

Paleo Solution - 331

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Robb Wolf: Hey folks, Robb Wolf here, another edition of the Paleo olution Podcast. I'm super excited for today's guest, Dr. Marc Bubbs. He is a board-certified naturopathic physician. He is the author of The Paleo Project and he is also the lead sport nutrition expert for the Canadian Men's National Basketball Team. Marc, how you're doing man?

Marc Bubbs: I'm doing great. Thanks for having me here Robb.

Robb Wolf: All right, great to have you on here. Give folks a little bit more of your background. You have a really eclectic and interesting background so flesh that out for folks a little bit.

Marc Bubbs: Yeah, I mean in the university—I'd go all the way back, I guess the university I was in into the sort of health field wondering about getting into medicine as you would do. But all of a sudden I started to realize and doing practicum and things that seeing someone for 10 to 15 minutes wasn't really going to get the job done. So basically after university, I kind of packed everything up. I went traveling for a year turning to five years and that's when I started to make these connections between sort of moving and eating. How that impacts health and not only health but performance. So that kind of have led me down the road to the Paleo theme and of course getting back in the medicine. I went into naturopathic medicine as a way to really kind of get into the root causes of things, of the diet, the exercise, the lifestyle factors that are driving the overwhelming majority of all the chronic diseases that we're seeing today.

Robb Wolf: Awesome. Awesome. So how did this kind of evolutionary template jive with you when you were looking at the naturopathic medicine model? Actually, I did a year of naturopathy school at Bastyr. On the surface, it really seemed like the naturopathy, Paleo, evolutionary medicine thing should have been a hand in glove fit. But at the time, they were very, very vegan, vegetarian-oriented and this idea of kind of evolutionary medicine seemed really far a field for those folks even though it seemed like nature evolution...they should have...they held really, really well but I had a warmer reception when I talk to University of Washington Medical Students when I talked about this stuff than I did over the naturopathic school like how is that process for you?

Marc Bubbs: Oh no. There was a little bit the same and maybe now it's pronounced but definitely the vegan vegetarian thing is still pretty dominant but I'd say things are shifting pretty quick in terms of just whole-food based approach. But the whole idea again in terms of nutrient density, animal proteins being at the top of the list there, avoiding industrial seed oils, the gluten conversation there. So more things are kind of lining up which helps in terms of that naturopathic functional medicine approach dovetailing but I definitely think you're right. When I first started 2006, it was definitely not exactly thing that you'll go hand in hand but it wasn't exactly the case.

Marc Bubbs: Right, right and then as the situation so much with...it appears practicing medicine you kind of just have to keep your head down, get credentialed and then get out and do what you're going to do. So it's not like you can really, yeah, change the institution there and usually the people who navigate that seem the best or the ones that are able to keep that long term picture in mind for sure.

Marc Bubbs: That's just the thing. Once you get into practice, you start to realize that all these low-hanging fruit, these easy wins of just changing what people are eating and moving towards this template and you're getting people who were been struggling with blood sugars and diabetes or high blood pressure, dyslipidemias. Are you on the athletics side, chronic injuries and inflammation and things like that? Now, all these things are improving with very little effort or change by the clients. I think, Jesus, that's a pretty good template or foundation to be working from.

Marc Bubbs: Right, right. So how do you partition your day, your week, your month as a clinician currently? Like what type of folks do you see? How much time do you spend in clinical practice versus doing other projects?

Robb Wolf: Yes. So I'm seeing both. We have 30 to 40 hours in clinic weekly so I'm seeing performance side of clients so everything from team sport athletes, if you're runner, a cyclist etcetera to kind of the downtown. I mean downtown Toronto so the downtown crowd in terms of men's health. So you get a lot of again, cholesterol, dyslipidemias, high blood pressure, blood sugars that type of thing. So that's where I get my clinical, get my hat on and do some work in the clinical side and then with kind of the basketball.

I'm year round full time so if we ever have training camps in the summer time and that's when we really dig into the setting up templates with the guys and especially when we go away on competitions, it's eight or nine games at 11 days so much different than a real traditional NBA season

where you get the days off between. And of course the rest of the year- we're building year-round program for the guys so that you get your round of support and of course you're building individualizing our plans for the guys as we go through this season. And then the really cool part is this kind of bringing us all the way down to our youth and cadet teams, 13 years old. So we're building a template here, a nutrition template all the way from the time of '13 so that in years down the road by the time they get to the national team they're already familiar with a lot of the stuff. And of course a Paleo template is really a big part of what we're doing.

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Robb Wolf:

Great, great so how has that template been received? Like I know the LeBron James kind of "went Paleo" although it sounded like a very low carb version of that approach. And I actually tweeted out to him and some other folks, "Hey, this sounds great but you're in a pretty glycolytically demanding sport. You might need some sweet potatoes or maybe even some white rice" or some other things like that never got a response. Like how were you coaching all the stuff and then I guess how different are folks eating on a qualitative and then also a quantitative basis? So have the macros really shifted a ton or you're just shifting more towards a better quality of food but keeping the macros approximately the same, how were you tackling all that?

Marc Bubbs:

Yeah, it's funny because you kind of getting it from both sides. I mean you have the athlete side and current terms of... the idea of a Paleo diet when people hear about it and also in the clinician side of them being a little bit leery in terms of again more hearing what's out there in the blogosphere etcetera. So for us it was the big part is really just some of the things where as the best basketball players. These guys mainly active more of pills, right? So we got guys who come in off and off season. They're two months off and they're coming in at 6% body fat, 7% body fat. I mean just naturally super lean.

So like you mentioned glycolytic heavy sports. We got to watch in terms of that carb consumption. So I mean we're definitely just trying to swap calories around and get more nutrient dense sources of complex carbs and starchy carbs and things like all the root vegies and sweet potatoes like you mentioned. So swapping those out has been a big win with a lot of our guys.

We basically just took out the serial buffet and all the muffins and croissants and all those kinds of things which sort of sounds obvious. But if you go around whether it's other majorly sports as well it's kind of pretty standard stuff that's out there in the old breakfast bar for these

guys. So that was a big part of it and of course having a bit of a softer approach in the clinical side also helps in terms of reframing it like using it as a template or a foundation really helps to kind of get your foot in the door. and then after that once the guys start feeling better and then performing well and whatnot then it's been...from there it's just kind off and running.

Robb Wolf: Nice, nice so what exactly is the benefit for these guys? Like I could see it potentially benefiting gut health, systemic inflammation, maybe some hormonal modulation like what is happening with these guys. Do you think that they're seeing these performance boosts and generally feeling better?

Marc Bubbs: Yeah, I mean you definitely hit right in the head there. I mean a lot of the stuff digestive things, immune issues, inflammation issues or a lot of low grade things that a lot of guys don't realize until they take some of these things out. So you'll see a lot of our players especially here in Toronto, big Jamaican community, Caribbean community so a lot of these guys in terms of dairy consumption or things that are in their diets all the time, they don't even realize it.

I mean a kind of a famous quote with this one of our guys, "Is it normal to be farting all day long?" I say, "Okay, I'm not pretty sure that's normal." So we got to make sure that that digestive engine is one thing that we really tackle and of course shifting some of those foods around as really...you start to see a big benefit there. So definitely in the digestive side things like even low grade, sinusitis, like chronic congestion, the sinuses that guys get leaving. You know even going in to see specialist to correct like a deviated septum etcetera which gives them a better relief.

But I mean at the end of the day when the foods don't change, the inflammation continues and you got guys who are getting chronically sick and run down, colds and flus. And just flipping the switch on some of the things they're taking in particularly around the dairies and the gluten just kind of that first line of approach. You start to see all of a sudden the energy levels are better. They're not catching so many colds or flus. The frequencies, the severity starts to go down so all that stuff's big especially when you're over the course of a full season, right?

Robb Wolf: Right, right for sure. So maybe frame this for folks a little bit. Training and travel competition in particular are all highly stressful. That's all going to be kind of a systemic, inflammatory load. It's going to be a stress load. How does mitigating that background inflammation and maybe gut

issues. How does that afford these folks a performance advantage and a recovery advantage?

Marc Bubbs:

I think we as always assume that everything that we were taking in kind of gets broken down and completely absorbed effectively. You know, when the gut, whether it's from glutens or partially digested dairies and things like that, you start to get that bacterial balance and the gut really starts to shift. I mean when you get too much the bad bacteria, the dysbiotic bacteria, it just really start to trigger some inflammation and of course damage the lining of the gut walls. So you'll start to see things like a leaky gut, intestinal hyperpermeability which triggers a lot of inflammation and can lead to a lot of over immune type of reaction. So I mean that's definitely one word.

The length of the season that becomes the big issue with basketball players in particular, things like low vitamin D levels. I presented some material there at the International Society Sport Nutritionist. Even in the middle of July, we got...most of the guys are a below, other deficient or insufficient in terms of their vitamin D exposure and of course you realize that if you're playing in the NBA or if you're a high-level player you'll end up spending your mornings in a hotel and you walk across to a practice facility and you play your games in the evening so it's amazing how they can actually avoid a lot of sun exposure. Even of course in terms of circadian patterns or what not, that early morning sun exposure, a light exposure. Something a lot of them don't get out.

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Robb Wolf:

Right, right and then you add into that. We had a guy that contacted us years ago. SWAT officer, early Crossfit guy, amazing athlete and he ended up with a ton of problems. He was getting rhabdo constantly from working out. I mean this was a guy that had been top of the food chain athlete and rhabdomyolysis, abnormal decrease of tissue breakdown and we've seen this in cross fit but you see it in a number of different situations and we couldn't really figure out what was going on with this guy. Then I had this kind of possibly a little flash of insight. He is African-American and I asked him, "Hey man, did you do a shift change anytime recently." He's like, "Yeah. Four months ago I went to graveyard and previously he had been out in the day all the time and so we had his vitamin D levels checked and he was in the Rickets kind of category for his vitamin D level and so we...actually de did kind of a combined therapy of some UV light exposure, also with some liquid vitamin D. We got his vitamin D levels up a good bit more.

A ton of these problems that were just kind of low grade like sleep and a bunch of other things which are very difficult to deal in and the best of

circumstances with a flipped work schedule but also his work capacity and ability to recover from exercise just completely resolved. I mean people were looking at all kinds of interesting but pretty out there stuff and then I was like, "Okay, we have a guy who is very dark complected. He went from years of working during the day to working at night. Four months later, the wheels start falling off the wagon on this guy and nobody had thought about asking about vitamin D levels and that sort of thing. So clearly if you guys have a population that you know Jamaican background of whatnot and Toronto was fairly far north. I mean it's not Arctic Circle but it's...

Marc Bubbs: Exactly. It's blazing hot right now but yeah it's a nine months of winter up here so...

Robb Wolf: So that's a huge deal. How do you address both the vitamin D and the circadian rhythm piece of that with these guys which they have time zone travel because of the demands of what they're doing? They're not...cannot getting out in the sun quite as much or easily as what we would like in an ideal situation like how were you addressing that particular piece and are you doing any blood work monitoring...sorry I'm thinking like 50 different things here. Also well Chris Masterjohn did a really, really fantastic presentation at evolutionary medicine conference maybe about six months ago and he was actually arguing that depending on one's genetics and their relative skin pigmentation that we may not want vitamin D levels of like 60 nanograms per deciliter in all folks. That it may actually be more appropriate for those levels to be lower in Northern European people versus mainly to be higher in more equatorially derived folks. I know I threw like 50 things at you there but...

Marc Bubbs: I think you're right in the sense that we know vitamin D is more of a hormone than even a vitamin and on the performance side of things in terms of spring capacity, recovery, all sorts of parameters we're seeing some really interesting stuff. But we don't necessarily have to get to this sky high levels. So the numbers are always a little bit different in the USA than in Canada and the rest of the world but 40 to 50s are pretty good place to be shooting for and that's what we see in the research in terms of a vitamin D levels.

So that's what we're generally trying to achieve with our guys and of course regular testing. We don't...we can't necessarily test them all throughout the year. They go after their teams and what not but regular testing is a great way especially in the summer time to see what these baseline levels are. So we use supplementation definitely throughout the trip and throughout the year and then letting them know sun exposure,

like you said, is just phenomenal for correcting a lot of things. You don't only get the vitamin D but you're getting that exposure to the morning light which is really big because a lot of travel and a lot of rules around in professional sports in the NBA in particular as well. Like you can't always be staying the night in the place that you've played. You have to actually get on the plane and get to the next town that night as part of the rule. So it can be a really tricky thing to maneuver because you're inherently going to be like the shift worker where you've got always different start and finish time.

So we're trying to mitigate that as best as we can with ensuring the vitamin D levels are up and of course other things like the digestive health, immune health and everything else. Because even being on a plane I mean your chances are getting, catching infections, colds and flus all sorts of things that throughout the season aren't the biggest deal but if you're preparing for the Olympics or something else I mean catching that bad, cold or flu at the wrong time is after four years of hard work is not ideal right?

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Robb Wolf:

Absolutely and man, when I was on the road a lot it was just like I think licking a doorknob and like a New York subway would have been cleaner than the planes that I flew on. Like I had upper respiratory problems all the time and some of that which is being run down and kind of be down beat down but some of others they're just like you can be about this robust as you can be but that drying out the mucus membranes, the altered circadian rhythm. They're just kind of low-grade stress of going through security and being crammed on to a plane and all the rest of that. Like it just kind of saps your energy. What other strategies are you using to kind of help on that allostatic load, that stress load? Are you doing any type of like meditation apps or heart rate variability, monitoring or anything like that to help these guys?

Marc Bubbs:

Yeah, I mean with our team in the summer time, we have...we use different tools, things like the Omega wave, etcetera, as well as blood labs to kind of getting assessment to where the guys were at. Then just trying to reinforce them with the things that you mentioned in terms of sometimes people think if things are simple that they don't have that sort of profound benefit in terms of their health or performance so getting the light exposure, making sure in terms of bed time whether it's using various apps to start dimming the phones or just getting the phones out of the way all together so that the guys can actually get into bed and get some sleep because it's amazing how these days especially with younger and younger athletes. I mean a lot of our guys are very young, early 20s, late teens so the phone is kind of an inherent part sort of attached to

them so it's tough to pry that loose and they even to actually get some sort of recovery and rest on that side of things.

Robb Wolf: Right, right. That's a huge challenge. Are you doing any other general monitoring like, are you just looking at symptoms for gut health? Are you doing any specific testing on that level? Are you tracking any type of like hormones or androgens, preseason or throughout the season to be able to provide some guidance on those kind of parameters or are you just largely doing a symptomatic monitoring?

Marc Bubbs: Yes, so when we get the guys in the summer time, that's our chance to kind of really look under the hood and see what's going on, the blood labs and of course even the urine metabolites in terms of hormones as well. They're going to give us a picture of...because in the literature it's pretty clear that does these guys gets back after the end of the season in terms of stress hormone levels and whatnot. I'm starting to take a pretty good toll of the nervous system. Then it would be great. We're hoping to try to get it more broad spectrum for the entire group but in terms of at the moment it's just picking off players that we suspect there is issues and this is where some of the gut function test in terms of being able to nail down if you are seeing dysbiotic bacteria, immune over activation, chronic inflammation, 0:18:45.5 _dysfunction always kind of things that has been a nice piece of the puzzle because it can give some solid metrics for the rest of the medical stuff as well that kind to look at and say, "Okay well, now we really know we need to change that dairy piece or that gluten piece of the foods that are going in because sometimes, guys will make sort of a halfway effort of taking things down a little bit with their consumption of whether it's cheese or milk or whatnot but not kind of go false team. So to get real compliance, I think that's the big, big key of gathering those metrics so that you'll have them year to year and then also so you can really convince guys this is kind of the way forward.

Robb Wolf: Right so how...two questions here. How hard is it to convince the athletes? Then what the process has been of getting the Olympic medical stuff on board with these approaches? I've done a little bit of work with folks at the OTC on the US side and actually some other international athletes and it's kind of...there's a song, "Some Day's You're the Windshield. Some Day's You're the Bug." I feel like I'm the bug.

Marc Bubbs: For sure.

Robb Wolf: Every time I start interfacing with the nutrition and medical staff at the OTC or something like that like how were you getting the athletes to buy

in and then what's been the process of dealing with entrenched medical staff there.

Marc Bubbs:

Yeah, I mean they were pretty lucky in terms of...few years back Steve Nash came on as our GM and of course he's had a long history of eating well and taking care of his body and that type of thing. So that sort of sets the tone for the rest of the organization and former president Rowan Barrett. And the real key here is the head of performance Sam Biggs. This is a big part for him that's kind of functional model is definitely where all the money is at so to speak. So having that open communication and having the rest of our team, you know Charlie Weingroff the strength coach, you know everyone is kind of buying in to the same ideas. So it becomes a lot easier to then get our guys on board in terms of the changes that we want to make.

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But I can't say that this is sort of a kind of the wide thing for all the various other sports but for kind of the basketball, we're pretty fortunate in that sense to be able to have a bit more leeway. And that's where, I mean, you know this obviously and of course anyone is working with your personal trainer, working with your clients. I mean it's amazing how your relationship with someone becomes a real important piece of them taking on your advice.

I mean how many times that people go to their doctor. They got some advice and for some reason they're listening to what their sister and their aunt told them to do versus what the medical professional told them to do and so it's all rebuilding that rapport. I think once you got a bit of that with the guys, it becomes a lot easier to then start to guide their protocols and that's where you have to start small initially. And then as you build up the momentum, this is we're getting more specific into the macro balance or a bit of the supplementation around recovery that we can start doing for this guys really starts to ramp up.

Robb Wolf:

Nice, nice. What are you doing on the supplementation side like are you using any shakes, creatinine, alpha lipoic acid, fish oils, sounds like some vitamin D was used. What are you doing on this supplementation side?

Marc Bubbs:

Yeah, I mean when the guys were traveling especially in terms of training camp, that's we're making sure we will get the vitamin D things like a probiotic become important and fish oil as well getting their Omega 3s in for the guys. That's just kind of our base protocol to overall to full support of our guys and then from there it all becomes individualized. And of course it also depends on where we're traveling too. I mean there could be some antimicrobials in there as well. I mean a lot of the

qualifiers will be in places like Mexico or Venezuela, etcetera, so trying to fight off some of those...catching a bad cold or flu or any digestive stuff. I mean, in our last term, I remember we had one of guys go out with a GI issue and of course once that hits you it's pretty tough to come back for that. So prophylactic use is kind of our main weapon here so various like sacro-B in terms of some of the probiotics or other antimicrobials to help kind of combat that before it hits because once it does it can be pretty tough for a quick turnaround.

Robb Wolf: Oh man, I've had so many nasty gut bugs from traveling. Even hearing about it now and just get like a sympathetic like you got rumbling just and a little, yeah, yeah. So you like the *Saccharomyces boulardii*, anything like berberine or activated garlic or anything like that to act to some aggressive antimicrobial or you're going pretty light on that type of stuff?

Marc Bubbs: Yeah, I mean that stuff we definitely had some various formulas that we use that contain things like berberine or the herb like goldenseal etcetera. That are nice because you get that antimicrobial support but you're also getting a little bit of anti-inflammatory support and a bit of even blood sugar support as well because for some of our guys even in a blood sugar balance I think someone that we just assume that athletes are always going to have great blood sugar numbers but again depending on genetics, depending on the support, how much...how many sugars they're taking in really can impact stuff. So you start to see guys with high normal HA1Cs so you're looking a bit more inflammation. Their CRP levels were up so some of those things again are things that we can start to flag and that we've been able to see some shifts when we change microbalance or we change the types of things that are going in. Yeah that monitoring becomes real key piece.

Robb Wolf: I bet. So what is the Paleo scene like in general in Canada? Like I've done a number of talks in Vancouver, in Toronto. It seemed like it was pretty active, pretty on the uptake. But it seems like Paleo in general like I think the idea is out there but they're definitely seems to be a bit of a plateau or maybe a reshuffling of the concept. Like what's that like in Toronto currently? I haven't been out there for about three or four years so I haven't really had a good sense of how everything is developing there.

Marc Bubbs: Yeah, we got to come up so make sure you come between May and the end of September otherwise bring your winter jacket and snow shoes, right? Yeah, it's been pretty good actually. You start to see more and more growth. I think people...I do talks all around the downtown core like banks, law firms, things like that. And for a lot of people you get

them...really it's new to them. Again, so many clients were just getting all that so much benefit from just adding simple things.

So that group is definitely one that's starting to be introduced to it and of course you see more and more in the triathlons, endurance sports, team sports. We're seeing more and more people that are definitely trending in that way but maybe more applying just those fundamentals of getting grass fed, wild cuts of meats, increasing vegetable intake. That was a huge one for me in clinical practice. You know seeing years and years of seeing vegetarians and seeing their vegetable intake and having all these people coming following a Paleo diet and just seeing this enormous amount of vegetable consumption. You thought of yourself, "Okay there's something here that's definitely pretty valuable that were getting. All these LDL fats, all these veggies, all the nutrient dense and all protein so that was one of the things that really kind of shifted me over.

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So we're starting to see a lot more of that in terms of the average personnel getting on board and with the Paleo scene.

Robb Wolf:

Nice, nice, maybe I'll pick your brain dinge on the strength coach. I'm huge fan of that guy and he made a point that you should always...when you're interviewing somebody, you're even giving a talk. You try to make it as beneficial for yourself as you can. So I'm always still tweaking and fiddling my eating and recovery and all that stuff for jujitsu and just generally trying to be active. I've actually been fiddling with the reintroduction of some things like lentils.

A lot beans still give me some GI problems a little bit of reflux but I was really eyeballing lentils and I'm like, "Dude, these things are mainly protein and fiber." Super low glycemic load even going 30 to 50 gram effective carbohydrate wax of those for like a pre or post work out meals. I've been doing pretty good with that and I got to say, a probably better than doing like yam, sweet potatoes, white potatoes definitely better than white rice. Like I'm going to be publishing some blood glucose response data that I've been tracking and like white rice will just about make me diabetic in a meal unless I have like a tablespoon of it. Whereas if I do a pretty good size whack of lentils. I've been doing well with that.

Where are you with all that? I guess it's just interesting because lentils are probably not as nutrient dense as some of these other foods. But these other foods really...I find that I'm chasing that blood sugar roller coaster with them even not particularly large amounts of sweet potatoes.

I do okay with like rhubarb and some turnips and that type of stuff but that's kind of hard at times for breakfast. I've actually been doing kind of curried lentil deal with some canned salmon for breakfast and that's been working out really well. But I've actually noticed my vegetable consumption has dropped somewhat doing this but I'm actually feeling better. What are your thoughts on that?

Marc Bubbs:

Yeah, I think that's actually...that was part of the in the early days when I was getting into the whole Paleo scene. It was just this idea of seeing so many people doing well with like you said, more so the lentils and even the beans. But those things were definitely impacting the gut I think in a way that was really providing some benefit. That's where it gets less clear with knowing that we got more nutrient density with some of the other vegies and what not. But switching over and having more lentils potentially into the diet or having periods where if you're more of a low-carb athlete, if you like to hang out in that lower carbs zone, I still think it's beneficial for people to have periods or athletes have periods where they're going to increase the carbohydrate intake to that help fight off some of the impacts there on gut microbiota and vice versa. If you're a low or a high carb guys or endurance athletes, etcetera, having periods of really reducing the carbs can be highly beneficial. So I think things like lentils are kind of a nice one to go with and you can sort of dip your feet in a little bit. You don't have to go with the full, dull meal there at lunch time but just starting some into the meal. I think it's a great pretty good place to really start.

Robb Wolf:

Nice, nice. I've been reading some literature that was kind of suggesting, not kind of. It was actually pretty compelling and I'll put this in the show notes that was making the argument that a low glycemic load, post workout meal was superior for recovery. And there's been so much stuff out of the body building literature and whatnot that you wanted this big insulin spike post work out. And what's intriguing to me in writing this second book something became pretty clear to me as if there are some people...I don't want to say this. People need to figure out a way to make their blood glucose response look quite good and some of the literature that I looked at considered 100 gatherers that were given oral glucose tolerance test and these folks it was rare for them to one hour, two hours later they have their blood glucose above 90 and I know I'm using international units.

Marc Bubbs:

It's all right.

Robb Wolf:

I'm so embarrassed by that I'm not well versed in the actual international units that everybody else uses.

Marc Bubbs: It's all good.

Robb Wolf: But it was a really, really good two-hour post oral glucose tolerance test kind of scenario and clearly that some people do well with these high glycemic load post workout meals but a lot of people really do not. What I'm wondering here is just...you know again this is maybe the story where the personalized nutrition comes in depending on the person, depending on the situation. They probably need some carbs post workout depending on how they're doing it but those carbs still probably best serve them if they are either genetically wired such that they have a favorable insulin response and therefore, blood glucose clearance or they need to eat in a way that makes it look like they are genetically wired up for that. What are your thoughts on all that?

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Marc Bubbs: Yeah, I mean I think definitely that's an area where I don't know whether it's the supplement company that sort of have been driving a little bit of this. But the idea that everyone is scared to death that if they miss their magical window after they train that all the gains are going out the window and they're not going to be able to build muscle or recover. When we look at protein intake, I mean it really is your daily total intake that's going to kind of create the changes. So that's definitely one that we don't necessarily have to chase after training and we can we have those longer gaps between if you need to.

Then that question around the carbohydrate is a really interesting one, because yeah I think it really depends. I think the average person really gets screwed on this one because they have kind of pouring in carbohydrate after they train thinking it's going to help them in terms of recovering what not. So I don't think that's going to be ideal. I think again if there's periods of that higher level athlete to go restricting...post training or restricting carbohydrates, this kind of sleep low strategy, we can start to see some nice gains. I think that the real benefit there would be figuring out which part are your training, the cycle training phases that you're kind of add that in because once we get back to actual competition day we know what carbohydrates is going to be really supportive for athlete level performance but you hit it right on the head, I think when you said, nailing that right form of carbohydrate to keep the blood sugars imbalances is the real question.

Robb Wolf: Right, right this literature seemed to indicate. I mean it makes sense, elevated insulin levels tend to suppress lipolysis and the utilization of fat and energy substrate but if you're able to get carbohydrates in but you're not getting a really significant insulin response from that and we kind of

have the both worlds. We're not inducing that really severe insulin response. So we still have some hormone imbalance partitioning of both fat and carbohydrate as a fuel both in activity and in recovery and that seem like a pretty slick spot. And probably for a lot of people this has been obvious for them but it was really an eye opener for me where it was basically, low carb diet seemed to be this...it's basically the people needed a low carb diet and I would put myself more in that camp. Like even though I'm eating more than what I historically have. It's like 150, maybe 200 grams of carbs total. It's not a huge amount and this overlaid and a pretty active schedule with the highly glycolytic sport Brazilian jujitsu.

But what I finally arrived at was that I just need to eat in a way that my blood sugar responses look like somebody who has good glycemic control. So it's not necessarily carbs, good, bad. It's how do you respond and there's clearly variation within that like there seems to be some indication that if we can shift the gut microbiota in favorable directions and the insulin sensitivity improves because of probably getting less endotoxemia which is a stress and negatively impacts insulin sensitivity. So it's just kind of interesting. I'm sure a lot of other people figured that out far earlier than I did but it's been kind of eye opener for me lately.

Marc Bubbs:

For sure. I mean we see that even with some of the test we do with our guys in terms of gut function and that the microbiota because the formula that we use for...during games and then practices is actually an amino acid electrolyte formula. It's called biostimulants. It's very low carbohydrate so it's much different than we kind of use in that old sport drink approach of just pouring in the sucrose into the athletes during training. So I think, yeah, in terms of that blood sugar balance it's key and that the gut bacteria, I mean we know especially if guys are overweight. You're talking about football alignment or rugby players. I mean once you got some belly fat on you we know that there's going to be inflammation. We know there can be dysbiosis. We know there can be some zonulin dysfunction. The research is going to be pretty clear there. So yeah, this idea of how do we pick those right foods. How do we find that balance of protein, carbs faster to really get that good glycemic response?

Robb Wolf:

Right, right. Awesome, okay so I'm probably not completely out in the weeds on that stuff. That's good to know. So I've done a lot of protein, carbs, fat, you've done a lot of protein, carbs, fat just in our careers but I've got to say the area that I'm really excited about is this sustainability storing. It sounds like you're fairly fired up about that too. Talk to folks a little bit about that. Like why is this important or why has this become

important for you, and how do you see this kind of Paleo Evolutionary template actually supporting sustainability model that makes sense?

[0:35:25]

Marc Bubbs:

Yeah, I mean for me, it's definitely one of those or going around doing talks for people and kind of introducing this. The reaction from people is just like something they've never heard before. So it's amazing how flipping the switch for a lot of people has really galvanized this idea around. How we're growing our food and how, the impacts of agrobusiness and corporate farming and all the rest of it? How is it really impacting food supply and of course environmental toxins, etcetera.

So this has been a really cool area because it's almost as much as I've been into it. I've seen such a big reaction from the community around the area that's been sort of driving. And when you're going to be having a couple little kids, you start to utilize that how we're going to fix a lot of these problems. So we've gotten now in terms of whether it's pollution, etcetera in the environment and you start to see some pretty cool stuff coming out around the benefits of getting to more with regenerative farming techniques.

Robb Wolf:

Yeah, it's super exciting for me. It's interesting to that the kind of vegan-vegetarian idea seems to really latch into governmental institutions, the World Health Organization. There are some...on one level this idea of don't eat meat that's going to be more sustainable seems really sexy. There's just kind of moral element to it.

Marc Bubbs:

Absolutely, yup.

Robb Wolf:

It just so reminds me of the high carb, low fat, saturated fat story which we spend a lot of time and a lot of money trying on that whether...

Marc Bubbs:

Exactly. That doesn't fit you know.

Robb Wolf:

Yeah and it didn't really fit all that well and it costs us a lot and it's a little spooky for me that we're again kind of institutionalizing this particular flavor of the idea of sustainability without really vetting out the null hypothesis on this. That we might need plants and animals to have healthy soil, to sequester carbon, to mitigate heat, footprint and sequester water and the soil and everything. And so the folks like Polyface Farms and the Savior Institute that I really tried to do as much work with them as I can and try to dove tail in this sustainability idea and it's pretty cool like I've often joked that people are way more concerned about abs than they are sustainability. Bbut this last year of Paleo effects

we had a sustainability panel and this was going on at the same that Mark Sisson was talking and...

Marc Bubbs: Got you. Got you.

Robb Wolf: So I was like we're going to like three people in there but it was 200 persons sitting in this room and every seat was packed. We had people standing in the back and people were really fired up about it and this was going head to head against arguably one of the most fun, interesting people to see speak in this kind of Paleo theme.

Marc Bubbs: Exactly

Robb Wolf: So it's really exciting for me like two, three years ago people looked at me like I just had three heads growing out of me and now it seems to be catching on. So I'm really excited that you as a high level clinician and you have this influence on people who are arguably going to go on and have really significant impact on a number of features of society because of the kind of their position as athletes that hopefully some of the...not only the basic dietary story but the sustainability stories kind of get woven into that like it's very exciting for me.

Marc Bubbs: Yeah, I means it's incredible. We even have a player on our national team we sent to regenerative farming and permaculture and the rest of it and it's pretty cool to see that...you tend to see that a lot with the guys are little on the older side. They start getting to their decision when the joints and start to hear everything else but that tying in of where the foods coming from and how it's made and all the rest of us is really massive. I mean we see so much even around in pretty well at downtown Toronto now and I mean there's more and more that you start to see the grass-fed beef on the menus instead of paying extra for the grain fed and that kind of deal so it's definitely encouraging.

Robb Wolf: That's awesome. Marc, tell people about your book The Paleo Project.

Marc Bubbs: Yeah so the Paleo Project. I mean this is something I wanted to write something that gave people an idea of how I practice and I mean people like yourself and obviously writing for Dr. Cordain on his website as well. It really formed a lot of how I practice and so the use of this Paleo template of how the animal proteins, the healthy fats, the vegetables, how were these things impact our health. And so going through digestive function and immune function and inflammation and as it relates to whether you're trying to perform better or just improve your health. So that was kind of the crux of it and just happy to be able to spread the

message a little bit more here, north of the border to a few people. So yeah, we got a nice little best to 2015 nomination there by Paleo magazine and I was sad to miss Paleo Effects this year. I was here a year before you give me a talk so hopefully be able to go to the Ancestral Health Symposium again this year.

Robb Wolf: Nice, so you'll be at –yes. I'll see you there then. That's awesome.

Marc Bubbs: Awesome, very cool.

Robb Wolf: Marc, remind people where they can track you down on the interwebs?

Marc Bubbs: I'm at doctorbubbs.com. You can reach to me at Twitter too @doctorbubbs and yeah, I got a couple cool things coming this fall. We're gonna be launching the performance podcast as well which should be fun. I've kind of an ancestral take on some thyroid support in terms of the book in the fall as well. So a couple cool things coming up.

Robb Wolf: Very cool awesome. Well, if you're game for bringing down property values, I'd love to swing in on your podcast when that thing is ready to roll.

Marc Bubbs: Awesome, fantastic. I appreciate it.

Robb Wolf: Cool man. Well, it was great chatting with you today. I doubt I'm going to get to Toronto before the ice age locks in for this next year. But maybe 2017 when I'm supporting my own book tour. I'll probably be back up there. So I'd look forward to seeing you in Toronto and you can show me some of the good food digs and I'll see you at AHS in just a...I think this podcast will go up like the two days before AHS is happening so I'll see you then.

Marc Bubbs: Awesome buddy, sounds great.

Robb Wolf: Okay take care. We'll talk to you soon.

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