The Paleo Solution
Episode 63

Andy Deas: Robb Wolf, Andy Deas, back with episode 63, The Paleo Solution. What is up today, Robb Wolf?

Robb Wolf: Dude, just getting recovered after the trip to New York.


Robb Wolf: Art DeVany and I were on Nightline -- ABC Nightline and his publicists were super cool and managed to kind of package deal me in with that whole shtick. And so I flew out to New York, and we had a sit-down interview that was about 30 minutes with each of us, and Art totally crushed it. And usually I feel pretty good about interviews, but he did a really, really good interview. And I was kind of like, "Oh, man, I'm totally going to choke now because Art did so well." But I actually did a pretty good sit down interview.

And then the following day, they followed us at a churrasqueira Brazilian barbecue, and I was actually all miked up and everything and walked the correspondent, John, through getting the salad bar. And then when they would bring out the meat, and then there were just a bunch of Q&A. And then we went to CrossFit South Brooklyn, and they talked to Art there and filmed me doing kind of a quick little workout and then filmed the group class at CrossFit South Brooklyn. So it was a ton of video. Theoretically, it might be an hour long gig. So it should be a pretty good gig.

And then we had a book signing deal at a local bookstore there. I'm totally blanking on the name of it like McNally Jackson Bookstore. And there was a correspondent from Time Magazine there. She was chatting us up, but it was pretty funny. She was fully -- she had done all of her homework to try to provoke an incendiary response out of both Art and I, and she kind of succeeded with Art a few times. And then John Durant and I would kind of intervene and try to play like the kids who quiet the squabbling parents and all that stuff. So it was kind of funny, but it was interesting. She ended up actually having some health problems which I offered to help her with. And I was like, "YOU know, you need to calm down on the spin with this stuff because it's not actually good journalism. There's actually a good story here, and simply trying to do like the slam
piece of having the compare and contrast deal might not be your best formulary approach to this gig."

It was interesting. We'll see how her piece ends up. And that was about it. It was good. It was good overall. I got to hang out with Art. And it's -- he's pretty damn impressive. Physically, he's really lean. He's carrying a lot of muscle, and he had a detached retina so he didn't really get to do a ton with regards to working out. But we were walking back to the hotel, and it's totally frozen, ice on the ground and everything, and the light up ahead of us, the walk, don't walk thing was counting down north was like, "Let's go for it." And he took off sprinting to sprint across the street and that old fart can move, man. He can flat-ass move.

So a lot of people have kind of had some questions about whether or not his stuff is all that effective, and they had questions about whether his fat recommendations are high enough and all those. And it's an N equals 1. Art probably has some good genetics, but whatever he is doing is working really, really well because he looks damn good, and he's very physically balanced. He has great thoracic mobility. He has amazing posture. Like all that stuff he talks about, he definitely lives it. And he drank John Durant, and I under the table with Martinis.

So there you go. John and I were super rough on the day afterwards, and Art bright-eyed and bushy-tailed. So it was a pretty good gig. It was pretty cool.

Andy Deas: He's got a few more years of practice than you, Robb.

Robb Wolf: Yes, yeah, he does. He was drinking them while Dean Martin was still around. So yeah, totally. But it was cool. It was a lot of fun. It will be -- that should air sometime this week. I'll definitely do some tweets, and probably I'll put it on the blog when that goes up. And then I assume the the Time piece should be up pretty soon because that's a weekly also. So we should see that pretty quick.


Robb Wolf: Cool. What's new with you? What's cracking?

Andy Deas: Nothing, man. I just did some yoga following John Welbourn's path. Got home from yoga, I feel all crushed right now which is --

Robb Wolf: Nice.
Andy Deas: -- embarrassing to say. And I am waiting for the sun to come out in Chico. That's really about the extent of my excitement right now.

Robb Wolf: Seriously, man, yeah. I'm just a few more cloudy days away from the Kurt Cobain fest. So we need some sun.

Andy Deas: You're going to start needing to get a new joke.

Robb Wolf: Oh, dude. That one just paints too good of a picture.

Andy Deas: All right. All right. Are you ready?

Robb Wolf: What do you think -- if we got rid of that one, then I would have to get rid of six listeners gig too.

Andy Deas: Well, I need some of them to come up with some t-shirt designs for the six listeners so....

Robb Wolf: That's true. So if anybody out there has some cool ideas, submit them. We want to do some t-shirts on it.

Andy Deas: Yes. Submit some ideas because if you let Robb or I cook up the ideas, they will likely not be very entertaining.

Robb Wolf: Yeah. But somebody will still buy them nonetheless which is really terrible.

Andy Deas: That's true. That's how the roller works.

Robb Wolf: Yeah.

Andy Deas: All right, man. Questions -- are you ready?

Robb Wolf: Let's do it. Let's iron this out.

Andy Deas: All right. First one, NorCal Mike, I like that, says, "Robb, I know it's hard for you to carve out even an hour these days, but I need to share this top lecture from last year. If you can't watch the whole lecture, I suggest just checking out these interesting bits: 1) the human brain has been steadily shrinking for the past 10,000 years, 2) early farmers in Europe were genetically different from both the preceding hunter-gatherer population and the current European population, 3) there are 3,000 genes currently under selection (one-quarter the number that differs us from chimps), 4)
items under selection include protein metabolism, 5) lactase retention into adulthood and other examples of neolithic evolution.

Question for podcast: Robb, can you speculate on why the human brain size has dwindled over the past 10,000 years?"

Robb Wolf:

It's funny this was -- this is a great video, by the way. The link here was very, very good. Folks should definitely check it out. We were talking about this over the weekend a ton because it was a bunch of Paleo geeks hanging out. And the whole encephalization deal like brain size, brain growth, and everything saw its zenith in actually kind of three different human species: Neanderthal, Homo erectus, and Homo sapiens.

The Neanderthal and Homo sapiens, archaic Homo sapiens, Cro-Magnon or however you want to classify them, had brain capacity that was significantly larger than ours like at least 10% larger. And then the Neanderthal was running, I think, like 5% to 8% larger even than the archaic Homo sapiens. So there's definitely been some change, and like my main thought on this is that we have a decrease in food quality and actually a decrease in the adaptive demands that are placed on the brain.

When we started getting into agriculture and kind of routinized activities, I think that the demands on the brain actually decreased. And although we obviously learn a lot of stuff as we've started relying more and more on writing and cooperation and different things like that; then we possibly have a little bit less of a selection pressure in that regard and then decreased nutrient quality. So there may be two things intertwined there, but I suspect that probably the main influence is just that we eat less protein, we eat less fat, we eat less omega-3's all the way around, and that seems to be a lot of the stuff that went into increased brain size.

It’s interesting. Part of the theory of encephalization involved like a couple of different angles. One of them is intake of protein and intake of fats and particularly omega-3's in the form of EPA/DHA, and all of this stuff goes into the extensive tissue hypothesis that because we started eating more nutrient dense foods; we saw a shrink in gut and an increased brain size. And some of what went into that was the cooking of food and the preparation of food which made the digestion easier and then we had a decreased robustness in our dentition and all that sort of jive.

And then even woven within that, there's some theory floating around out there that maybe the consumption of tubers helped drive some of this encephalization because you had not only a rich source of omega-3's and more nutrient dense foods but also the inclusion of a glucose rich
source of calories from yam and sweet potato type things. Kind of interesting stuff. Nobody has really been able to put forth a mechanism within all this. The expensive tissue hypothesis, it kind of makes sense. There’s some stuff that’s kind of borne out and all that. Nobody has been able to make a mechanism what would have driven encephalization because you’ve got other predatory carnivores that eat tons of EPA/DHA but don’t have all the technological stuff that we do, but they also don’t have hands and all those stuff.

Anyway, all that jive is pretty interesting, but it's also interesting that since a -- big thought within all this is the ease to digest food led to the encephalization. It’s intriguing to me that although our food has typically gotten easier to digest because it's more cooked, more processed. Even since early agriculture, the nutrient quality has decreased. And so when you think about the whole picture, I would lean towards just a decrease in total nutrient quality is probably one of the biggest drivers and all that.

But all these things that are being talked about like the selection pressure, we talked about a number of these things, and it's very, very interesting. These processes that are being selected for these changes between the Neolithic genome and the Paleolithic genome and then, say, our contemporary genome, the main things that are being selected for are elements that are expressed early in life. The interesting thing is that it's mainly focused on early life improved survival. And these genetic adaptations don't really have much bearing later in life comparatively. And so this is still one those things where we see, say, like certain populations are a little bit more grain adapted; certain populations that are more alcohol adapted and whatnot, but none of these populations end up being completely free of the problems associated with Neolithic foods or things like alcohol and stuff like that. It just changes the course of the problem.

So it becomes a problem later versus what we see in maybe American populations or islander populations when they are exposed to refined carbohydrate or alcohol or something like that. They have very, very little capacity to deal with it. So it's interesting although there is this selection pressure going on. Unless you're only concerned with your health in the early reproductive years, then these things aren't really that important because you're not escaping the ramification of these genetic selection pressures later in life. So that was an interesting topic of discussion this weekend too.

Andy Deas: All right. I like that question, Robb. That was good.
Robb Wolf: Yeah. It was a biggie. I told you I was going to not talk a lot and then I lied so...

Andy Deas: I like it. It's okay, Robb. It's the first question. You can start off slow and then slowly wean down how much time you get. We got a little clock --

Robb Wolf: We'll ramp it up perfect. I think that works.

Andy Deas: All right. Next, we got a question from my friend Blondbabba, "Hi, boys. I'm not sure which I enjoy more about this podcast, the flibbin hilarious shtick between the two of you, or that you seem to answer questions I didn't know I had. So thanks for both. I have been eating Paleo for about four months now. I eat fruit sparingly but always seasonal and derive most of my sugars through sweet potatoes. I don't take a multivitmain (except Vitamin D about 5000 IU's in the winter, and omega-3's all year round). Even though I live in Lake Tahoe where it's freaking cold, I notice I avoid most flu's and sicknesses when I stick to Paleo. I feel a pretty balanced sense of vitality all around, but want to make sure I am giving my body what it needs.

My question has to do with the latest popularity of magical berry drinks. The Acai, Goji, Noni, mangosteen type juice blends that are typically sold through a multi level marketing sales model. I have been approached numerous times by friends claiming that there is nowhere else that I will get this type of highly concentrated amount of antioxidants and vitamins. Does eating Paleo provide enough antioxidants? Are selling boatloads of antioxidants the latest rage? Am I going to die if I don't drink the magical elixir?"

Robb Wolf: Yes, but the magic elixir is actually NorCal Margarita so.... The only place that I would -- I guess to answer one of those questions which is: Are getting enough antioxidants with the Paleo diet? Yeah. I mean especially if you've got some access to grass-fed meat, wild caught fish because they will tend to have some endogenous antioxidants from the phytoplankton in the seafood instance; the wheat imbued carotenoids in the grass-fed meat scenario, and if you're eating plenty of fruits and vegetables, you're good to go. Even the stuff like yams and sweet potatoes tend to have pretty good ORAC oxidative reaction capacity. I forget the exact acronym there. But they are good source of antioxidants.

These things -- the only way that I would sign off on doing something like these would actually be something like a juice plus where they've taken all of this, concentrated it down into a capsule form, and then they've removed all or most of the sugar. But it's just drinking fruit juice of
whatever variety it was -- I remember there was some anti-aging guy that was drinking grape juice because of the antioxidant capacity of the grape juice, and then the dude was super chubby and kind of borderline type 2 diabetic, which he had other kind of problems with what he had going on too. But the antioxidant deal is important, but you have a little bit of green tea, have a little bit of coffee, have a little bit of dark chocolate.

Look at this also from a hormesis standpoint; a little exercise exposure, even a little alcohol exposure here and there. These transient stressors are almost as important in the antioxidant story as actually taking in plant derived or different types of antioxidants. There's a wide range of stuff with this. I think that we're all pretty much in agreement that consumption of refined carbohydrates other than for like lean, very active people who are trying to optimize performance is probably not a really good thing for most folks.

So I just -- I don’t see any need, I don’t see benefit to these things. There's definitely a huge amount of hype and hyperbole around the products. I'm not really a fan.

Andy Deas: I would hypothesize, Robb, that these wonderful magic juice blends would taste great with vodka.

Robb Wolf: I would definitely agree with that. So if you have some Asahi, and you have something like an Absolut Citron, I bet that that would be an amazing combination.

Andy Deas: Yes.

Robb Wolf: And I think we have like a vodka question later actually so....

Andy Deas: I think we do, yes.

Robb Wolf: Yeah.

Andy Deas: Okay.

Robb Wolf: Andy is phasing. It's 7:00 at night for us so -- this is our first nighttime one so....

Andy Deas: No, I'm not phasing. I'm just thinking because we have a friend who has a bottle of -- a box of MonaVie laying around somewhere, and I was like, "You know, if that hasn’t gone bad, on your birthday perhaps you should
mix some of that with vodka," because that's probably the most useful solution in can come up with to finish that off.

Robb Wolf: Well, if you come up with a bottle, my birthday is coming up here pretty soon. So we could do that.

Andy Deas: There you go. We will include you in the MonaVie experiment.

Robb Wolf: Perfect.

Andy Deas: Next, we got a question from Ted. He says, "I'm a huge fan and listener of your podcast. A friend of mine is trying to get me involved in Herbal Life against my better judgment. After looking at some of the products and what they contain I feel as a strict Paleo follower, I'm selling my soul. Anyways was just looking for some more info in regards to soy versus whey protein as most of their products have soy in them. The link below," and Ted provided us a link. So anyway, Robb, what are your thoughts on all this shenanigans?

Robb Wolf: I generally am just a little but offput by the MLM scene. It just always seems a little shady, a little dodgy there. There are some things out there -- shoot. Like the Juice Plus+, which I think they actually have some pretty good stuff. What's the other one? They have a product called Spark.

Andy Deas: I think there's some wheat in Juice Plus+, isn't there?

Robb Wolf: There might be some wheat grass in some of them or something. Yeah, I mean you'd have to check it out, but I -- just like anything else, I think there's probably some okay products within some of these lines. Herbal Life, heck, if you like it, go for it. I don't know. I still am just very skinny on the supplement side. I think that there are some really good things for some specific conditions. I think there are some good stuff for cortisol interventions and stuff like that, helping to modify a BioSignature pattern, like improving cortisol profile or testosterone profile or something like that. But as a baseline I just don't see a lot of benefit to these things.

With this specific question, all of the people who recommend soy over whey are just like smoking crack. There is just nothing good about soy protein relative to whey protein. And that's even with the caveat that I just generally don't recommend protein powders that much or to that many people. Again, if you're pretty lean, and you're really trying to force some emphasis on that performance side of things, then sure, you can get some bang out of that.
There's definitely some growth factor potential associated with whey which we've talked about a bunch before. But for the vast majority of people, that's just kind of not their thing and usually what whey and soy protein ends up involving is just processed food in the form of some sort of a smoothie and a bunch of fruit and maybe even some juice which just ends up being a blast of carbs that folks don't need. I think, Andy, you mentioned that this link even was dealing with soy lecithin and not soy protein so....

Andy Deas: And how do you feel about soy lecithin, Robb?

Robb Wolf: I'm not that freaked out by it. Matt Lalonde really doesn't like it that much but it's because soy lecithin is relatively heavy. Some of the phospholipids are the short-chain omega-6, the linoleic acid, and so that---obviously, we're always trying to keep our omega-6 consumption on the low side. So I think that that could be a little bit of a problem unless you're eating it by the tablespoonful which I have heard of people doing that. I probably wouldn't recommend that. But short of that, you have some soy lecithin in some dark chocolate or something. I'm not too worried about that.

Andy Deas: I like dark chocolate.

Robb Wolf: Everybody likes dark chocolate. If you don't, there's something wrong.

Andy Deas: Like if you don't like vodka.

Robb Wolf: Seriously, yeah, especially when it's mixed with MonaVie.

Andy Deas: That could be a t-shirt. And MonaVie is only good if you mix it with vodka. Next, we got a question from Justin. He says, "I'm experiencing very low energy levels after seven days of pure Paleo. I was working out a reasonable amount and eating six large meals a day, but I could not shake the tiredness from my body, even with the nine hours of sleep per night. I am supplementing with coffee but never after 6:00 p.m. Very keen on the Paleo way of life and want to continue practicing but I'm not sure I can continue like this. Is this a common condition as your body adjusts to a new diet after 25 years of eating dairy and whole grains? Any help on this would be greatly appreciated."

Robb Wolf: Yeah. I mean we've talked about this a ton like this transition period can take at least 30 days just as a baseline if you've been eating a ton of carbs in general, particularly if it's been more grain based carbs. A lot of folks if
-- depending on how you're jumping into this, you may have dramatically cut your carbohydrate intake, and we don’t really know what your activity level is. If somebody was quite active before, then you’re not necessarily going to want to jump in on this and be really low carb.

If you’ve got some metabolic derangement and want to lean out, then maybe low carb is a good way to go to speed up that process. But again, kind of matching macronutrient amounts is possibly a good way to go to kind of minimize this whole thing. Also, if you are not eating the same kind of six meal a day approach, that can take some time to adjust to also. Your body kind of trains itself to the number of meals that you’re consuming, and it gets pretty comfortable with that. So there may be some other things that are going on here that need some modification.

If you drop down the three meals a day trying to do some intermittent fasting, and then you’re also skinny on carbs, then yeah, you’re going to be really, really hurting for a while. This is where possibly bumping up some fruit, bumping up some yam or sweet potato. And at least initially keeping the same number of meals per day in there should make the transition a little easier. But then by the time you get around to it, it’s going to be 30 days anyways. But just as a baseline when folks jump in, that that’s a good way to do it.

Andy Deas: All right. A question from Pozatron. I don’t know if that sounds -- if I’m pronouncing that right.

Robb Wolf: I’ll run with that.

Andy Deas: Apologies if I had misspoke. First, he provided us a link to a lovely article called “Now Drinking Coffee Will Save You from Type II Diabetes.” Thoughts? Talk amongst yourselves. Go, Robb.

Robb Wolf: Shoot. They've had articles on this a ton. There's definitely a therapeutic window for coffee consumption, and it seems to be -- it actually starts picking up right around the three cups a day gig. I think the big problem comes in when we've got other life stressors that are exacerbating, some of that adrenocortical effect of the coffee, lack of sleep, overtraining, trying to do intermittent fasting with this stuff.

So I think all of those things can be issues that make the coffee consumption a problem. But overall, when you look at the antioxidants coffee provides, it does some interesting stuff also with enhancing some of the phase 2 liver detoxification pathway, so there's some benefit there that seems to help insulin sensitivity. Whenever we're mitigating
inflammation via some antioxidants in an intelligent way, then we enhance insulin sensitivity too. So there are a couple of different mechanisms there.

Andy Deas: The therapeutic dose ran is zero so I think that will be all right. He also follows up, "I asked a question around thanksgiving (I know you two dudes are busy) in regards to ancestral fitness intervals and the efficacy of banging out a couple sets of max rep push-ups, etc, throughout the day. Is there any worth to this as far as conditioning? Strength/mass gain? 25-year-old lacto-paleo male, 6 foot, 170 pounds, soaking wet. Would love to be 180-190. Cheers and keep distributing the Kool-Aid."

Robb Wolf: We sold Kool-Aid. Now we sell MonaVie.

Andy Deas: If we sold Kool-Aid, we might be rich.

Robb Wolf: It would be MonaVie.

Andy Deas: Yeah, there would be MonaVie.

Robb Wolf: Maybe that's -- that could be a new tagline. If we sold Kool-Aid, it would be MonaVie. Oh, but then we'll get sued for sure. We'll get sued by MonaVie for sure.

Andy Deas: It would be funny though.

Robb Wolf: Yeah, that would be funny. So this makes me think about a couple of different things. I'm thinking about like four or five different things here. One of the deals, and Andy and I have talked a little bit about this, and I'm actually going to do a post on some of my more recent training and nutritional tinkering and stuff like that, but the androgen profile I think is just so important in all this stuff. Like making sure -- if your goal is some mass gain, that you've actually got some testosterone floating around, some free testosterone floating around. Simply hammering a bunch of food down in the form of dairy, whatever.

All those things kind of work but the likelihood of getting a significant amount of fat gain is pretty high if the androgens are not there; if the testosterone is not there; if that testosterone growth hormone axis is not well-functioning. And I think this is where it's maybe worthwhile to go get like a Polaquin BioSignature kind of gig. So get an adrenal stress index plus an androgen profile, and just kind of see where you are with that. If you have some problems getting a functional medicine doc and
naturopath, somebody to help you figure out how you're going to get the androgen profile back in the line, back to where it needs to be.

And I would almost primarily focus on just getting lean which it sounds like this guy probably is lean. He is 6 foot tall, 170. So that's probably okay but making sure that there's not a high cortisol scene going on and all that sort of jive before you jump in and do this potentially. He's 25 years old. He's probably okay. But it's just one of those things that if you're really a hard gainer and if when you start hammering some food and some hard training you just get chubby, then you need to back up and do some reassessing on cortisol levels, cortisol testosterone ratios and stuff like that. So that's one thing.

The other thought, this stuff starts sounding a lot like Westside Barbell tries to do with what they call special workouts, where they try to get you to increase your GPP, general physical preparedness, by doing more workouts throughout the week, maybe doing double D's and stuff like that. None of this stuff is taken to exhaustion. All of it is trying to build volume over time. And with that volume, the theory being that you increased your work capacity and part of the work capacity increase is going to be just generally being stronger. So I think all of that could certainly be a benefit.

Holy cats! I've got a tickle in my throat. I think also these frequent workouts can improve insulin sensitivity a la kind of Art DeVany-esque deal which I'll talk about later. Art likes kind of breaking up his workout so that he's doing a little activity all the time so that it improves his insulin sensitivity, and I think that there's a really good argument for doing that. So I think there's definitely some benefit to doing stuff like this. I think tackling it in a systematic manner -- Andy and I have talked about this too. Say, you would pick two movements. I'm just dying over here. I've got a serious tickle in my throat.

Pick movements, say, handstand pushups and pull-ups, as a couple of examples, and work those. Find something that is demanding enough that you're not doing -- you can't do like 50 repetitions of it. Air squats are not going to work in this. You might be able to get a little bit of mileage out of pistols but even those things, you'll build your strength levels up pretty quickly that you're able to do like tons of sets. And you might get a little bit of hypertrophy off that, but ideally you're doing something in the three to six rep range, and then you just start building volume with that.
So maybe week 1 you're trying to accumulate 100 repetitions throughout the week; week 2 you're trying to accumulate 110, or something like that. And so you're slowly building volume with that stuff over time. And I think you'll definitely get some adaptation out of that.

Andy Deas: You could also pick up heavy weight.

Robb Wolf: You could also pick up heavy weight, so yeah, which I mean obviously that should be the primary focus. Getting the bulk of that stuff done in the weight room that was kind of silly of me to not point that out but --

Andy Deas: I'm just being obnoxious, Robb.

Robb Wolf: You're being a co-host.

Andy Deas: I think we've talked about this a little bit the other day which was this thing I think Jason Fraser pointed out recently which you and I have talked about, I think we really like a lot of the gymnastics and body weight training for a variety of reasons. But for mass gain, it can be kind of time inefficient if that's the only thing you're doing.

Robb Wolf: Right, absolutely.

Andy Deas: So if you're only training two hours a week, I don't know that -- I'd pick up some heavier stuff.

Robb Wolf: Yeah, yeah.

Andy Deas: All right. We will keep distributing the Kool-Aid or the MonaVie depending on where the marketing takes us.

Robb Wolf: And the lawsuits.

Andy Deas: And the lawsuits. Gluten is death. MonaVie is life, Robb.

Robb Wolf: There we go. That will make it all fine. Next, we got a question from Brandon. "As a Christmas present to me, my wife said she would start eating Paleo for 30 days. We are about two weeks in, and I am definitely enjoying it; my wife... is tolerating it. Anyway, at the beginning of the second week I underwent screening to be in a clinical trial (I'm an MD/PhD student so we are available to do a lot of these) that included a urine sample. I was contacted by the lab today telling me I was ineligible because I had 'moderate ketones' in my urine."
Question: Can this be a direct result of my diet? Is this just me producing more ketone bodies as fuel in place of glucose? Will this be a continuous issue for future urine tests where people think I have kidney problems?

Thanks, I am about 3/4 through the book. FYI --


Andy Deas: "The clinical trial was for a tularemia vaccine, so my wife is actually happy that the diet possibly saved me from being enrolled."

Robb Wolf: It's probably best. The fundamental thing with this is you're going to be in ketosis based off of what your diet and lifestyle factors are. So as long as you're eating a little bit higher fat and keeping carbohydrates at a base level, sleep is good, insulin sensitivity is good; then you're probably going to be kicking off some ketones. But it really doesn't mean much of anything other than that you're in ketosis.

And on the flipside of that, if you up your carbs at some point, and you're doing more post workout carb, that's not really all that big a deal either. What I mean is that they again were like if in general the inflammatory state of your person is low, no big deal.

Andy Deas: Yup. All right. Next, we got a question from Mike, "Hi, Robb. I see a lot of testimonials, but you know testimonials don't really stand for shit in the science world. When are we going to see a randomized, controlled clinical study of the Paleo Solution? I could help design the study and take care of the statistics. Thanks."

Robb Wolf: This one is great. It's what are we going to test? And then you can't randomize too much although you can randomize, but nothing in blinded because we know what type of food is go down the pie hole. Linda Burg has been doing human clinical trials. There are some other human clinical trials. I think I've mentioned the one that Pedro Bastos mentioned to me with clinical trial for rheumatoid arthritis, and they'd had really favorable results of that. I mean you need to pick what we're going to be looking at here. Is it just blood lipid changes? Is it overall inflammatory markers? Are we doing an intervention for a specific disease state?

There are a lot of different potentials there so it's not simply a matter of let's run a test. You need to figure out what is the most important one, and then kind of roll with that. So this stuff is happening. We need some funding on it which -- that's -- these types of tests are pretty easily backed, so we just really kind of need some researchers that are interested in doing it and set them up and make the design smart.
Andy Deas: Next, we got a question from Robert. He says, "Robb, just finished your book as well John Little's book 'Body By Science' and wondered, assuming you are familiar with it, if you have an opinion about his approach to training (essentially high-intensity strength training with no cardio, once/week). I'm now 46 and went through a weight-loss/diet wake-up call (about 25lbs) and strength training over-haul about three years ago, mostly with circuit-style training. I have been active (gym, intermittent tennis) ever since.

I spent most of last year in recovery and PT after rotator cuff surgery last December and despite the fact that I am fully recovered, I feel the need to be careful about what I do with weights and a tennis racquet, and rest in between. I'm reading a lot of the material from the Paleo enthusiasts (Chris Kresser, you, Mark Sisson, Loren Cordain) and sometimes find it confusing when trying to square the different approaches. Just curious to know your thoughts on the Body By Science approach."

Robb Wolf: I like it. Some people really gravitate to it. It's a very, obviously, time-efficient way of doing stuff. Again, I think I mentioned a little bit earlier, like Art DeVany just -- he likes stuff like that too. It was cool to chatting with him, but he likes breaking up what he's doing so that you're doing more stuff throughout the week. And again, it's kind of for driving a little bit of hormone release, a little bit of growth hormone release, and also improving insulin sensitivity throughout the week.

So that's kind of the only argument that I would make for maybe a more frequent training schedule or training schedule that's a little bit different from kind of the Body By Science gig, which is just -- and you could accomplish that by doing different stuff. So you do one weight room visit. I think you were talking about -- was it Doug McGuff?


Robb Wolf: Okay. There you go. Yeah, yeah.

Andy Deas: So anyway, what were you going to say?

Robb Wolf: So just you want to do one full body workout, get a weight session in every 7 to 10 days or something and then you're playing tennis or grappling or riding a motorcycle or whatever your other active type stuff is. If you're doing something like Body By Science as your primary strength stuff, then the only other thing I would recommend is that you're generally pretty active. I would really want to see you doing a lot
of other stuff. If that's the only thing that you're doing and you're pretty much sitting around on your fanny other than that, then I think that we're losing some potential for modifying insulin sensitivity and some other stuff that I think would be of benefit. So that's the only thought that I would have with that.

And then the other side of this, I mean when you're saying sometimes confusing trying to square all this stuff, I wouldn't necessarily try to square it all. I would figure out what you like and then do it. Trying to find a consensus within the exercise scene is, I think, possibly counterproductive. I guess if I threw one thing out there, obviously I have the bias kind of against aerobic and endurance type stuff. I don't think it's super healthy, but then again if that's something that you super-duper love, and you love getting out like riding bikes with folks, doing road racing and everything, by all means do it. You're way better off doing that.

This is just kind of a personal bias I have, but I wouldn't be so worried on the exercise side of things. If you want to do bodybuilding, do bodybuilding. If you want to do some gymnastics, do gymnastics. Find stuff that you like, and that you're passionate about and the do it. If you're generally sleeping really well, if you're eating kind of Paleo, take some vitamin D, take some fish oil to the degree you need that stuff. I think on the health side of things, you're really, really well-covered and then do a little bit of strength training. And if you just want to be kind of a generalist -- Mark Sisson's gig where like you walk around a lot and just generally have a baseline of activity, lift a heavy item once in a while and then do a little bit of sprinting. Like as a very minimalist S&C deal, I think that's spot-on. But just find something that you like and then do it. And then whatever stuff you like, maybe find people who are very, very good at that particular flavor and then run with that.

Andy Deas: Yeah. And I'll be upfront and say I actually haven’t -- this is the only thing of Doug McGuff’s that I actually haven’t read. So I'm going to throw that out there. I like McGuff approach of doing the least work possible with the maximum return. Most of the stuff I've seen with him and John Little though is all very all very machine centric, which I'm just not that big of a fan of because I feel like some of the stuff it’s building is sort of inauthentic because you don’t have to stabilize the rest of the body and whatever.

So I know McGuff's big thing is like he does this, but then he does a lot of sport specific stuff. He likes riding his BMX bike or whatever which he
Robb Wolf: Right, right. Yeah. But it's that thing again, where minimum investment, maximum return, and it might be enough to get you where you want to go. Keith Norris' stuff, it's just great along this line. Theory to practice he just has such awesome integration of, I think, kind of all of this stuff. He's got a really nice perspective on the CrossFit scene, on Olympic lifts, integrating circuits. I forget what the brand of machines are that they use at the place that he trains in Austin, but they look pretty jiggly. They're kind of hydraulic set-up deal.

But it's a really nice integration that he has with his stuff, and he has a very good real-world approach to this, and he is able to chase it both from a little bit of the minimum investment, maximum return but also pushing the volume and the intensity in different kind of microcycle phases to get a little bit more adaptation. So he's kind of doing -- to me like all of this stuff, but doing it in a really good way. I like Keith's programming. He's always got some cool stuff going on and a really good head on and shoulders with that.

So if you're drawn to the Body By Science stuff, I would go check Keith out. Would you think of anybody better than that, Andy?

Andy Deas: No, I think that's good. I think that's really good. I think Keith is very clear to point out -- he actually had a recent post where he was talking about finding the lone correct answer, and he basically said how ridiculous that is because he was like for every Dorian Yates, there's a Bill Pearl, and for every Mike Mentzer, who trained one set, there's a Gironda, who trained with super high volume.

So I think it's interesting, and it goes back to some of your comments about finding what you like to do, what fist with your lifestyle, be realistic, and then make it work from there.

Robb Wolf: Yeah. And not to belabor this thing too much but it reminds me of when I was at the BioSignature gig and I think I asked Polaquin something, and it was kind of along -- a little bit along this line I guess in a way, where I was like, "What's the best way to work out for kind of a performance, health, longevity kind of gig?" And it really bunched Polaquin's panties, and he didn't like the question all that much, and he was basically like, "Why don't you find out what you like and then do it," because -- I definitely at that point I was trying to be jack of all trades, master of none. You want to be big and strong and jacked and have cardio, and all this stuff. And
then it just kind of like a good open hand smack to the face which was just kind of like, "What do I like? What do I want to do? What are some goals that would fall within that, and why don't I run with that stuff?" So I wouldn't get too -- just to reiterate this, not to let it slide too far, but I wouldn't worry about the confusing element of everybody having a different approach to this stuff because again none of it works for everybody. Everybody's got kind of a different personality type, a little bit different constitution. Just figure out what's good with that and run with it and have fun.

Andy Deas: Yeah. Cool. Next, we got a question from Patrick. He says, "This is a legit Haiku question: 3 lines, 5,7,5 syllables respectively. Gymnastics body Steady State Holds with Wendler 5/3/1. Go! Seriously though --

Robb Wolf: Holy cats!

Andy Deas: -- if that doesn't make sense, my actual question is if I am to periodize my programming as I would like to gain strength (a la 5/3/1), how could I marry that with some gymnastics holds like planchees, front/back levers, et cetera? It seems that my intensity would increase with Wendler and decrease with my static lifts over time. Is this inverse proportion counterproductive, or should I try to mirror a gymnastics progression that utilizes that same approach of increased intensity over time?

Coach Sommer recommends the steady state holds training at a set time and set protocol for an extended period of time. Therefore, as weeks go by the intensity is lessened due to adaptation. In essence, it's the opposite of a traditional periodized approach to weight training. Should I train these two separately, as different parts in a periodized plan? I'd preferably like to throw them together into some cool mix, but I am no artist when it comes to programming. My ultimate goal is to increase my strength to weight ratio.

Currently, I'm doing Wendler two days per week with Cleans and Jerks, and Front squats and Weighted chins; another day I'm doing gymnastics like circuit with deck squats, muscle up progressions, German hangs and partial cranks, and handstand work. On each of the four days I do embedded static strength holds: Isits, planchees, straddles, front/back levers. I also do Brazilian jiu-jitsu two days a week. I'm a male, 5'8", 15% body fat, 29 years old, 100% Paleo.

Have progressed through Rip's Starting Strength and some Wendler with bench, deads, strict press, and back squats with some sprint work. Felt the need to switch it up a bit. Did that gig for about six months. Not sure
if I got off track there, but the original question was about marrying gymnastics and weight training effectively. Thanks guys! Love the show! Keep up the good work.

I'm establishing quite a following for you folks out here in central Connecticut land. On a side note, after reading your 'challenge to find fit people' from your book, I recently went to Walmart and observed the people. I instantly saw three wheelchair/scooter folks throwing up loads of cupcake packaged kinda stuff on the self check-r-out; at least three people had canes (and they didn't look older than 50; everyone had sunken eyes and thinning hair. I thought I was in a zombie movie. Absolutely horrific. No idea how that relates to my question. Just Saying: challenge met, not one healthy person in Walmart)."

Robb Wolf: Shocker. This is -- that was funny, and then this is a good question. Stuff that I've been tinkering with, like -- I like Coach Sommer's progression. I tend to -- like I've been doing some gymnastics progressions that I do gave me and say, like one that is pretty easy to describe is a scapular protraction movement. So imagine if you took some gymnastics rings and lowered them such that the rings would contact the top of a 20-inch box jump, then you move that box jump such that you could do a ring pushup with the feet on the box, hands on the rings.

Then what I do, I go into a hollow by protracting or pushing forward by scapula, and I'm in what would be the beginning or kind of stabilized position for like a planche kind of progression, and then I'm very, very tight and rigid throughout my body. I've got the rings externally rotated trying not to balance or brace off of the straps or the rings. And the first time I tried this, I do wanted me to hold it for 60 seconds, and I barely got 30 seconds. And so for about eight weeks I was just playing with volume where I would hold this position for 30 seconds and then rest 90 seconds. And then just recently, I upped the volume to -- or the time to 40 seconds, and the bump up was really, really hard.

The 30 seconds had gotten relatively easy, and I would play with anywhere between 3 to 8 sets of those holds. But it was interesting that bumping up the intensity, that additional 10 seconds was really, really hard, and I've only been doing three sets of it because I'm usually just knackered after doing that. So I think that those types of progressions are really good. Instead of it being really steady state, I would just kind of put a general ceiling on it and then work within that.

If you're feeling good that day, you'll hit that ceiling, maybe even go just a little bit higher. If you're not feeling so good that day, then you'll stay well
within your means. Every third day, kind of do an unload with that stuff and doing half the volume of the previous time that you did that workout. So like this scapular protraction movement, I see maybe two times a week excuse I do what's called a straight arm day, a bend arm day, and a lower body day. And when I do my write-up on my workout, I'll kind of -- I'll detail some of what goes into that. But then I'll either do a conditioning day in between which would be like some sprints or some kickboxing or something, and then I would rotate back through on that.

So like very third time that I see that straight arm day which is the day that I'm doing that scapular protraction work, every third day that I see that, that particular workout, I do a half volume of whatever I did the previous workout. And even if I'm feeling really good, I do that half volume. And my progressions have been getting really good, like front lever, back lever is way more solid than what it was. I've got a straddle planche pushup again and stuff like that. So I'm making some really good progress on that.

Addressing the Wendler -- Wendler is really good just because it's a -- I feel like it's an intermediate possibly heading into a dance, but mainly the beginner heading towards intermediate, the high intermediate kind of program, that modulates the volume and intensity in a planned way. And I think that it's really solid with that. But if you really just focused on strength, I think playing with some of the programming; looking at like 5 by 3's, 8 by 2's, 10 by 1's, just preplanning your volume and intensity a little bit better and working heavier and more intensity but playing with the volume, I think is probably a more appropriate way to structure that stuff if strength is really the goal.

I think once you progress out of that intermediate phase. -- now, granted Wendler is pretty freaking strong still, I think there's still some supplementation going on there and some other stuff that kind of enhances that whole scene, and I've just seen generally better results. So long as people are planning what they're doing but using more of an intensity-base thing, almost like a Max Effort kind of gig -- but 5 by 3’s, 8 by 3’s, 8 by 2’s, 10 by 2’s, those sorts of volume and intensity schemes seem to work really well. But you need to structure it in a smart way, and I think that's probably the biggest benefit that the Wendler 5/3/1 brings to the tables that you stick to a plan and you stick to it long term and make some slow incremental progress.

Andy Deas: There's no need to plan, Robb.
Robb Wolf: It's all random, baby. Those are very functional movements, high-intensity.

Andy Deas: Next, we got a question from Ben, "Hi, Robb and Andy. I think it's great that you're spreading the word about Paleo. Hopefully, someday it will replace the excellent food pyramid that the all knowledgeable government keeps raving on about (sarcasm) but I won't hold my breath. Anyway, a bit about me if it helps. I include all things Paleo except dairy and most nightshades due to an acne problem. I strength train fasted via the Leangains protocol three times per week keeping all carbs in the post workout window and high fat the rest of the time. Fats are mostly from coconut as it tastes awesome.

I'm trying to balance my omega-3 as best I can. I rarely drink alcohol and I'm trying hard to hit nine hours of sleep a night. I don't drink caffeine at all, only a couple cups of decaf tea per day. Interestingly, since I started listening to your podcast before bedtime I've slept better. That's probably something even you guys couldn't explain. Perhaps it's the fact I combine it with ZMA, although I can only see that it gives me weird ass dreams.

My question is simple. Could you throw out some recommendations on the best dietary changes/improvements related to fixing adrenal fatigue? I get easily stressed mainly due to the acne affecting my confidence. Trust me I'm working on that. I have always had huge under eye circles and I'm sure it isn't genetic as my parents especially my mom don't. I've read this could be linked to adrenal fatigue too. Sorry for rambling and good luck for the future."

Robb Wolf: GLA could definitely be helpful with the acne -- I think we still need to get Loren Cordain on the show, but he is like elbow deep in writing. I believe it's going to be called the Paleo Diet Lifestyle or something along that. It's kind of a lifestyle overview kind of gig. So he is off the radar probably into like late February or early March, but we need to get Professor Cordain on here to talk about this stuff. But we've definitely seen GLA helped folks anywhere from like 5 to 15 milligrams a day. That's just for the acne as a baseline.

For dealing with the whole cortisol thing, like definitely keeping caffeine either low or within the therapeutic window, I think basically it shouldn’t be giving you rapid heartbeat and sweating palms which is the way that I typically drink coffee for years. So that definitely wasn’t helping any of my stress issues at all. Going to bed early is a major, super important thing with mitigating cortisol, better recovery, and all that sort of stuff.
Too much intermittent fasting, we've talked about this stuff too. Too much intermittent fast, too low of carb for the wrong folks, being lean, really athletic, all that sort of stuff may need more frequent carb, may need more frequent eating, all kind of depends on how you feel. You could get an ASI test to kind of verify some of this stuff. But intermittent fasting isn’t always recommended. Low carb isn’t always recommended depending on what you've got going on with regards to training and overall cortisol. So those are just some things that you could play with also. But it sounds like if things are all going well in that direction, then you should be okay.

Andy Deas: All right. Robb Wolf, the vodka question.

Robb Wolf: Oh, man. Here we go.

Andy Deas: This is from Hydrated. He says, "This should be a good question for the podcast since it is alcohol related. Celiacs can't drink vodka, right? Because it's a grain alcohol? So is vodka bad because it will cause a gluten response, which is still there even though it has no carbs? Or does the lack of carbs mean that most people who are non-celiac can enjoy the occasional vodka or two or six, without negative effects on overall health? Same goes for other grain-based alcohols like rye whiskey. Curious about how the effect of gluten changes, if at all, when it's changed into alcohol."

Robb Wolf: Ah, yes. This is one of those cases of a little information going really a long way. So we're not actually converting gluten into alcohol. Carbohydrates get converted in alcohol. The distillation process, I'm pretty confident removes all gluten containing items out of mash. I mean basically like whiskeys and different things like that are -- start off essentially beer, and then it's heavily fermented, and then they heat the whole thing in a close system with a distillation tube, and you separate the alcohol from the water and the mash constituents. And that should pretty effectively remove the gluten containing items.

Now, if it's not -- vodka obviously is clear and kind of colorless and theoretically kind of tasteless and all that stuff. If you've got something like a whiskey or a scotch or something, they can sometimes be aged in barrels that had beer in it. Usually, it's something like a wine or a charred oak barrel or something like that, but you can get some couple of wacky situations where they actually age an alcohol that should have been gluten-free in a formerly gluten containing container, and so that could be a problem. That shouldn't be a problem with vodka.
And then theoretically, vodka really should come from potatoes and there are a few varieties of vodka out there that do still come from potatoes, but this is also theoretically why I recommend tequila which isn’t grain derivative at all just so that my alcohol consumption isn’t supporting grain production. So there you have it.

Andy Deas: So what you’re saying is that hydrated can drink ever clear grain alcohol if he wants?

Robb Wolf: Yes, it should be fine.

Andy Deas: It should be fine. Okay. Next, we got a question from Joe, "Hi, Robb and Andy. Big fan, have listened to all the podcasts. Keep it up, please. Wondering what you make of this blog post by Steven Novella, someone who I respect a great deal, having one of the top science podcasts out there (skeptics guide to the universe). While his background isn't in nutrition, this post makes some interesting points about compliance with diets, basic science versus clinical evidence, et cetera. Here's the link. Thanks."

Robb Wolf: This guy is actually really on it. He seems really solid. He was very, very thorough. He actually made Brian Dunning looked like a complete chump with regards to researching a topic and actually doing a pretty thorough job on it. All of that said, I was kind of considering how I would tackle this thing -- and I'm getting tickle in my throat again. Grabbed a glass of water, but it's still tickling me. Okay. Here we go. We'll see if I addressed it. Sorry, guys. I'm totally embarrassed here. But I did a little bit of researching -- Andy is having a great time as I'm like dying here, going into anaphylactic shock.

So I looked at -- just did a little bit of searching around, looking at alcohol -- so one of the main points that this guy first launched in on was simply looking at obesity and dietary compliance, like obesity in high carb versus low carb and all that sort of jive. And that in and of itself is missing a whole lot of problem because you have all kinds of health issues associated with hyperinsulinism with the absence of obesity.

So this is one of those problems where not really getting in and understanding a topic thoroughly can really create a lot of holes in it, the game with regards to analysis. But that aside, I looked at some comparisons because he was making a point that it's hard to really see an advantage between the high carb diets versus low carb diets with regards to ultimate weight loss, the recidivism was high, people tend to slide out
of these diets. And it’s totally true, and it looks heck of a lot like alcoholic rehab which isn’t particularly effective.

So I don’t know that that is really all that compelling one way or another. I mean it’s the fact that people don’t follow diets is about as consistent as the fact that people who become alcoholics don’t cease being alcohol all that long. So you have some similar statistical type stuff there. If we take people and really put them in a metabolic ward setting and feed them, weighed measured amounts of either high carb or low carb diets, the low carb diets definitely perform better. And even then the low carb diets in free eating populations, not by much, but they consistently outperform the high carb low fat diets.

So there definitely is some selection bias on that stuff. One of the biggest problems that I have with all these skeptics, and it’s really fascinating to me and -- I know the show is running a little long already but it’s - people may not remember -- some people probably weren’t even born yet who might be listening to the podcast, but like the Challenger space shuttle explosion I believe was the one that Richard Feynman was called in. he was a Nobel Prize winning physicist, and he was the guy that was involved with the Manhattan Project. And when the space shuttle blew up -- the first space shuttle that blew up; there were all kinds of theories surrounding why the space shuttle exploded.

It was a particularly a cold morning; possibly some ice fell off one of the gantries and punctured one of the rockets and all this sort of stuff. But what Feynman did I found was really fascinating and really important for getting down to the bottom of a question, and I think it’s very, very similar to what Gary Taubes did with Good Calories, Bad Calories. You get in, and you just collect as much of the data as you can and try to understand the mechanisms as best you can. And this is one of the things that -- I’ve been kicking around the idea of kind of poking the thumb in the eye of the whole skeptic scene.

To me when you run around the world just saying that you’re a skeptic, it’s almost like -- and I’m not saying that this guy is, that we’re linked to here. He actually seems to be a thinker as opposed to what I would call a skeptic. A skeptic seems to me codeword for blowhard who doesn’t really do much research. What Richard Feynman did when he was investigating the space shuttle explosion, he talked to as many experts as he possibly could. Although he’s a physicist; he was not a chemist; he was not an aeronautical engineer. But he got in, and he spent I think three months -- two months, three months of very intensive study of every component and subcomponent of the rockets and tried to figure out of the theories
that were out there, what things made sense, but then also kept himself a number of notes pertaining to things that nobody had mentioned, that weren't even on the docket of consideration. And when he had utilized all this information, then he started testing some things, and this is where mechanism in causation comes in.

And what Feynman finally figured out was that the O-rings that were on these rockets -- if the O rings were subjected to a significantly decreased temperature relative to what their normal operating parameters were; these O rings would change confirmation. They would change shape and it would be very, very easy to produce a gap between on section of the rocket and the other. And that in fact, when they reviewed the video of the explosion, it seemed to emanate right where an O ring existed.

So Feynman was a very, very bright dude. He's a physicist. He's a world-renowned Nobel-Laureate physicist, but he went into this problem not as a skeptic, but he went in with kind of an observer's mind or a child's mind, trying to figure out what the pieces of the puzzle were. And once he understood that and had a couple of ideas, then he started testing those ideas and tried to find the mechanism of causation that fit what the observed results were.

That would be something that I would recommend to this whole skeptic scene, skeptic community. None of you folks are tackling any of these health issues with any type of Darwinian medicine, evolutionary biology perspective, and I think it's absolutely shocking. If we were to raise a question about whether or not teleportation was real, just as something that's maybe a little bit out there, but you would say one -- somebody says, "Teleportation works." And you're like, "No, it doesn't." "Yes, it does." No, it doesn't."

Then you get down and you start breaking the thing apart and you look at, "Okay, well, let's look at physics. Is there someplace in physics where this process could happen?" And you could get into some kind of weird out there elements of like quantum mechanics and wormholes, and in fact you could probably find some people and find some ways of wiggling the physics around where you could say, "Yeah, a wormhole could happen." But there is so much energy involved with the process that it is virtually certain that it can't happen under the known physics that we have. And so this thing can't happen.

But basically, when you're trying to answer this question about something wacky like teleportation, you would go back to physics and then build your base from there. These guys are trying to answer all these
health problems or health questions, high carb versus low carb and all that sort of jive, doing the same damn mistake that has generally been made in most of medicine and most of physiology for the past 50 years, 70 years, which is lacking to start with evolutionary biology base to couch all these questions.

So it would be really helpful if these guys started using the science that underlies the actual topic that they’re looking at, and I think that that would be really good. But this guy did a much better handling of this information than what I've seen previously.

Andy Deas: All right, Robb, most controversial question of the day.

Robb Wolf: Okay, lay it on.

Andy Deas: From Sarah, "Robb, just wondering if you could tell me what kind of food you give to Keystone. It seems like every commercial food (Newman's, Halo, et cetera) has some things in it my little obligate carnivore doesn’t need to eat like soy, barley, and oats. Thanks. We tried raw food, but it didn't go over well."

Robb Wolf: We use EVO by Innova. So we use the one that is the completely grain-free version. And we tried the raw food deal too, and Keystone wouldn’t eat it.

Andy Deas: So I'm just going to say, Sarah, when you listen to this, check out the blog comments because we have a number of raw food advocates for their little carnivores, and you will see all types of responses about what these animals eat.

Robb Wolf: And I wish that Keystone ate the raw food deal, but even the fact that we feed him EVO by Innova gig doesn’t really matter because he runs down about four houses down the way, and one of our neighbors puts Friskies out on the front porch. So he gets his high carb chow also. But he didn’t like the raw food.

Andy Deas: Oh, he's a busy little cat so....

Robb Wolf: Yes, yes. He's a gato about town.

Andy Deas: Robb Wolf, that is the end of episode 63. Next week, we're going to have your throat tickle fixed. That's the commitment this week.

Robb Wolf: Dude, this will go down as the cougher episode. Sorry.