

The Paleo Solution

Episode 2

Andy Deas: Robb Wolf, Andy Deas. We are back for podcast number 2, and I think this week we actually have a name so I'll let you go ahead and spill the beans.

Robb Wolf: Yeah, we pulled the rabbit out of the hat and since my book is called "The Paleolithic Solution," I think we'll call this thing "The Paleolithic Solution Podcast" so you know we love super long names like NorCal Strength & Conditioning and CrossFit NorCal, to just make life easy for ourselves.

Andy Deas: Medical branding, I like that Robb, cool! So this week we have I think a couple of questions and some topics we wanted to run through. So I think the format is I'm going to introduce some of the topics, and we'll let you Robb kind of respond and give your perspective, and we'll kind of put it off each other and figure out where were headed with this thing.

Robb Wolf: Cool! It sounds good.

Andy Deas: All right! So the first thing we got an e-mail from CrossFit trainer that attended your Nutrition Cert in Bozeman, and she's currently taking about 10 grams of fish oil a day -- we don't know background on her height, weight et cetera. But I think she has gotten some questions from clients around high levels of fish oil dosage and that that can lead to excessive levels of vitamin E, A and K. So I thought I'd throw that out at you and kind of see what sticks.

Robb Wolf: Yeah, that's kind of a whacky one. Fish oil occasionally has a little bit of vitamin E in it as an anti-oxidant. You might see high levels of vitamin A in cod liver oil, typically vitamin A and D, and then vitamin K is almost exclusively a product found in like green leafy vegetables. So that one is just kind of a grab bag of like, I'm not really too sure words, words common from, you know? So basic deal with that you're not going to overdo either E or K with fish oil, vitamin A you might get a pretty good dose of it if you're taking cod liver oil and then as per a dinner that we had with Lauren Cordain, he had banished John Welbourn and I had to quit taking cod liver oil because the A is a competitive inhibitor of vitamin D.

And so he recommended basic fish oil for your Omega-3 needs and then supplementing with a vitamin D3, somewhere between like 2,000 and

5,000 I use a day depending on how big you are. And that pretty well deals with all the issues of excessive vitamin levels that you could potentially find and then inevitably we end up hearing these things about like high mercury levels in fish oil and all these stuff, and you can't get mercury into fish oil like the kinetics -- the chemistry just doesn't happen.

Mercury has massive affinity for proteins, even some of the sootier fish oils have exceptionally low protein levels and you're not going to get any type of a quantitative transfer of mercury into that stuff. If you're eating large older fish, like various types of salmon and like king mackerel and stuff like that -- a tuna, you can definitely get high mercury levels out of that. So people end up end up getting this stuff real confused, I know that wasn't a part of the question but I just want to throw that in there.

Andy Deas:

Oh, cool that's perfect. I think that leads us into a next question which is pretty common is I know -- we've recommended often kind of the Kirkland, COSCO fish oil brand just because it's relatively inexpensive and it's easy to get. We always get this question -- well when I look at the back it says each pill has 0.3 grams of EPA and DHA so the first question is always, "Is that all I'm counting towards my total fish oil intake for the day?" And second part of the question is always, "What's the rest of that pill made up of that I'm consuming?"

Robb Wolf:

Right, right. So like if you've got 1,000 milligram capsule which is a 1 gram capsule and if the label says that "1 gram capsule yields 300 milligrams of EPA, DHA" then that's what you're really using to calculate your dosage. And so that can be a little confusing for folks and it definitely ends up necessitating a fair number of capsules even to get the lower end of the dosage, so that's a thing. You know what is the rest of the fats in that is kind of a nebulous topic, it kind of depends on the brand and the Kirkland brand historically it's kind of an interesting thing about five months ago -- six months ago, their label changed, used to it said, "300 milligrams of EPA, 250 milligrams of DHA per two capsules."

Now it does not say that, it just says yielding 300 or 500 milligrams. I forget which the number is, yielding 300 milligrams of Omega-3s which they also have some soybean oil in there now and I'm wondering if those guys are being slick and some of the Omega-3s that they're counting is actually Alpha-linolenic acid, you know the same stuff that we've seen in flax oils, so the short 18 carbon Omega-3. So I'm still not sure on that. I haven't been able to contact our QAQC department to find out what the deal is but I think maybe they're being a little bit slick on that.

So the remaining fats typically are a mix of monounsaturated and then short chain polyunsaturated fats, kind of like flax oil. Usually that's not the preponderance but when you see 1,000 milligram capsule and then it's only yielding 0.3 grams -- you know 300 milligrams then that means 7/10 of the capsule is made up of stuff other than what you want. So that's a little concerning. That might be an argument for getting a higher purified fish oil going with something like a Nordic Naturals or some of the other liquid brands which tend to be very, very high concentrate in just the EPA, DHA.

Andy Deas:

Yeah. It would be actually interesting to do a little calculation comparison between like the Kirkland and the Nordic Naturals related to the different levels of purity, because I know like for myself and I weigh like 235 pounds so I take a fair amount of the Kirkland pills a day and I feel like -- you know some type of drug addict. And obviously for each one of those pills I'm taking as you said 70% of what I'm consuming isn't really what I'm taking it for so I'm wondering kind of a cost benefit ratio. I have to run that some time because I know in the Nordic Naturals I could basically get the same amount of dosage with three tablespoons a day versus my roughly -- we'll say 60 plus Kirkland capsules.

Robb Wolf:

Yeah, yeah. And I mean it's a fairly easy calculation you look at how much EPA, DHA, just the total Omega-3 and then you just divide that by like -- say like in the container and then divide it by however many dollars the container cost and then you essentially have Omega-3's per dollar. And even then, the Kirkland tends to still be cheaper but when you're looking at some of these other factors of just like you know you're slugging down a ton of capsules each day, what are some of the ingredients, like the running with some soybean oil and stuff like that, then maybe it starts becoming compelling it's like, "Okay maybe I'm paying 10 or 15 or even 25 cents per gram of Omega-3 more with the Nordic Naturals."

But you're pretty assured that that's really all that you're getting and you're not getting soybean oil and stuff like that. But I still honestly don't know where all that stuff finishes out and in general I just like recommending the Kirkland stuff because it's inexpensive and it's accessible, instead of some of these hyperbole that goes on out there that like -- you know some of our more noted nutrition biochemist guys that are like, "The only type of fish oil is the shit that I'm selling and everything else is bogus and -- you know oh, by the way buy some of my 40-30-30 bars too."

And so I just find a little difficulty in the credibility with that. So that's another reason why I've been recommending like the Kirkland type stuff.

It's kind of a work horse supplement but maybe some folks want to shift to a higher quality of it even just for simplifying their life, like you said 3 tablespoons versus 60 capsules a day. You know definitely the 3 tablespoons are going to be a lot easier.

Andy Deas: Yeah, and my wife won't give me such weird looks when we have meals together.

Robb Wolf: Yeah, most of your meal ends up being capsules like beans, so yeah.

Andy Deas: That's right. It takes a long time to consume those without feeling like I'm going to vomit. I think the other thing too on the capsules versus -- you know the liquid is we get folks sometimes they get some of the burps or obviously if they have fish allergies and the higher purity ones, I find with most folks they tend to have less kind of after burps and things like that. And obviously if you're allergic to fish, some folks will require the higher purity kind of the liquid versions and they seem to be able to take those with no problem.

Robb Wolf: Yeah. And those would usually say on the label and it's typically like a doctor's line and it will say, "Safe for fish allergies" but obviously you got a -- if you have a legitimate fish allergy you need to be well educated and make sure about the type of product that you're getting. But the lower purified fish oils have a long chain saturated fat which is mildly irritating to the gut in some people. And so those are the folks that can actually get like some legitimate kind of GI upset from certain types of fish oil. I'm not sure if that relates to kind of the burp back also. It may be related to that also and so folks definitely notice fewer problems with the burp back when they're doing a higher quality fish oil.

Andy Deas: And obviously folks are still storing their fish oil in the freezer or refrigerator.

Robb Wolf: They should be. Absolutely, yeah dark, cold all that stuff reduces the rate at which fish oil goes bad and you do not want to consume spoiled Omega-3 fat, that's pretty gnarly stuff.

Andy Deas: Yes. Cool! All right! Well, on the topic of fish oil -- we came across a study the other day that I thought was pretty interesting and we often get questions again about overdoing fish oil, large doses of Omega-3 and so the name of the study was "Abnormal Neurological Responses in Young Adult Offspring Caused by Excessive Omega-3 Fatty Acid Consumption by the Mother During Pregnancy and then During Lactation."

Robb Wolf: Yeah, that's a mouthful.

Andy Deas: So I'm going to let you kind of deconstruct that a little bit, kind of give your thoughts on high level -- the impact and implications with any of this study.

Robb Wolf: Sure, sure. One thing -- first off, the study was done on rats so it's not a human study. What they did is they subjected different populations of critters to either a low Omega-3 intake, a high Omega3- intake or kind of a middle-ground Omega-3 intake, and what they found was that on both the low end and the high end of the Omega3- intakes they had some kind of neurological development problems. The low level Omega-3 supplementation, the rats ended up catching up eventually. Interestingly, the high level Omega-3 supplementation ended up causing irreversible neurological problems, mainly related to like auditory functions. So the hearing development was impaired in these critters.

So that's kind of like "Gee whiz! Wow! Okay, that's kind of heavy duty stuff," but then when you get in and look at this study a little bit deeper, part of what they were doing they had one group of the critters, they were supplementing with a combination of fish oil and soybean oil, another one contained -- I think we've got it here -- some safflower oil which both have some short chain Omega-3s, both safflower oil and soybean oil and both of those had some short chain Omega-6s, and then they were also supplementing with some longer chain Omega-3s in the form of like EPA, DHA that you would get out of fish oil.

So there's some stuff that you need to keep in mind here which is that there's a competitive inhibition of the Omega-6 pathway with EPA. So EPA which is an Omega-3 actually inhibits some of the Arachidonic Acid metabolic pathways that are vital for normal brain development. And so this is the reason why most -- or not most, all say formula products and what not for kids, if they're not being breastfed and they have to go to formula, formula does not contain EPA, it only contains DHA. Infants do not have the metabolic machinery to really deal with the EPA effectively and what happens is that the EPA can competitively inhibit the Arachidonic Acid pathway.

And Mat Lalonde just shot me an e-mail, talking about Arachidonic Acid actually just a normal memory formation both short term and long term memory formation, so Barry Sears has a whole book "Toxic Fat" which is making Arachidonic Acid out to be this villain but the problem in our current diet is not that Arachidonic Acid is bad per se, it's that we get way too much Arachidonic Acid, but the converse of that is that Arachidonic

Acid is absolutely critical for normal inflammatory processes, for adapting to exercise and also as we see for normal fetal brain development.

So what's going on in this study is that they ended up dosing these critters with a massive amount of both short chain and long chain saturated or essential fats, the Omega-3 fats, and so you've probably got some sort of a competitive inhibition of the Arachidonic Acid pathway. And the takeaway from this really is just kind of -- you know you need -- both maternal and fetal Omega-3 levels need to be supplemented like the -- I'm actually doing some research right now related to the book that it's showing again and again and again modern human diets, particularly westernized diets are just woefully deficient in Omega-3s.

And so the mom ends up being deficient in Omega-3s, the baby ends up deficient in Omega-3s, load of pregnancy-related complication pop up pre-eclampsia, gestational diabetes, postpartum depression. So this paper is kind of intriguing and it kind of portrays Omega-3 supplementation as may be being bad, maybe something that people need to mitigate but every other study that we're looking at, both population and specific kind of clinical studies, are showing that moms in general are very, very deficient in Omega-3s. What would probably be a good idea is to make sure that the type of Omega-3s that folks are supplementing with is a DHA-rich form and then that should take care of most of that problem.

Andy Deas:

Cool! And then I know -- kind of during your day you talked about the problem with folks getting so much Arachidonic Acid and kind of the western diet, you want to address sort of sources of that and where were getting so much from?

Robb Wolf:

Typically it's an Omega-6 fat and so Omega-6s, the short chain varieties are in typically like corn, safflower, sunflower oils and soybean oils those are the biggies that we get out of our diet. And so any type of processed food typically has those as a trans fat form or as a unchanged form and then also when we grain feed our animals then they end up getting much, much higher amounts of Omega-6s and then the Omega-6s end up getting concentrated in the fat so have both the short chain Omega-6s and the longer chain Omega-6s in the form of Arachidonic Acid that are highly, highly concentrated in our meat, even most fish which is farmed, they are typically feeding what is the equivalent of cat food to the fish which is also very heavy in Omega-6.

So this is where were getting an over abundance of Omega-6s. Normally, if we have kind of grass-fed wild meat then we end up with a nice about

1:1 ratio of Omega-3 to Omega-6. Where we're at right now with our standard grain-fed, corn fed kind of animal products, we end up instead of a 1s:1 Omega-3 to Omega-6, about a 1:20 or 1:30 getting 20 to 30 times too much Omega-6. And Omega-6s in general are related to the pro-inflammatory pathways, the prostaglandins, all that that are associated with inflammation.

And like I said earlier that inflammation is critical for life, we need it, we just don't need too much of it and that's the problem, we're getting 20 to 30 times too much of fat, and then add to that, high insulin levels which tend to exacerbate that Omega-6 pro-inflammatory pathway then we're kind of getting hit a 1-2 punch and then you add to that additionally, gut irritation from grains, legumes and dairy, and then this is what I call the three horses of the apocalypse of our modern diet, excessive insulin levels, Omega-3 and Omega-6 imbalance and gut irritation.

Andy Deas:

And the stomach set the high doses of fish oil or proceed to high doses that we generally recommend are hoping to restore that Omega-3 to Omega-6 balance, right? Because we're so skewed, it is based on the grain-fed animals, farm raised fish and all those things that we really toss that balance way, way out of line and we're trying to push that back more towards the 1:1, right?

Robb Wolf:

Absolutely! And this is one of the areas that people will lambast Professor Cordain because he tends to recommend lean varieties of standard meat but what he's trying to do -- and then he will recommend plant sources like avocado and olive oil and stuff like that to supplement your fat with. What he's trying to do there is minimize the amount of both short and long chain Omega-6s that we're getting in the diet because the leaner meats just fundamentally have a much lower level of fat. You know sometimes upwards, about 50 to 60% less fat both -- from a caloric standpoint then fattier cuts of meat.

So if you are tending to eat leaner cuts of meat then you should probably be able to supplement less fish oil and then open that good Omega-3 and Omega-6 balance. If you really want to geek out on this stuff then you can get a fairly simple test which is red blood cell erythrocyte, EPA Arachidonic Acid test and I think they're pretty inexpensive. You can get them from any doctor's office. I think there's also some places that you can go get some blood worked on and like a Unilab or something and ship it off and then the folks will analyze this for you and that will tell you what your Arachidonic Acid, EPA ratio is and they've got some specific numbers if you want to have those for kind of optimum performance. It

used to Great Skokie Labs I forget what they're called now, they offer that and they have some good numbers on that.

Andy Deas:

Cool! Additionally, sort of on the topic of supplementation, I kind of just want to throw this out to the listeners. As you know we spend a lot of time talking about fish oil today, we get a lot of questions around specific supplements, what do we think about vitamin D? What do we think about Iodine, et cetera, et cetera? So I think what we're going to do is we're going to organize sort of a future episode where I think -- you know sort of like a continuation of that old performance menu article where you kind address, "Hey! Here's a bunch of supplements and this is kind of what we're currently thinking about them."

So if folks have ideas, things that they want to see addressed, I think we'll probably cover most of the common ones, but who knows maybe there's one or two out there that just isn't top of mind, because we forgot about it or we just don't get asked that question very often. And so I think the best way for folks to submit that is through the contact you page on Robbwolf.com right?

Robb Wolf:

Yeah, yeah that would be great. And so we'll do just a whole podcast devoted to just supplements and the smart use of them, what ones we recommend and that we actually see some pretty strong benefit with them.

Andy Deas:

Perfect. All right! I think -- continuing on with the -- I know you mentioned Cordain and sort of the talk about people criticizing him around lean cuts of meats and things. I think we always have this question and it comes up over and over, which is sort of things like sweet potatoes and yams versus fruits. I think kind of what current thinking maybe a little different than what Cordain originally wrote in his book that came out 10 plus years ago. So I'll let you kind of address -- thoughts on food intake, good, bad and compare that to sweet potatoes and yams, because I think it seems counter to some folks when we suggest maybe much less on the fruit side and maybe a little more on the sweet potatoes and yams, so what are your thoughts on that?

Robb Wolf:

Yeah, that's kind of a tough gig like we -- obviously we're huge fans and supporters of Professor Cordain and all of his work. His book unfortunately ended up being somewhat gutted and there were some kind of -- not quite accurate -- really inaccurate claims in there, like you can eat as much as you want of a Paleo diet and lose weight and all that sort of jive, and we would get folks who would eat eight bananas a day and they were already insulin-resistant and obese and then would say,

“Well, I’m not losing weight.” And that’s like, “Well duh?” You’re eating like 600 grams of sugar a day even though it’s fruit, it’s a banana and all that.

So there’s some stuff with the original Paleo diet but there’s some problems because they’re really trying to mainstream the book that it was not the way his original manuscript would look at all. I ended up being able to read that thing and actually leaf through it a lot and it was a crusher when the original first -- rough draft of the book came back and we were checking it out, like it looked like somebody had kicked him in the stomach. So that was kind of a rough deal and it’s also creates a lot of confusion for folks. There’s a reality that if an individual has overt insulin resistance like they have a thick fat pad at the waistline.

If they have a skewed hip to waist ratio, you know? If your mid section is bigger than your butt and when we slap a measuring tape around you, we probably have some really bad insulin resistance going on. And the quickest, fastest way to right that is to draw up insulin levels which pretty much involves dropping total carbohydrate intake, making sure that people sleep and then dosing them with a pretty good dose of fish oil and those are just baselines. And now we’re finding also that probably a pretty big dose of vitamin D is critical on that whole process too, but we’ll talk a little bit more about that when we do the supplement podcast.

But that’s some stuff that is just a baseline, like somebody who say rolls in and they start working with a trainer, they start doing the Paleo diet and they think that they can eat an unlimited amount of either fruit or yams and sweet potatoes and not gain body fat on it, obviously that’s not the case, that’s issue number (1). Issue number (2) then is when folks usually are using yams and sweet potatoes and fruit in the context of kind of a Paleo diet for athletes, what we’re looking is trying to replenish muscle glycogen.

The thing that we’re trying to manage optimally with that is maximizing the amount of carbohydrate that gets into muscles and replenish those muscular glycogen while minimizing hepatic or liver glycogen repletion, and fructose tends to preferentially fill liver glycogen. So fruit generally has a lot more fructose than yams and sweet potatoes do, and different types of fruit have much more fructose in others; apples, oranges, pears tend to be pretty high in fructose; berries, melons, grapes tend to be lower in the fructose content but those are still quite a bit more fructose than even yams or sweet potatoes.

So a lot of people have noticed that they get better recovery and they tend to run leaner by using like yam, sweet potato, squash -- you know like a spaghetti squash, summer squash sort of stuff for their post-workout carbohydrate versus using fruit. Now, does this mean don't eat fruit? No. It doesn't mean that but depending on where you're at and the insulin sensitivity spectrum, how much juice you're trying to get out of both your performance and your body composition, then you may want to tackle that in a more precise manner, shifting more towards like yam and sweet potato for your post-workout carb repletion versus really any type of fruit.

Andy Deas:

Sure. And I think in conjunction with that back to the Paleo diet book. I think we always get this question around nuts, how do they fit in a Paleo diet? Especially folks that are coming more from a zone kind of background, we see people consuming large and large quantities of nuts and those one of those things in the back of my mind that I think I had forgotten exactly what Cordain had said but I always wondered why -- you know the majority of the common allergens aren't really recommended on the official Paleo diet but tree nuts were still included.

And so I think we see this interesting dichotomy where folks assume "Okay, tree nuts are okay. I'm going to consume unlimited, unlimited quantities of those." What's your thoughts on nuts and how it sort of fits in to the Paleo diet paradigm?

Robb Wolf:

You know usually with our clients that we work with in the gym, initially when folks are doing their first shift and do eating differently and typically they're cutting out like the bread, rice, pasta, potatoes, refined sugar, we usually don't make the nuts an issue at that point because folks have changed so much that -- to add this next wrinkle to the whole problem could just blow them out of the water and make it a deal breaker for them. So when people are first kind of getting in and playing around with this stuff we're usually pretty lax on how we recommend and modify the nut intake.

Down the road, if people are looking for better body composition and if they have any kind of signs of the inflammation, if they've got some acne still popping up -- with females if they're having any type of kind of menstrual cycle irregularities and kind of PMS and stuff like that, then we really start looking at shifting their nut intake more towards coconut oil, avocado, maybe even olive oil, although the problem with the nuts is typically twofold. They've got a pretty high Omega-6 count for most of them, macadamia nuts and walnuts being accepted in that but they definitely have a high Omega-6 content which we're trying to undo that

by eating a Paleo diet -- you know we're trying to avoid grain-fed meat and fattier grain-fed meat and all that sort of stuff.

And then also, we do have a legitimate kind of gut irritation concern here. The nuts have a ton of leptins and saponins in them, anti-nutrients that are similar to grains that are basically preventing the reproductive part of nut or the grain from sprouting. And so these things like Phytic Acid keeps calcium, magnesium, zinc all that stuff bound together so that it doesn't stimulate the sprouting of the seed, so that can be a problem for some people but this level of refinement I think starts getting into the board line place of a deal breaker for some folks.

It's like they find the transition livable but as long as they're able to run around with like a bag of almonds or some cashews or something like that to kind of make things a little bit easier. But if folks are game, we definitely see better performance, better body composition, generally folks feeling better if they can shift that fat source more towards like avocados, olive oil, coconut oil and that sort of stuff.

Andy Deas: Yeah, and this is one for some folks who really comes down to play with it and see. I know for myself I was really hesitant to give up my large consumption of nuts just because it was easy, it's portable, very calorically dense. But then we found for myself and my wife as we pulled them out and only kind of eat them periodically, we feel better, we run a little leaner, everything just tends to work a little better.

Robb Wolf: Yeah, yeah and this is -- if you're doing a weight measured zone then you tend to not overdo the nuts. If you're just running seed in your pants Paleo then obviously it's easy to sit down and like you've got a bag of roasted almonds, like I could destroy four, five thousand calories in a couple of hours with that. And that's going to be a problem if you really want to have great body composition. Interestingly, you probably won't get like enormous doing that stuff because we're still generally regulating insulin levels but you're never going to be at that like sub 10% body fat, your abs are not going to be up, you're not going to have that level of leanness that is either esthetically pleasing or the level of leanness that is really going to optimize strength, the body weight ratio for stuff like power lifting and O-lifting, CrossFit, any of that stuff.

So if the body composition is important either for esthetics or performance and you're going to have to limit that fat intake to some degree.

Andy Deas: Sure. And this is one where -- in the Paleo diet book Cordain actually says, "Hey, I'm recommending nuts more as like condiments, side items, sprinkled on salads." He did not say "consume jars of almond butter," like some of our folks tend to do.

Robb Wolf: Right, right, right. And you know this is one of those things probably a whole other potential show topic, but the amount of protein that one wants to bring in on the diet even leaner cuts of meat tend to run maybe about like 25% to 50% of the calories or more tend to come from fat just in the meat. And if we're doing more of a standard Paleo sort of gig, you're tending to eat quite a bit more protein, maybe up to a gram of protein per pound of body weight that it tends to be where folks end up kind of playing out with that, and then you just naturally end up getting a fairly high amount of fat out of that -- you know the way that you're eating and then the need for supplemental fat from things like olive oil, nuts or whatever, in my opinion would be quite a bit reduced.

Andy Deas: Right.

Robb Wolf: So that's kind of a sneakier way of getting in a little bit of extra calories and just some of that extra fat just as a part of your protein sources.

Andy Deas: Sure, and I think this is one too I always like to remind folks that research is still ongoing, everyone is still learning I think the last time Lauren Cordain was on Jimmy Moore's The Livin' La Vida Low-Carb show I think Jimmy Moore posted this question about nuts, and Cordain basically said -- I'm paraphrasing here obviously but he said, "I never recommended huge doses of nuts." He said, "This is an ongoing research. We don't have scientific papers published yet that really classify the interaction of nuts within the gut and things."

But he basically said, if you are to pressure and ask him for his gut answer, and he felt that nuts would respond very similar the way legumes do. And he said, "There could be a day down the road where it's possible that they had a paper that documented the impact on the body and they may not even recommend nuts anymore."

Robb Wolf: Right, right.

Andy Deas: And so I think it's sort of interesting that folks criticize Cordain sometimes for changing his mind, but the fact is everyone is still learning, still doing research, things aren't set in stone, things are always evolving getting better, finding out more.

Robb Wolf: Yeah, and I mean he just had such a ton of integrity that Eades are real good on this too and like the preamble and the Eades folks Protein Power and Protein Power Lifeplan is basically that we reserve the right to change our minds down the road if we find compelling evidence to do that. And people will decry that but I find that a lot more -- there's a lot more integrity in that than there is in throwing some sort of preposterous claim out to the world, and then when it's more or less proven to be wrong, just skirting the issue and back pedaling, and there are quite a number of people in the whole strength and conditioning field that will throw these preposterous claims out there.

They provide no support for them and then just back pedal from it and never -- just simply say "Okay, I was wrong." Or it's like, "This is my best guess today and then tomorrow we've got better information and I've changed my course on this thing." I would afford people a little bit of latitude with that because when you're synthesizing all these material -- I mean Cordain has put out over 150 peer reviewed papers on a huge variety of topics and typically those things are pretty close to the mark, but then it's the refinement that happens 5 years, 10 years later after he has kind of said, "Okay folks let's look here." And he at least gets people on the right map and then you start looking at some refinement on the topic so...

Andy Deas: Perfect! Better than I could have said it myself Robb.

Robb Wolf: Cool! Me too, I think or something like that.

Andy Deas: And then I think the last thing we wanted to cover today was, I wanted you to give a little bit like sort of overview with the book, what you're trying to accomplish? I know this has been a project that you've been working on for a while and I think we always sort of get questions either in person or e-mails or Facebook questions, what's going on with the book? What's the status? Are you going to cover this, that and the other? So I thought we'd give you a chance to briefly sort of describe, you know the background, what you're trying to accomplish and where you're heading with this thing?

Robb Wolf: Yeah, yeah. This thing has been floating around in my head for about 5 or 6 years. It was actually you and some other folks who kind of finally put your foots collectively in my fanny and kind of got me really going on this thing. The plan on the book is to have this thing be something that anybody could give to anyone, their family members, their friends, to help them understand this basic approach to Paleolithic nutrition. How to do it? How it's going to benefit them? And just hopefully help a lot of

people in the process because the health information generally that we are giving is just so far out in my opinion from where it needs to be.

It's directing us down the road that is really not benefiting people and it is absolutely not working and just -- and it tends to spin around these foods that we did not evolve with. And if you don't buy in to all that stuff then I would just encourage people to take it on a very black box approach and you can not understand at all why it works, just simply do it and reap the benefits. So it's similar to Flat Earth's thinking that the planet is not round, GPS, satellites still work the same way for them as it does for everybody else who buys into a round earth thing so...

All that said, the book is basically kind of an intro on what a Paleo diet is, actually expanding on part of what Michael and Mary Eades did in their first Protein Power book looking at two North American -- native American tribes, one of them a hunter-gatherer group, the other one transitioning into an agricultural group, and looking at the differences in the health of these two populations and really getting in deep on that for our comparing contrast of the health of our pre-agricultural ancestors and then where our health went as agriculturalist and then kind of where it's at today.

And then walking people through -- I think I mentioned a little bit earlier in the show but I have this idea in my head of this three horsemen of the nutritional apocalypse which is high insulin levels, skewed Omega-3, Omega-6 balance and then gut irritation basically all of these stuff resulting in what we would call "systemic inflammation." Systemic inflammation being the underlying cause of virtually everything we are plagued, like cancer, diabetes, heart disease, neurological degeneration. So I go through in a way that is engaging for someone with absolutely no biology background, a way to understand this stuff and then a way to change it.

So there's kind of a description of this pathophysiology but in very much a layman's terms then a prescriptive chunk in how to actually implement it in your life and then a bunch of support material for further research and study and all that. I had originally planned on writing kind of a two-book in one kind of thing. One of them being pretty technical, the other one being lay oriented but that was turning out to be such a giant project, I just split them. So this first book is going to be very much appropriate for the lay population and then the second book will be for doctors, nurses, pharmacists, people with a better technical understanding but it'll explain that the whole Paleo diet concept in a

much higher technicality bringing in Epigenetics, genetics, biochemistry and all that stuff, but that's down the road.

Andy Deas: Cool! Well, hopefully someday we'll have a book to read, right?

Robb Wolf: Early 2010 we should have it out. It should be good to go early 2010, so that's the plan, that's what I'm shooting for.

Andy Deas: Awesome! Now that's great news. And so Robb we're coming up on about -- almost 40 minutes and I think you and I, as our original goal in this was to stay around the 30 to 35-minute mark. I know there's a lot of podcast out there that are bleeding up towards like the 90 minutes and I just feel like that's totally hard to listen to, to stick with where you are. Who's got 90 minutes to sit down and listen to something straight through? But I think a 30 to 35-minute at least would work pretty well for folks, and then as we get a little more down the road we may stretch this out a little bit.

Robb Wolf: Cool! Cool, it sounds good.

Andy Deas: Cool! And we got a bunch of question that we will cover next week. And with that, that is the end of episode 2 Paleolithic Solution with Robb Wolf and Andy Deas.

Robb Wolf: Thanks dude. I totally appreciate it.

Andy Deas: All right man, I'll talk to you soon.

Robb Wolf: Okay. Bye.

Andy Deas: Bye.