm not sure if I should cheat before, or remain strict on my diet and then wait to cheat after. What's your take on this?"

Robb Wolf: Crikey! If I didn't have an Italian wife, then I would probably have some sort of like adulterous joke in here, but she would certainly cut off my head and feed it to some small scurrying animal. So I'll just leave that one alone.

You know, the cheat meal deal, I think we talked about this a little bit in an earlier podcast. I mentioned like Pat Sherwood. There's just a lot of different ways to tackle this thing. Her first question is how often do I cheat? I can't even say like I cheat per se in that if I want something I just kind of go for it. I definitely don't plan it, like if we're out with a group of friends or like if we're traveling there's a Mexican restaurant off of Interstate 5 in Williams that we drive past either coming or going from the airport going to Sacramento and they have the most amazing carne

asada tacos in the world; and so I'll stop and I'll get like five of those things.

And I don't really see it as being a cheat. It's just like nobody in Chico, and there's some pretty good Mexican food in Chico, but nobody in Chico makes food this good. And I get some corn tortillas and I have the carne asada tacos and I bet these things actually probably break down to like perfectly Zone-ratioed meals, and so I guess I'm good in somebody's universe in that regard.

So I just don't see that stuff is a cheat. Maybe once every week and a half or two weeks, either Nicki or her sister will make some gluten-free pancakes for breakfast, and we'll have some gluten-free pancakes. And at this point, I think even though I'm still trying to lean back out after the mass gain -- I won't call it experiment now. I'll call it the mass gain catastrophe. I seem to tolerate carbs pretty darn well now, but I don't do them sequentially. I'll do a meal and then that's kind of it, and so the stuff ends up looking a whole lot more like a cyclic low carb kind of gig with the difference being that I'm not necessarily planning this stuff.

And why I mentioned the Pat Sherwood gig, he had a funny deal where he would look ahead. He is really, really tight with his nutrition like 19 meals out of 20, but he's got a pretty good sweet tooth. He definitely likes ice cream. Before he would show up at a gig to do a level I cert, he would kind of like Google or search for ice cream places near the event, and then he would go and just get his junk food on. And it was almost like watching a heroine user like tie off and boil down the goods and go inject because he would so plan that stuff out.

But that worked great for him. He would plan that stuff and he would get all excited about it and then do it, but then he was right back on the rails. We have other clients who when they cheat, they do a serious off-the-rails meal. They never really come back. For somebody like this with Lisa, it sounds like she is a high level athlete. I think whenever this stuff pops up and it kind of seems reasonable, I would go for it like once a week for sure seems fine.

That same deal, like I just beg people to generally remain gluten-free. I think there's so much compelling argument for that - dark chocolates, ice cream, gluten-free pancakes, whatever. If you're going to go off the rails, I think all of that stuff will give you much less of a negative downside than having a bunch of standard cookies or gluten-containing stuff, but that's all kind of up to your discretion.

Her second question, what do you typically cheat with and how much? Like I said, more like dark chocolate, corn tortillas with Mexican food, gluten-free pancakes occasionally. How does it affect me? It doesn't really affect me all that much anymore, but I don't really plan it or do it sequentially. So it's not like I do the gluten-free pancakes and then gluten-free bread for lunch, and then a pound of dark chocolate for dinner. So I'm not doing this stuff sequentially. It's just a pretty rare sort of thing.

And then her question about should she cheat before the event? I have rarely seen people not benefit from loosening their food up at various points. I still love the example of Freddy Camacho who was trying and trying and trying to break a 3-minute Fran barrier and then did a really serious even for in Camacho's standards - drinking binge and then got like a 242. So you got to leave no stone unturned in your quest for elite fitness and go do a bender of some off-the-rails food, but again, I would recommend staying gluten-free on the whole thing.

If you're a CrossFit athlete, you're definitely a glycogen-dependent athlete for the most part. Obviously, we try to push people to become more adapted and all that, but the bottom line is this is a very glycogen-dependent sport or a set of activities, and if you top off the glycogen stores, occasionally you might be looking at some serious performance uptick after that.

Andy Deas: Yeah, I got my best 500 row time ever after eating eight chocolate chip cookies.

Robb Wolf: There you have it.

Andy Deas: Yeah. The other thing I think is interesting. The cheating at least for me has changed over time to your point about remaining gluten-free and stuff because every once in a while, I'll eat something that definitely has gluten and a variety other things, and just the cost to recover from it is so not worth it anymore. Literally like for two days I can feel like I have a hangover.

Robb Wolf: Yeah, yeah.

Andy Deas: If I go have like legit pizza every once a while like on I'm traveling, vacation or whatever, I get a legit pizza, maybe I don't know, ice cream float, and I would really feel like I'm going to die.

Robb Wolf: Yeah, yeah. And if you sniff around a little bit, Chico is like the backwater of all backwaters. Andy will attest to this now that he has ruined his life and moved here.

But we have a gluten-free pizza joint, and the funny thing about the gluten-free pizza joint, the first time that we ordered it, it had hardly any sauce, any cheese, or any toppings on it, and I was looking at -- we ordered a large and it was like pepperoni gluten-free pizza and then next to us was standard pepperoni pizza, and the two things looked totally different. And I asked the dude behind the counter, I'm like, "What's up with the difference in the gluten-free pizza?" And he kind of looked at me and he's like, "Well, I mean the gluten-free pizza..." and he just kind of stops. So I'm like, "What? Do you think we're pussies or something?" It's like I want my grease and everything else too. So the next time we ordered it, we're like "We want it like the real pizza," and then they did it.

But we were in Kansas City, like Rutman's place. They had an awesome gluten-free pizza place. I think if you sniff around or even just pester people, they'll start making more of that stuff, and the difference in how you feel after one exposure, gluten exposure versus like kind of gluten-free pizza deal is just so stunningly different, but yet, some of the gluten-free products are so good now.

And obviously, you can't do them every day. All you need to do to see testament to that is cruise over to one of the websites like celiac.com which all that website is really is kind of a clearing house for gluten-free foods, and the message boards there are full of people eating gluten-free foods for breakfast, lunch, and dinner and they're still sick, still have autoimmune conditions. They're a little bit better than what they were thought that eating chickpea flour stuff for morning, noon, and night was going to fix all the problems and it doesn't. So it still needs to be every once in a while kind of a gig.

Andy Deas: I can't believe that eating chickpea flour morning, noon, and night would not reverse all my problems.

Robb Wolf: Maybe it reverses some of them but not the ones we're looking for. I don't know.

Andy Deas: I'm shocked, Robb.

Robb Wolf: Yeah. So for Lisa, I would definitely have her try some cheat meals like some sushi. Bring your own soy sauce. Get some gluten-free tamari, stuff

like that, and kick your heels up and see how you do. Do an experiment with it.

All of these Paleo stuff for me is all about like finding what's the sweet spot for you where you get the maximum benefit from trying to emulate kind of like ancestral eating patterns and activity patterns and all that sort of stuff with the ability to enjoy all the variety that we have in the modern age. And so getting orthorexic about your eating I think is problematic and there are tons of people that would say the fact that I'm a gluten Nazi would say that I'm an orthorexic, and I guess duly charged but I think I have some justifiable spots for arguing that point.

But then within that, I think it's like find as much latitude as you can play with to be as happy within your eating as you can, and I think that she would probably see some performance uptick with a little loosening occasionally and the whole gig. And then if you want to still remain within Paleo land, just eat a bunch of yams and sweet potatoes. You can certainly get some really grubbing food within a purely Paleo constructs. Just change up the macros a little bit.

Andy Deas: Sure! I like it. And if we're going to this, try this out before sectionals.

Robb Wolf: Yeah, well in advance. Yeah. I wouldn't recommend giving yourself a gut bomb like a day or two out from that.

Andy Deas: Yeah, and her sectionals is rolling in two weeks so you may have to wait till after.

Robb Wolf: Yeah, yeah.

Andy Deas: All right, cool! Good. Next we got a question from John. "Robb, my name is John Belton. I work as a personal trainer in Dublin and recently attended your Paleo seminar in Chico."

Robb Wolf: Woo-hoo!

Andy Deas: Actually, I think I met John.

Robb Wolf: Yeah.

Andy Deas: There was a crew of folks actually.

Robb Wolf: There was a crew of the Irish there. Yeah.

Andy Deas: Yeah, it was cool. You're worldwide, man. In spite of what my mother says, Robb, you're worldwide.

Robb Wolf: Duly noted.

Andy Deas: John says he has a 22-year-old cousin in Seattle who has been battling hard with Crohn's disease for the last 10 years. He has hit an all time low, and doctors seem to be scratching their heads regarding what the next step is.

"I just wonder if you can offer some advice. As far as I know, not one word has been said to him about what sort of food he is eating. It seems pretty crazy. It would be great if you could offer me some advice as to what might help. I know you're busy so even if you could just point me in the right direction I will research it myself. I hope everything is going well with you guys. We really enjoyed your seminar." Look at that. "And hope to be back out this summer for more groundbreaking dietary information."

Robb Wolf: Those guys were awesome. That was fun having them in Chico.

I actually replied to John on the blog with just a quick little link to a post that I did actually on ulcerative colitis which we've had a couple of topics on ulcerative colitis. The etiology of both of these things, ulcerative colitis and Crohn's disease, are really, really similar -- a transglutaminase issue, like we've mentioned that thing like a bunch of different podcasts. Part of the gluten intolerance issue appears to be an autoimmune reaction with the enzyme transglutaminase. Transglutaminase modifies proteins. It modifies proteins and virtually every tissue in the body.

The Crohn's disease has some really similar underpinnings to irritable bowel syndrome, ulcerative colitis. I would say all these things are really in my opinion kind of kissing cousins of each other, and they respond super favorably to like gluten-free, dairy-free, grain-free kind of Paleo diet. It's also telling --

John mentions his cousin lives in Seattle. We have a comparatively high northern latitude with a lot of cloud cover, and I'll bet you low vitamin D content in this guy, and I would recommend probably like that standard 5000 IUs of vitamin D3 a day, gluten-free, dairy-free Paleo diet; some digestive enzyme support like the NOW Foods Super Enzymes, and I think he would probably see stunning resolution of the problems within a week or two. We're really, really consistent in that ulcerative colitis thread.

I forgot three, four, five people with Crohn's disease commented in there also and just basically commenting that they didn't have ulcerative colitis per se or not Crohn's disease per se -- no, no, no, sorry. I got it backwards. The topic is on ulcerative colitis. It was folks with Crohn's disease that were commenting, "Yeah, I have this, and I've seen resolution with a Paleo diet."

Andy Deas: So in summary, Paleo diet.

Robb Wolf: In summary, Paleo diet, vitamin D3, escape from Seattle.

Andy Deas: I can be on that train.

Robb Wolf: Warm, dry climate. Funny, interestingly, when I lived in Seattle, I had to get to Arizona and I went to Scottsdale for a week, week and a half, January, February every year, and we'd just like bake on a rock. And a lot of the Chinese medicine type stuff, like they talk about this condition called spleen chi deficiency which is actually a pancreatic insufficiency or not producing enough pancreatic enzymes to break down your food, and there's a bunch of other stuff related to that.

But it's just basically weak digestion and that would hit kind of a warm, dry climate, and that stuff would fix itself almost immediately. Like my carb tolerance improved, stress tolerance improved, all that sort of five. So definitely looking at how you're wired up, people can benefit from a little change of scenery even say like you're not going to move out of a particular area but planning a little bit of a trip at certain times a year so you get a little dose of sunshine and warmth and dryness can really help that stuff.

Andy Deas: Yup. Cool! And hopefully, we'll see John in Chico again.

Robb Wolf: Yeah, yeah. That would be great.

Andy Deas: Right on.

Robb Wolf: We'll drag him to Duffy's next time. We'll take him to our pittance of a local Irish bar.

Andy Deas: I've been there. It's very nice.

Robb Wolf: Start a fight.

Andy Deas: Start a fight. John has something to look forward to.

Robb Wolf: It's the Irish way anyway.

Andy Deas: All right, cool! Next we got a question from Jason. He says, "Robb, thanks for all of the great information on the blog and podcast. You are a fantastic resource." He had a question about things like EBOOST and FRS. Isn't FRS -- like doesn't Lance Armstrong do some pimping for that?

Robb Wolf: Yeah, I think so. I think so.

Andy Deas: I think he does.

Robb Wolf: Yeah.

Andy Deas: He is not a big fan of coffee or espresso, which is a sad state of affairs, but he likes to take a pre-workout energy boost. He has been using EBOOST or Low-Cal FRS. The information says zero grams of sugar but lists ingredients such as maltodextrin and sucralose. What are your thoughts on these products? Should I avoid them completely or are they okay?

Robb Wolf: You know, the EBOOST, a couple of thoughts here. The caffeine content prior to workout, caffeine can be a legit ergogenic aid. It can improve performance, whether we're talking about strength like neurologically based strength stuff. It can be lipolytic so it can help you access body fat for energy. It can help you with your perceived exertion so it can make you feel less suffering while you're training.

But it's all very, very tightly dose-dependent. If you go overboard on the caffeine dose, it actually becomes ergolytic, like it limits your force production, it limits cardiac output, and unfortunately, I tend to seriously overdo this stuff. And so I think this is also where folks doing kind of high intensity mixed modal CrossFit type stuff, you already are doing something that is kind of going after the adrenal axis.

Interval training really stimulates adrenaline release, potentially cortisol release, all that sort of stuff. Hammer a big dose of caffeine on top of that and you were just really throwing gasoline on the fire. And I'm seeing a lot of people who are overdoing all this stuff and one of our in-house trainers being one of them recently, and we might drag her on sometime to talk about what her experience is.

So all this stuff upfront, caffeine can be an ergogenic aid, but you need to do the right amount. The right amount is way less than what you might think so just keep all that stuff in mind.

Then this EBOOST has green tea extract which is some caffeine and also like the epigallocatechin gallates, I forgot how you pronounce this stuff, that are highly thermogenic but also stimulatory. It has some 5-HTP in it which is kind of whacky to me because it's actually a serotonin precursor so I'm not really too sure why you would want like a sleep aid before training, like I would have put some tyrosine or something in there for a dopamine precursor. It has some Huperzine A, which is also kind of a neurostimulant, a little bit like ginkgo; vinpocetine, the same deal.

So this thing is speedy, like it is really speedy. There are several different items in here that are pharmacologically stimulants both on kind of the adrenal axis and then some neurotransmitter axis, and so I would use this stuff sparingly. I would feel it out, see how it helps your performance in a given event, and be really clear that it's actually helping, because again, you can really overdo this stuff.

And then it would be really interesting to drag Mat Lalonde on here and have him wax eloquent about the hormetic effects of taking high dose vitamins like vitamin C prior to training. And the deal with that is that there's some pretty good argument that high dose antioxidants, high dose vitamins in general but particularly around the training period may actually blunt your adaptation to the training.

So what might be a good idea to do some of this stuff on a race day or on a competition day, because they're performance improvers and lactate buffers and all that sort of stuff, but you can actually limit the adaptation that you get and this is very, very similar to some of what we see with constantly topping off glycogen stores, not forcing some stress adaptation by going a little bit skinny on glycogen repletion. So that's the EBOOST.

Let me pull up the FRS stuff. The FRS had a little bit different content in it. It had some green tea extract, but then also, there again like a bunch of vitamins and it's a little bit nebulous right now whether or not real high dose vitamins are all that great for you in general and particularly with regards to how it might limit your adaptation to training, and that's something that --

There's some theory out there. I'm not super well versed in the literature and that might be something that we look at down the road and might be

a compendium to the supplement podcast. We recommend some supplements and maybe then we get in and we're going to do some teardown on that and look at where and when supplements might not be all that beneficial for us.

Andy Deas: Robb, they recommend three servings a day of this FRS stuff. This is good stuff clearly.

Robb Wolf: You know, when my book is done, I'm going to recommend three servings of the book a day. So every single day you should buy three copies of the book. That would be awesome. Yeah. I mean it's great because what's the ideal? Get a product and then have people do a recurring exposure to it. So I don't know. I'm a little -- this is some interesting stuff.

Andy Deas: You're conflicted today, Robb.

Robb Wolf: I'm a little conflicted. It's just complex information. There's a lot of things to consider with it. When we look at oxidative damage, say like we take a critter and we expose this critter to a high oxidative environment where they're getting exposed to free radicals; you can do this with ionizing radiation like UV radiation or gamma radiation or something like that; and we can see how the animals start showing markers of increased oxidative stress, and we could do this with exercise and stuff too so there's a ton of different ways you can do this.

But we see increased oxidative damage and then past a certain point we start seeing significant mutations, breakdown in cellular function, potential carcinogenic effects. And so this was kind of where the free radical theory of aging popped up. And so then the immediate, obvious study was let's dose critters with really high amounts of antioxidants and see what happens, and what we've found was that it did not improve their longevity at all. Acute exposures of antioxidants coupled with acute exposures of stress tended to minimize the negative effects of the stress, but it also completely shut down the subsequent adaptation to that stress.

So the whole thing of hormesis where if you exposed an animal say to some ionizing radiation, you gave it a low dose of ionizing radiation today, and then five days from now you gave it a big dose of ionizing radiation, that animal would be stress immunized against that ionizing radiation and that's much of what we see with exercise and thinking. Like just doing math problems and stuff like that causes some oxidative stress in the brain, but that ends up being adaptive over time.

So there's right places to do this stuff, but what we've found was the real high dose antioxidants did not extend life. It did not ultimately prevent these diseases in total. But then if they do some tricky things, like they did this only in fruit flies thus far, they upregulated a gene for an endogenous natural-occurring antioxidant called superoxide dismutase, they increased the number of genes in these mice for superoxide and they found that these -- not mice, it was flies -- the flies ended up living significantly longer with this upregulation of the superoxide gene. But what happens in that is that gene is still acting in the dynamic biological system in the way that it's supposed to, and we don't always see a beneficial effect when we upregulated a given gene in a biological system, but this happened to be one of those situations where we did.

So Andy's kind of like, "Let's move on here. We're bogging down." But it's really on the surface a simple question, but when people are selling the shit out of nutritional supplements and making a ton of money off of it and people are dumping their money into it, like I could make some pretty good money and have a supplement line. Given the amount of traffic we have and all the rest of that stuff, at some point, we'll probably have like a fish oil or something.

But there's a ton of stuff you could sell. You can always put some spin on this stuff to make it palatable to be able to justify selling it, but at the end of the day, I just don't know how much good it's doing anybody. And so I'm just really reticent to recommend a lot of this stuff. The things that I usually try to recommend -- and I could be totally wrong. I could be completely out to lunch just wrong on the whole thing, but we try to base it as much as we can on best data that we can go to the literature and look at, plus have we put this into a clinical setting and do we see some benefit with it.

And most of these like performance boosters, high dose vitamins and all that, I just don't see anything of benefit popping out the back end versus like a good night's sleep, grass-fed meat, a little bit of fish oil, foam roll, a massage. Those things are just like yes. Yes, yes, yes, this works. Put some money in and get some results out. Whereas a lot of this stuff, I'm like, "Ugh, I just don't know."

Andy Deas:

Yeah. And I think my only concern with some of these things, and I think it's the same problem that I may have with the coffee, is that you start taking enough of this stuff and you use it to mask a bunch of other stuff that's going on with you, whether what's your actual fatigue level or

whatever, and all of a sudden, I think in some cases, you're creating more problems than you're helping solve.

Robb Wolf: Yeah. I have experienced this. We see this in our own gym, the consults I've been doing. There is just an exploding rash of people who've been training at a pretty high level, doing lots of high intensity work, doing lots of caffeine, who are ending up with what really smells like adrenal fatigue, like adrenal burn. They're exhausted.

And where you start digging yourself into that is you do a lot of coffee throughout the day, you get ready to do your training, your training is hard, you haven't done any periodization, you haven't taken any back-off time, and then you're feeling flat and you want to be up, and so you dose. And you can only get away with that for so long. You're going to your ATM and you're doing withdrawal, withdrawal, withdrawal, withdrawal. You're never doing any deposits.

Andy Deas: Yeah.

Robb Wolf: And then a whole podcast on like this adrenal fatigue/burnout kind of gig would be a good one and that's part of why I really entered on this thing with a caveat. It's like caffeine and these stimulants are ergogenic in the right amounts in the right situations, but you got to be really smart with how you use them.

Andy Deas: Yeah. They're helpful until they're not.

Robb Wolf: Exactly! Exactly!

Andy Deas: All right. Now we're moving on, Robb.

Robb Wolf: Okay.

Andy Deas: That was a tremendous answer to support Lance Armstrong's pocketbook.

Robb Wolf: Yeah, yeah.

Andy Deas: All right. Next question from Ron. He said, "We started our 7-week challenge last week and the most popular complaint/question I get is how often to eat. The folks that are asking the question are not hungry and are concerned that they may be undereating. I have heard some say eat when you're hungry. What are your thoughts?"

Robb Wolf: I don't know. I read the podcast notes here earlier and I was really contemplating that whole scenario. I guess my thing with this is if the individuals are still making progress on their performance, then whatever their food is then I'm probably okay with it. If we end up with that person who if we were graphing their performance and it looks like a balloon bobbing along the ceiling of a room, then I would say, "Okay, let's reevaluate."

And you can certainly get into a situation in which people are undereating and it puts their body into kind of a stress/starvation kind of mode and then they cease losing fat because usually with these challenges, folks' main focus is leaning out. So if you're undereating to a significant enough degree you cause enough stress and you're not losing body fat.

But I would probably hang my hat on the performance side. Mat Lalonde and some other people are doing like two meals a day and still doing good performance on that. I think almost anything would work. You just have to look at what your goals are and then have some benchmarks for assessing whether or not what you're doing is working and then kind of go from there.

Andy Deas: Yeah. I think some of this to me depends on how jacked up their digestion is because I think I've seen a number of folks where -- and they tend to be some of the bigger guys, not necessarily fat but just big dudes, and when we look at their food log, I'm like, "Man, you're eating like 1000 calories a day and you weigh 270 pounds and you could probably walk around at 220 and be pretty jacked." I'm like, "I don't know how long 1000 calories a day is really going to be able to carry you with exercising at a pretty high intensity and everything else you got going on in your life."

Robb Wolf: Yeah. Some of the more like physique/body composition-oriented folks like Martin -- is it Beckham, Berkham? Leangains? I always screw up his name.

Andy Deas: Every week you change it so I thought you knew what it was, but clearly it's --

Robb Wolf: It's one of those things where I just have a mental block on it. Leangains, Martin at Leangains, he is really good with understanding to what degree you can peel back your caloric intake and not kind of piss off the system, and it usually seems to be about like 500 to 700 calories a day of a deficit, and it's really not that much. And if you go beyond that, then you can

certainly get some really whacky metabolic problems where you just get some serious downregulation of your overall metabolic rate, and so you just don't burn all that much energy and you're really not accessing body fat for fuel.

There's kind of a sweet spot there where you're feeding your body enough that it feels comfortable with getting leaner, and to whatever degree the multiple, multiple meals per day works, I think it's that you are sending a consistent signal to the body that okay, I'm being fed adequately, I can access body fat stores and all that; but I think the problem that you get in is even if you're doing a protein and fat kind of gig like a low-carb sort of gig, protein is still releasing insulin. And I know for myself, I interestingly end up being easier running leaner, doing fewer meals as opposed to more because I think I just give my system some downtime.

Andy Deas: Huh, that's good. So once again, no final answer.

Robb Wolf: Yeah. I mean have some benchmarks to assess stuff, and I would look at performance as kind of your gage. If their caloric intake is such that they are still making performance improvements, then I would generally be okay with it. If they're going backwards or really stagnant, then that would be a concern for me.

I think generally, I will agree that if we can drive performance gains, then usually, some body composition improvement is just waiting right on the heels of that.

Andy Deas: Sure. All right, good. Wasn't there one of the challenges I think you talked about in your Paleo Brands seminar where they included some performance metrics? Was that one of the Atlanta CrossFit affiliates?

Robb Wolf: Yeah, BTB in Atlanta.

Andy Deas: Yeah.

Robb Wolf: And I think I did a blog post on those folks too, and they did both the photos and some performance metrics and the performance they broke into strength oriented and then met-con oriented, because they did it pretty sophisticated in that they had skinny dudes who wanted to get bigger. So they had the opportunity for them to kind of show their goods by like taking their CrossFit total up and stuff like that, and then other folks just went by some kind of classic benchmark WODs to use as a guideline.

Andy Deas: Yeah.

Robb Wolf: Yeah.

Andy Deas: That's cool. I like that.

Robb Wolf: Yeah, it was good. It was well done. There were a lot of people doing a lot of Paleo challenges, spring leanings and stuff like that, and they've really taken that very basic concept and made it really sophisticated and very, very effective.

Andy Deas: Good. All right. I'm excited about this next question, Robb. It's a question from Alex. He recently heard about a Duke University study where doctors "cured" children of their peanut allergies by gradually increasing their exposure to minute amounts of powdered peanut flour. He tried to find the study online but couldn't. Here is a link to Duke Health's website.

So basically, he goes on to say, "No mention of the interplay between other inflammatory reactions to food. Would minimizing dietary irritants like gluten have an effect on other allergies?"

Robb Wolf: And that basic question, does minimizing dietary irritants like gluten have an effect on allergies? Absolutely! Any time we modify our overall inflammatory situation or systemic inflammation, we're going to modify how the immune system responds to things, and when we talk about things, allergens are -- it's an immune response and so food sensitivities are an immune response. Anything that we can do to minimize that stuff will tend to minimize the negative results of a certain situation.

There's been a really -- I think it's pretty darn old but the desensitization therapies have been around a long time where they will actually take a very, very small amount of an allergen like shellfish or different things like that and put it under the skin in folks and initially gives them a rash; but then over time they become desensitized to it, which is really interesting because the whole acquisition of an allergy or a reactivity is from exposure.

So there's like this level of exposure that trips the immune system and makes it attack the thing, and then there's another level of exposure that actually allows the immune system to go down to like a dull rumble with the whole situation. It would be pretty cool actually to get an immunologist on here and kind of talk about that stuff more in depth but

still accessible to like the readers. But it's a really, really interesting; very, very complex kind of situation.

So yeah. I mean if you reduce overall inflammation, you're going to improve allergies. This deal with the peanut situation though is interesting in that peanuts, because of the lectin content, are highly, highly allergenic. They just piss off the immune system like nobody's business, which it sounds like they're finding a way of minimizing the allergic response to this.

But those same lectins also cause endothelial damage so that Loren Cordain way, way back early in his research career, if you look on his research page, there's a paper on atherogenic potential of peanut oil and peanuts, peanut oil have a very high propensity for causing atherosclerosis. And part of that is because they cause inflammation in the endothelial lining, the cells that line the arteries and veins of all of our vasculature, and it's just the nature of peanuts that they do that and so that part of the problem in my opinion would not be going away at all.

So you might be taking a situation where you have people who are so allergic to peanuts that if somebody opens up a bag of peanuts on an airplane they're going to go on to anaphylaxis. So that seems like a good thing to do this so that you could minimize that, but it still isn't really creating a situation in which you're going to want to consume this food every single day in my opinion.

Andy Deas: I like that question.

Robb Wolf: Did I do honor? You like that question. Hopefully, I didn't destroy or kill it along those lines.

Andy Deas: Well, I just think it's an interesting approach. We've talked about some of these various dietary therapies where it's like okay, we have a food where we believe is fairly problematic I think for pretty much all folks and we're trying to come up with therapies with how to make it okay to continue consuming it.

Robb Wolf: To keep consuming it. Yeah, yeah, totally.

Andy Deas: It's just an interesting perspective, one that I would never come up with.

Robb Wolf: Yeah, yeah. But there again, when you're manufacturing the stuff, you have a big investment in figuring out how to make the stuff work,

whether you have to massage the research or figure out ways of tweaking it genetically and stuff like that.

There are some wheat varieties out there that the gliadin content is being reduced. They're trying to make the wheat do some stuff like once it is harvested there's some enzymatic activity. The big part of the problem with gluten and gliadin and a bunch of those wheat, rye, oats, barley type proteins is that they have these really long chains of glutamine, glutamic acid moieties, one linked to another linked to another, and it's the inability of the digestive process to break those down that allows them, these big glutamine kind of peptides to interact with the gut lining and that's a lot of what causes the damage. It just interacts with some receptor sites and causes damage and so they're trying to genetically modify these foods so that these glutamine peptides get broken down and whatnot.

So I think overall, that's probably a good move. It's not going to fix everything, but even as big a purist as I am about the whole Paleo gig, if people are still going to eat some of grain-containing item, it would be nice if it didn't give them an autoimmune disease. So I think that would be of benefit. And there again, maybe you can tweak and modify some of these wheat type grains such that their level of autoimmunity is more along the lines of like a corn or rice which looks like orders of magnitude less, and I think that would be a good thing all the way around. So yeah.

Andy Deas: All right. Right on.

All right. Next we got a question from Jason. He says, "Hello again Solutioners! (That has to catch on at some point, or I'm going to look like a dumbass)." Jason, every time you send an email with that in there, I'm going to put it in the podcast.

Robb Wolf: It just sounds like a religious group so I don't know, or like a really, really bad '70s pop band. I don't know which.

Andy Deas: I just feel the podcast is a brand and I don't think we ever thought anyone would say "Solutioners." I like it. It's catchy. Or it's like a line from a very bad movie.

Robb Wolf: Yeah, at best, at best.

Andy Deas: Which means I'd probably watch it 30 times so whatever. It would be on my favorite list. So anyway.

Robb Wolf: Okay, moving on.

Andy Deas: He is writing in with two quick questions. Actually, he's got like a jillion but let's stay with two for now. So question one, sauces! "I like a good sauce on my foods: salad dressings, pasta sauces, curry, etc. My daily strategy is to stir-fry a shit-ton of meat and veggies in the morning, put it in a box, take it to work, and eat out of it when I feel hungry or about three times between 9 a.m. and 5 p.m. For this task I usually use salad dressing, often Goma (sesame) dressing for taste. Could you give your opinion of that, and tell us what types of dressings are best? No brands please. I live in Japan so I probably can't get it, whatever it is." Right on!

Robb Wolf: I'm pretty liberal with all that stuff and I will also rotate through on what type of stuff I'm using. During the winter, I just seem to be like kind of a curry fanatic and so I'll make different types of soups, stews, curries. I'll use red, green, yellow curry powder with some coconut and make that into kind of a dressing and then I'll dress veggies with it. Meat, if we do a salad I'll do some stuff like that.

More in the summer actually, I do something like the Goma dressing where I'll mix up some carrots. Grate carrots, grate ginger, shred some cabbage, and then do sesame seeds, sesame oil and some rice vinegar in that and shake it all up, and it's kind of very reminiscent of something you get in a Japanese restaurant, kind of sushi sort of gig.

I'm pretty game for anything like that. I mean still, I usually stick within the parameters of try to get something nutritious, use something kind of fat-based. I know a lot of the really Paleo purists out there don't like vinegars because of the acid-base deal. I love balsamic. I'll do some balsamic reductions. Like I said, I'll do some rice vinegar occasionally. I mean just using the same kind of common sense. Try not to go bananas on the sugar. Try to keep most of the junkie kind of artificial ingredients out of it. And then from there, I think it's pretty good to go.

Mayonnaise is beyond delicious. Mat Lalonde I think makes some of his own kind of olive oil type mayonnaise. I think there's some canola or olive oil mayonnaise out there, which do not have the soybean oil. The main issue with the soybean oil being that it's relatively high in Omega-6's. So like if you tackle a mayonnaise kind of gig. If you're using that a lot, like say like you're using it in a cyclic low carb kind of deal and it's a legitimate fraction of your fat source, I would put some effort into trying to minimize the amount of Omega-6 that you're taking in. So that's just a thought. That might be about the only thing I could think with that.

Can you think of anything else, Andy? You're getting pretty handy in the kitchen too.

Andy Deas: Are you kidding me?

Robb Wolf: You have like two meals you cook.

Andy Deas: I just eat them over and over. Rotate the veggies based on what's at the farmers' market. I'm pretty simple.

Robb Wolf: That works. That works.

Andy Deas: You know, rinse, slather, repeat, whatever.

Robb Wolf: Exactly.

Andy Deas: No. I like it. Although so the sesame dressing would have a fair amount of Omega-6, right?

Robb Wolf: Sesame is balanced Omega-3 and Omega-6. It's like right down the middle on that. So really, I guess that's true, like that's true. If I'm fretting over the soybean oil, you would probably have a similar issue with the sesame oil. I hadn't even really thought about that.

Andy Deas: The only reason I asked is I went through a phase I know when we're in Arizona where I went through kind of rotated sesame, walnut, a bunch of different oils, which I really like to use in my salad dressings. But I kind of got to this point where I started looking at the ratios of the fats and I'm like I think I'm really pushing this maybe the wrong way. I don't know how much of an impact it actually had but it was something I sort of spent some time thinking about.

Robb Wolf: We definitely have seen some improvement with folks shifting away from like almonds and all that sort of stuff and doing more coconut. And I'm guessing it's probably kind of a lectin load, and I'm guessing also kind of an Omega-6 deal. So maybe just mixing it up, trying to rotate around on that. I didn't even remember about the Omega-3/Omega-6 deal with sesame. I was all beaten up on the soybean stuff.

Andy Deas: You and the soybean, man. Don't hate on the soybean. They put that in everything.

Robb Wolf: The lowly soybean.

Andy Deas: Yeah. Someday you may come to change your mind. No, I'm just kidding.

All right. We'll give Jason the second question although I feel like we talk about this a lot.

Robb Wolf: Yeah, we'll do a quick dash through the booze because we've hit the booze pretty hard.

Andy Deas: All right. So second question is what it really comes down to: alcohol. "This has come out in dribs and drabs over time, but I guess what I'd really like is to hear your full run-down on booze: how often, how much, how and what? To what extent does any alcohol interfere with proper eating? Best ways to drink and best things to drink health-wise. Is brewed better than distilled or vice versa?" This is quite a question actually.

Robb Wolf: It is a hell of it. Maybe we need a whole alcohol podcast.

Andy Deas: Yeah. At this rate, given where we are and you are doing the book, I think you just better answer this.

Robb Wolf: Yeah, yeah. I mean definitely it seems like minimizing your sugar intake, minimizing your kind of gluten intake so that kind of defaults to like some sort of clear alcohol, classic NorCal Margarita kind of gig, a couple of shots of booze, some lemon or lime juice, some soda water. Short of that, I think like wine or gluten-free beer, although some people react really, really negatively to the gluten-free beer. All of this, like how much and all that, I don't know. I mean whatever you want. It all depends on what you're up to.

Virtually, all centenarians, people who lived to be over 100, drink moderately. They drink something. Interestingly, you see no teetotaler centenarians. You see no vegan centenarians. There's some kind of commonalities there. Greg Battaglia asked a question about the gene amTOR and protein consumption which we'll talk about at a later podcast, but that's kind of in the genre too like how much protein can you get away with and really live a long life and all that sort of jive. So there's some interesting stuff there, but I don't know. Drink as much as it optimizes your sex life. How about that? Is that a good rule of thumb?

Andy Deas: That's the best rule of thumb.

Robb Wolf: Yeah. Drink to the degree it optimizes your sex life and minimally impacts your training. Done!

Andy Deas: I think this goes back to tracking some benchmarks and things to figure out how some of the stuff you're doing. I mean I enjoy alcohol as much as the next guy, but if I do about three days a week of even like two drinks I'm a wreck.

Robb Wolf: Yeah. The funny thing is there's kind of a no man's land there where you can have a drink or two here and there and you do fine; and then you step it up beyond that and then you need to become one of our kind of professional drinkers before you can drink consistently and seem to not suffer totally the ill effects of it. You're not at the top of the heap.

We just have a number of clients that I think it's the intensity of the kind of mixed modal training. They just love intense experience. So they'll go out and do a bender, come in the next day, still wrecking up the bars and do a workout. And they love it, and it would kill me like it would absolutely destroy me but they love it. So I think that's where a lot of this stuff is very individualistic. You just have to figure where you're at with it.

Andy Deas: Good, good. Good question. Alcohol is always popular.

Robb Wolf: Booze is good.

Andy Deas: Next question is from Nigel. "Hi there, Robb. Love the podcasts. My wife and I have been listening to them for the last few months while changing our diet over to around 80% Paleo." Nice!

"I eat a bit more strict but she's been a slower convert. Thanks a ton for the info about feeding children and infants in podcast 12. We have some little buggers at home. Both my wife and I are CrossFitters and have seen drastic improvements in body comp and performance with Paleo. I guess that makes me a big fan of pseudo-science."

Robb Wolf: Indeed it does.

Andy Deas: "Now for the question, I have a good friend with chronic pancreatitis. He's a pretty active guy, MMA, training a few times a week as well as some other high intensity workouts. He has recently become very interested in my nutrition due the rapid changes to performance and body comp that I've had. I've told him about the Paleo diet and encouraged him to try it. Unfortunately, I am unsure if there are any special considerations for sufferers of pancreatitis, specifically those who have had their gallbladders removed."

Robb Wolf: The whole thing, great question from Nigel. I totally appreciate the reach-out, and the whole thing boils down to like the last sentence.

Andy Deas: So why don't you maybe address it first for those with gallbladders? Just a quick pass through and then we'll actually deal it.

Robb Wolf: Like what it is or --

Andy Deas: Yeah, and if there are any concerns based on what we've seen before, because I know the gallbladder thing is like a whole different kind of animal.

Robb Wolf: Well, these two things are linked. The pancreatitis and the gallbladder removal are indicative of gluten intolerance. Gluten changes some signaling if I recall and cholecystokinin and that is what turns on and off bile salt production. And so the gluten ends up bugging that system, which will then allow the cholesterol that our body produces that normally is part of the bile salts. That stuff ends up crystallizing and precipitating out and creating gallstones, and so they yank out the gallbladder when this is actually just a sign and symptom of a problem.

And the pancreatitis is another one of these situations in which it would just guarantee you some gluten intolerance mixed probably with some high insulin levels; and if we were to get this person on gluten-free, dairy-free kind of Paleo diet gig, I would be shocked if you didn't see a resolution in the pancreatitis.

I would really recommend some sort of a digestive aid again, broken record like the NOW Foods Super Enzymes. Some sort of a betaine hydrochloride and ox bile-containing digestive aid will be hugely beneficial in this situation. Just in rereading some material for reference for the book, I forgot that the point of the gallbladder itself is to store bile salts which are made by the liver and stored in the gallbladder.

Bile emulsifies or dissolves fat. That is critical for the enzymes that are then released by the pancreas to act on the fats to be able to break them down, to break down the triglyceride backbone and allow that stuff to be moved through the intestinal tissues, the intestinal lumen, and then get re-esterified on the other side and go into the lymphatic system. I knew that they needed to be emulsified but I forgot that like if it's not associated with -- if the fats are not associated with bile salts, the digestive enzymes do not work. They just don't work hardly at all.

And so this is where folks who have had their gallbladders removed, one, I think it borders on a crime that GI docs are still pulling out gallbladders and they're not aware that a gluten-free program can fix that problem. That is just dodgy, dodgy, dodgy like I can't even believe that that's not better understood, and so this ends up bugging a whole bunch of problems. I suspect that if you look at the same mechanism that causes the gallbladder problems is the same problem that is causing irritation in the pancreas because there's a really potent feedback loop between the pancreas and the gallbladder too.

See, I mean the short answer here is not all that short at this point, and it's that gluten-free, dairy-free Paleo diet would likely really, really benefit this individual. I would definitely supplement with some digestive support too.

Andy Deas: Robb, there are no short answers in your podcast.

Robb Wolf: Well, I do what I can, I think.

Andy Deas: I'm just saying, man. No judgment. Good.

Next we got a question from John. He is a 28-year-old male and has been recently diagnosed with gout. He did a quick search on your forum and nothing came up for it. "I'm just wondering if there is any info out there that would suggest that going to a Paleo-based diet would be the best course of action for me. I did a 21-day challenge through a local gym with a Paleo basis. At the end of it I had a crippling outbreak of gout in my toe and ankle. I would like to think that I'm a pretty tough guy, but I couldn't even stand to have a blanket touching my legs as I was sleeping in the night. It hurt so bad.

Everything I have searched and read says that the only way to cure gout is through medications and the virtual elimination of red meat and large cutbacks on proteins in general. Besides that, nothing is said of diet. They even go so far as to say that western diets that are being introduced into progressing nations are one of the causes of the increase in gout in those peoples. This leads me to believe that a move to Paleo eating would have a positive impact.

I am taking fish oil supplements at about 5 grams EPA/DHA per day. The books also say that too much fish oil can lead to gout flare-ups. As you can see I am at a total loss. I was losing weight and performing better than I ever have while doing the 21 days. Then I got the flare-up and now

I'm lost in a sea of self-pity and bad feelings. Any help or guidance would be greatly appreciated."

Robb Wolf:

When he shot this in, this was kind of a big enough deal that I shot a really quick link to a Paleo diet newsletter that Professor Cordain put out on gout. Like he mentions in here, gout, it's an overaccumulation of a purine metabolite, uric acid. The uric acid crystals can precipitate into the joints and it's horribly painful, very, very damaging. So the standard treatment for this has been to block the purine, kind of like the backbone of DNA blocking that conversion into uric acid and just trying to minimize the foods that have a lot of it in it, which like he said the meats and all that sort of stuff. So that works marginally.

But then what usually ends up happening is the individuals end up eating more carbs, and what this really is is a metabolic issue. Somewhere in here, John is still getting too much carbohydrate in the mix. I don't know where. Like he said, he was doing the 21-day challenge. He was kicking ass on it, it sounds like, but I was assuming that he had changed his food to more of a kind of a Paleo gig, but I don't know that to be. He doesn't state it implicitly or explicitly in here.

So there's definitely too much carbohydrate in here, too much insulin, dairy, refined carbohydrate, something in here. Sleep disturbances obviously and then any of the lifestyle factors tying into insulin sensitivity are a fair game as well. But John needs to get the carbohydrate load down in his diet and then the gout should resolve itself. This is again one of those things where it's like okay, there's too much purines because there's too much -- we're getting uric acid precipitates so let's reduce the purines.

And it's real nice, tidy, linear logic. Unfortunately, it's wrong. What's happening is the liver's ability to metabolize purines has changed because of a high insulin state. And so it definitely is fixable with a Paleo diet, but I'd be interested to know where his food was and then how he might tweak it subsequent to this.

Andy Deas:

What's your thoughts on high levels of fish contributing to gout flare-ups?

Robb Wolf:

He said the fish oil supplements. Too much fish can lead to gout flare-ups. I guess maybe if the individual has high insulin levels and then they have liver metabolism issues and then they eat a bunch of fish, then that fish is still a high-purine meal, high-purine food. So if your liver metabolism is screwed up because of the insulin levels, then including more purines is

just going to make more of a problem. There's no doubt about that. So yeah.

Andy Deas: All right, good question. That Paleo diet newsletter on gout is excellent. I've sent that to a couple of people with gout that have seen good success.

Robb Wolf: Yeah, and gluten is interestingly really a biggie in that and beer, beer and booze and all that, alcohol. This kind of linking back to our alcohol question, some people are exceptionally intolerant of alcohol and immediately starts making them metabolically deranged. It starts goofing things up. They become insulin resistant very, very quickly.

Andy Deas: Yeah. All right, good.

Next we got a question from Tim. He says, "Robb, I've been a follower for quite a while now and had a recent issue come up in my life that I wanted to discuss with you. My wife and I are about to have our first child in May and she has recently been diagnosed with gestational diabetes. She is in her 7th month as I write this and she is at a healthy weight, physical condition, etc.

She is 5'3", 130 pounds (pregnant weight). Pre-pregnancy weight was around 112 and she eats a modified Paleo/Zone-ish diet. Have you run into this issue with any other Paleo/Zone dieters? Is there anything we can do to curb the symptoms of GD? Any recommendations would be greatly appreciated."

Robb Wolf: So this one I did another either one or two posts on gestational diabetes that had a ton of comments on it, a lot of people playing around with it. Usually, the diagnostic that they do for gestational diabetes is oral glucose tolerance test where they basically give the mom like 100 grams of glucose and then they see how long it takes her to clear that out of her system. And if you clear it slowly then they would say then that you have poor insulin sensitivity and you have some metabolic derangement.

The problem with that is if people generally eat low-ish carb, you can have a situation in which like a given dose of glucose or carbs, they may not clear it all that quickly, but yet they are generally reasonably insulin sensitive.

Mat Lalonde did a thing where he was responding to some commentary about like a palmitic acid and spikes in palmitic acid either dietarily or from carbohydrate intake ends up inducing kind of transient insulin

resistance. This is kind of what we see where folks who are on a low carb diet, they can give a response on something like an oral glucose tolerance test that appears to look like some insulin resistance, but when we look at the more important measure which would be like an HP1AC or they call it an A1C now, how much sugar is sticking to your body's hemoglobin, then they come out with an A1c that's fine. It looks amazing. It's like in the 3's and 4's which is showing that very, very little sugar is sticking to your body's tissues, which means that over the course of time, your body is regulating its blood glucose levels very, very well.

And here's the thing. If you are very, very good at running on fats and/or ketone bodies, your body will be just a little insulin resistant in that you don't want to clear what little bit of blood sugar is in your system out because you do still need some sugar to run some of your brain, some of the red blood cells and all that sort of jive. And so you can have this transient periods in which you're technically kind of insulin resistant despite being on a low carb diet, but it doesn't really matter because your blood sugar levels are in the healthy low range and you're functional and all that.

So this is where like the type of diagnostic test that the person uses can be really misleading in this regard. And I think it was either in that thread or I shot an email to some people and then posted in that thread, but I shot it to like a couple of professors of pharmacology, a couple of MDs, one OB that I know, and I said, "Hey, given what we understand about gestational diabetes, wouldn't it make sense to make the diagnostic standard for this to be the A1C instead of an oral glucose tolerance test, given everything that we understand about the accumulation of glycolytic damage from high blood glucose and all that, and also just less damage to the mother and the fetus because that huge dose of sugar is actually pretty disruptive to the fetus?" And so all of these people agreed. They're like, "Yeah. This is a way better diagnostic test for this situation."

So this is one thing that I would recommend to Tim that he have his wife do an A1C test and see where that is, and if it's on the high side then there's some problems. And again, that A1C and triglycerides and different things like that, those do not lie. If those are too high, then we've got some sort of a dietary or lifestyle issue that is causing overt insulin resistance and too much carbohydrate in circulation. There's just no two ways around that.

Interestingly, Amy Kubal just forwarded a brand-new like literally hot-off-the-presses study to me that the A1C number had the highest correlation value of predicting heart attack of any of the lab work that they've been

playing with, better than like HDL or LDL. Like it is the cat's freaking meow on all this stuff, and it is simple and cheap and uninvasive.

And I got to say, for probably like 5 or 6 years I've been saying like really, you could live and die by the A1C. That is the thing that you could hang your hat on. If that is good, then LDL particle size is good. If that is good, then C-reactive protein is good. And conversely, if that thing's bad, then everything else goes bad because it's an indicator of overall blood glucose levels. That's an indicator of where your overall insulin sensitivity is. So it's an amazing catch-all.

Andy Deas: Nice!

Robb Wolf: Yeah.

Andy Deas: With that Robb, we're already at an hour and 12 minutes.

Robb Wolf: Holy cats!

Andy Deas: That's right. So we're going to hold the last question for next week.

Robb Wolf: Cool! Cool!

Andy Deas: Because you need to go write your book.

Robb Wolf: I do. Actually, I'm going to work out first.

Andy Deas: All right. Get some activity. Enjoy the sun. Hang out with the wife and cat.

Robb Wolf: That's right. That's right.

Andy Deas: Cool! Well, with that man, Episode 18 in the books, and we'll talk to you next week.

Robb Wolf: Sweet! Thanks, Andy.

Andy Deas: All right. See you, Robb.

Robb Wolf: Okay. Bye-bye.