

**EPISODE 154**

**[0:00:00.3] AV:** Welcome Paleo Nation. I'm Ashleigh VanHouten and you're listening to Paleo Magazine Radio, the official podcast of the original Paleo Lifestyle Publication.

[INTRODUCTION]

**[0:00:19.3] AV:** I think many of us paleo folks have already learned that one of the biggest challenges in being healthy is that our modern world seems stacked against us, you know? At odds with our biological wiring. Our world, which I will add we are very lucky to inhabit, encourages us to eat processed unhealthy food, encourages us to sit and watch TV rather than walk and play, to scroll on our phone all night rather than sleep.

The knowledge that this modern world with all its amazing technology and comfort is also the source of much of our current physical and mental challenges isn't an excuse to let go and be as sedentary and unhealthy as possible. Instead, this information can help to empower us to be mindful of our choices and educate ourselves about better ways to live. Ways that more closely aligned with what makes each of us feel good and healthy.

I think the first step in making changes is being fully aware of your current situations that you can make those educated choices on how to be better. All of this leads me to today's podcast topic, which is a new book called *Wired to Eat* by Robb Wolf. Robb probably needs no introduction to our audience but I'll give you a quick one anyway. He's one of the original leaders of the paleo movement, he's a former research biochemist, a health expert, bestselling author of *The Paleo Solution*, which I'm sure you're familiar with.

This new book, *Wired to Eat* offers a program based on a 30 days nutrition reset and a seven day carb test, which is really interesting, that helps rewire your appetite and determine the best and worst foods for your diet, your metabolism, your goals specifically. We talk about why most diets fail and why the answer isn't another diet. We talk a lot about this rewiring program, we talk a lot about carbs, we talk a lot about the ketogenic diet, which I know is so hot right now. I also bug him about his own personal training and eating routines, it's pretty cool.

As one of the billions of people on this planet who struggles with making the right food choices, I can't recommend this book highly enough. You guys know Robb is a ridiculously smart human being and he's also super down to earth and friendly. So I really hope you enjoy this interview as much as I did.

Before we dive into it, I want to tell you about today's podcast sponsor, BIRTHFIT. BIRTHFIT is a support network that assist women through pregnancy and motherhood, helping them make educated decisions using their four pillars of fitness, nutrition, chiropractic care, and healthy mindset, which sounds like a good idea for all of us really.

You can reach out to birth fit's regional directors throughout the country for consultations on things like core and pelvic floor strengthening — for those double unders — as well as nutrition and running workshops, they have online coaching, you can attend prenatal and post-partum workshops through them. They also offer eBooks on strength and conditioning during pregnancy, which is super cool and they have a free birth fit podcast on iTunes where they talk about pregnancy, birth and post-partum with doctors, midwives, chiropractors and birth educators.

Now, I don't have any kids myself but who knows, right? I have a bunch of friends who have recently had kids or going to. I think it's a really cool resource that helps empower women and encourage them to maintain their fitness and their strength through what can be a pretty exciting but also a pretty stressful time. BIRTHFIT sounds like a cool program to me, but find out more for yourself and go to [birthfit.com](http://birthfit.com).

Okay, I'm sure you're tired of hearing me talk, I know I am so now it's time to hear from our favorite paleo OG, Robb Wolf. Paleo Magazine Radio starts now.

[INTERVIEW]

**[0:04:24.1] AV:** Hey Robb, welcome to the podcast.

**[0:04:27.1] RW:** Huge honor to be here, thanks.

**[0:04:29.1] AVH:** I have to say, it's a bit surreal to be chatting with you on a podcast that I'm hosting because I have been following your podcast for so long and I'm new to this podcasting thing so the novelty has not worn for me at all. But I followed your work for a really long time. It's super cool to have you here, so thank you for that.

**[0:04:46.2] RW:** Awesome, thank you. Well, I'm kind of a moron with podcasting so every time I do it it's as if it is my first time, yet again, so thank you.

**[0:04:54.3] AVH:** Nice, I mean, you're teaching me valuable lessons offline already, we won't repeat it, but very helpful.

**[0:04:59.7] RW:** Perfect.

**[0:05:00.5] AVH:** All right, so I have a bunch of questions to ask you and not a whole lot of time so let's get right into it. The reason we're here is to talk about your new book, *Wired to Eat*. I know that people can preorder that right now but when will that be available in stores.

**[0:05:12.9] RW:** It will ship as of March 21<sup>st</sup> everywhere. So like if you're order an eCopy, it will ship out that day, it will be available in brick and mortar settings, it's available for preorder everywhere that books are sold.

**[0:05:24.6] AVH:** Cool, okay. You've been writing about paleo nutrition, health and wellness for a long time, you've given us a ton of resources with your website and your podcast. *The Paleo Solution* is the Holy Grail for a lot of people.

What made you decide to put this information, package it in this way with this book right now?

**[0:05:42.3] RW:** Man, you know, this again is kind of an insight into how naïve I am at times. I really feel like I did a pretty good job on *The Paleo Solution*. Like I'll thumb back through it occasionally, I'm like, "Wow man, I was kind of on point with some stuff," you know? I did some decent writing, had some humorous diversions in there to kind of make the whole thing more enjoyable and I thought, — okay, so this is a true story and it's kind of funny and again, shines a light on how naïve I am.

I pressed send to my publisher with *The Paleo Solution* and I looked at my wife, I'm like, "Okay, we need to figure out what we're doing next. This is going to solve all the world's health ills, we need to start like a coconut farm in Nicaragua or something like that." Although it's been really helpful, the whole paleo concept has helped a lot of people, it's still in all reality, we're talking about five, maybe seven million people in the US that have tinkered with this.

So we haven't even hit 10% of the population with the whole thing. There's still a lot of work to be done there, but I really didn't want to just do some sort of me too book. Like *Paleo Solution 2.0* or what have you, I don't know if it's ego or what, but if I was going to do something, I really wanted it to be qualitatively different.

I had the good fortune to be on several research groups where folks share published and soon to be published research papers and we discussed this stuff and in one of these exchanges, a paper came across my attention that was talking about brain evolution and the omnivore's real dilemma and this actually led to a Paleo f(x) talk about three years ago where I was talking about optimum foraging strategy and how we're wired for a timeline that is completely different than the one that we live in today.

Really, what I took from this was that if you live in this modern world of hyper palatable foods, of constant distraction, of social media platforms that are engineered to be addictive, to spin those dopamine centers in the brain, if you live in that world and you find decoupling yourself from those processes difficult, that should not be surprising at all.

I mean, you know, it's like everything that we encounter is set up in a way to really kind of ensnare and entrap us whether it's the food or social media or you know, television, 24/7 entertainment and so as I was thinking about this, I was also reflecting on what the common challenges were that folks faced when they started making some sort of a diet and lifestyle change.

One of the things that I had heard from people time and time again, they would jump into something like a Whole30 or a paleo challenge, by looking at them from the outside, it looks like they're just going great guns, they've got all kinds of momentum and then two, three months into

the process, they just kind of spin out and they're gone. When I would talk to this people, what I got from them, they would say that even though they were making some progress.

The whole experience was hard and harder than what they thought should be normal and they thought that there was something wrong with them that if they were just like stronger, had better moral character, whatever, that the process would be easier, they would look around the interwebs or people that they knew and it's like, "Oh, looks like Charlie's doing it and it's a piece of cake for him." Occasionally, these things are really easy but more often than not, there's some serious challenge and again it's because every layer of our world is kind of setup against us.

Between this paper that was talking about our brain evolution and optimum foraging strategy and the neuro regulation of appetite and then this insight that there's a really significant cross section of people that get hung up on kind of an emotional morality kind of self-destructive path with all this, I thought that I had a way of articulating all this ancestral health evolutionary biology stuff in a way that would defuse all that emotionality and at least just get us to a stable baseline that wasn't neurotically focused on this being easy but understanding that there may be challenges here but the challenges are worth endeavoring towards.

So it was kind of a convoluted process of deciding to write the book. I had been chipping away on an outline for about three years and accumulating more and more research but, you know, a number of things came together that finally lit a fire under me and that was like, "Okay, I think I've got something worth saying here that's not just the same old recycled clap trap.

**[0:10:25.0] AVH:** Right. Okay, so this brings me to a question that I wanted to ask and a chapter that I really enjoyed in the book on cheating and morality and food. I think, like you said, I think there are a lot of people who — people who don't have complicated relationships with food have a hard time understanding those of us that do, right? People who feel guilty when they eat a treat or use junk food as a reward and you talk about reframing this approach, right? That you can't cheat on your food.

You're not a bad person because you eat pizza but there are consequences to the choices that you make, right? I think that it's one thing to know this in your brain and it's another thing to

practice it and really understand it. So for folks who have really engrained this kind of guilt based thinking around food, how do you work to change that? Is it just education? Is it just kind of consistency and time?

**[0:11:12.7] RW:** It's all of that and, you know, it's a real challenge and I mentioned this in the book, the best tool that I have in a written format is trying to get enough logical information that it appeals to that part of our brain, this forebrain that is where we do logic and analysis and what not. But then, we almost need a Zen, meditative type process where we're able to let that emotional part of the brain kind of do its squirrely stuff where it will pop this things up of, "Oh, I'm a failure." Or, "Man, I'm weak willed," or you know, whatever the internal dialogue is and then we have to have some distance from it.

It's like we see that emotionality, we see these self-destructive things but we don't become those things and it is not the easiest process in the world to do. Clearly you know? There is some challenge there but I talk about that whole kind of sequence. The interesting thing is, logic and appealing to folk's logic is actually a really ineffective way of instigating change.

It really doesn't do that good of a job, really profound emotional events actually are much better at that but you know, it's hard to generate something equivalent to like a quasi religious experience in people, either via book format or you know short of doing some sort of traveling road show where you're doing like a laying on of hands or something, you know?

It's hard to get that emotional content but there is a process and, you know, I haven't done a ton of meditation but I was a student of kind of like Zen philosophy in this and also interestingly out of a western derivative dystonic philosophy, which is just kind of be okay with being in the sock basically. It's like, "This blows, we're in a situation that's not comfortable," but the situation is not necessarily me, I have choices about what I do with this.

And so I do offer up a path so that people can use this logical information and then they can start having a conversation internally with that emotional part that can kind of derail what is going on and it is interesting like I do have some different perspectives on things like the term "cheating". This gets a little far afield, I apologize if it gets out the weeds too much but given your audience, I think they might get into this a little bit.

But you know, I really am strongly influenced by this evolutionary biology template, so when I was thinking about this whole process of cheating — what stimulated this is early in my work consulting with people and working directly with folks, we used to run what one of the first CrossFit affiliate gyms in the world. We cofounded the first and fourth CrossFit affiliate gyms and had a lot of experience working with people and maybe one person out of 10, you'd start having this conversation about the nutrition and the person would say, "So what's my cheat day look like?"

Initially, because I didn't have a lot of experience, I was kind of like, "Oh, this is a reasonable question. Like we're recommending this kind of paleo approach and this person's wondering if they ever get to have a chocolate chip cookie again in their life, and so this is a reasonable question." Over the course of time, I learned that when this cheat question popped up, the person sitting across from me was going to be a huge pain in the ass. Like it was going to be a fight the whole way.

What's interesting is I started digging around, trying to figure out what was going on here. There was a deeper story going on that I didn't initially understand. So I started digging around on this terms like "evolutionary biology", "guilt", "social justice", these different kind of inter related terms. Within all primates, even new world monkeys, there's a really profound sense of right and wrong and justice and like if one person is being victimized and the group will take steps to kind of right this wrongs and it's an important feature of organisms that exist in a complex societal structure.

If one person or one individual is really extracting undue hardship on other individuals, it's going to negatively affect the overall group. So there's some interesting game theory stuff but, you know, it all relates back to all primates have a really tightly tuned sense of justice. I see this in my two daughters. We're now at the point where they're old enough where if there's one apple left and we're going to cut it in half, one kid gets to cut it, the other kid gets to pick it. It's incredible how much attention to detail is put into that cut because man, you know, neither one of them want to be short changed on the opportunity to have an equal bite of that.

So there's all that background and then we have this tendency for people, whether they eat paleo or vegan or macrobiotic or what have you, there's this tendency that if the person goes off their plan, we call it a "cheat", it's cheating. What's interesting is the term cheat, the word cheat, the root meaning, the Webster's dictionary meaning is "to take unfair advantage upon someone, often times at another individual's expense".

When you think about that, whatever you're dietary plan is, if you go off that plan, who are you cheating? What's being cheated there? There's really no cheat. There may be consequences like it may not make us feel good, continually eating poor food choices could get us sick, it could stick us in an early grave. We're not taking unfair advantage of anybody but what happens is because we do have this really deeply wired senses of right and wrong and justice and whatnot, if we emotionally attach the significance of cheating on our food to legitimate cheating then we feel crushed by guilt because this is a normal feature.

Most people, unless they're a psychopath or a sociopath, when they do something wrong, they feel guilty about it and that's kind of the way that our society weeds things together and the way that we continue to work. But what happens with folks is that they will inappropriately assign the verbiage and the emotionality of cheating to their food and then if there's one tiny discretion, then they feel the same emotional impact as if they had like cheated on a spouse or something like that and they just spin out and auger into the mountain side, everything is lost.

It was a kind of a long process and I devoted a decent amount of time in the book talking about this stuff because it's a really common way for people to hamstring themselves by inappropriately assigning this emotional guilt to a situation that is just a consequence story. It's like, if you want to do this program then do the program and if you go off the rails one meal then you're one meal away from being back on or you can inappropriately assign this deep emotional guilt to this situation and then make that one deviation off the path. The reason that you just give up the whole process.

**[0:18:34.5] AVH:** Right, you mentioned a stoic philosophy, which is very interesting subject to me and I hope we get some time to talk more about that because the idea of — you talk a lot about this emotional attachment and I think a lot of stoic philosophy is kind of taking that a little bit out of the equation, which is really interesting to me.

First, I kind of want to talk about one of the key elements of the book, which is this 30 day reset which I think is familiar probably to a lot of people who may have heard of whole 30 or things like that but it's then followed up by this seven day carb test, which explains how to test which carbs work well or not so well for you and I think that's a really helpful tool whether you're paleo or not, whether you're trying to lose weight, or you're trying to fuel yourself as an athlete.

Can you talk a bit about that process, because I think it's something maybe that a lot of people haven't considered.

**[0:19:23.1] RW:** Yeah, you know, it's interesting and again, I had the good fortune of having this kind of clinical experience, running a gym and then interfacing with lots and lots of people. We tried different durations of these interventions or challenges. Like we tried them for three months and we tried them for two weeks and this one month challenge was interesting in that it was short enough that you could convince, or in worse case, guilt people into doing it for one month. It's kind of like, "Hey, come on, sack up. You can do anything for a month," you know?

People would grudgingly agree but it was long enough that you could get a really profound change in body composition, improvements and digestion, reduced inflammation, folks would lose weight, they would drop a couple of pant sizes. It was, again, short enough that it wasn't a totally onerous process, it was long enough that we could really see a big delta between their beginning and end point and then we could do something that was crazy, which was just tell this folks, "Hey now, look back, and make a decision about is the work worth the reward?"

Which I think is just a really honest transparent no smoke and mirrors thing. "If you feel like the work is worth the reward then let's keep doing more or less what we're doing. If it's not, then you've got some sort of an option now to figure out to what degree you do or don't want to comply," and over the course of time, we've just found this to be a really effective process. There are ways that people can kind of circumvent or kind of game this process.

We used to do paleo challenges in our gym where there were like some cash prizes and stuff like that. What people would do when they would hear that the challenge was going to start in

two weeks, they would go on an eating binge and get as fat as possible so that their transformation pictures were more impressive.

So over the course of time, this is the funny thing. Whatever the rules of a game end up evolving into, people will find ways of gaming that process. Getting people transiently fat to then lean them out really wasn't what we were looking for. We had to modify how we did those things and...

**[0:21:36.6] AVH:** Lessons in human nature, right?

**[0:21:38.5] RW:** Oh absolutely. It's just so — it's really funny and I don't want to diverge too far, but people really get fired up about trying to have governments and institutions roll out this things that are going to control people's behavior and people are just so good at gaming systems.

We're so creative at figuring out ways of circumventing things and so I really like to try to pull things back and figure out a big macro level where we can align incentives so that our human tendencies are being rewarded, but rewarded in a way that moves us towards a favorable outcome instead of an unfavorable outcome.

Because when you try to reef down and control people and you know, do this prohibitionist type activities. Folks get really creative at how to circumvent that whole process.

**[0:22:29.0] AVH:** Yeah. The carb test, let's talk about that a little bit more. I thought that was really interesting. You even list like different carb sources and the amount that you need to do this test, which I'd like to ask you about. That amount, is that regardless of your gender and your size? Because I was looking at that and thinking like, "That's a lot of oatmeal."

That's part of the question and then also, the testing, there's the testing your blood glucose with a monitor and I know from checking your Instagram account that there are other ways of checking your blood glucose too. Maybe you could talk about those options?

**[0:23:02.7] RW:** Yeah, you know, kind of the inspiration for that process came out of some research that was done in Israel about two years ago it was published and it was a really comprehensive study where they put 800 people on a particular nutritional plan but under the following parameters. These people were wearing continuous blood glucose monitors so it's a little disk that has a probe that goes under the skin and it samples your blood glucose once a minute for the duration of the experiment, which is usually about two to three weeks.

These folks had their gut microbiome sequence, their genetic sequence, pretty extensive blood work. So they had all this data, they had this ability to track their blood glucose consistently over time. Then they started feeding this folks different batteries of meals. What was really interesting is that the blood glucose responses were all over the map.

Things that you would think would just consistently spike blood glucose like white rice or white potatoes, in some people that made the blood glucose really high and other people that didn't cause all that much of a response and then some things like hummus were really crazy in that maybe about 50% of people had what you would expect to be the anticipated blood glucose response, which would be really low.

Hummus is basically protein, fat, and fiber with very little carbohydrate content. But in some people, they had a super high blood glucose response and I had the good fortune of talking to a number of the primary investigators on that study and although they didn't test for this specifically, I asked them, in these situations where the blood glucose was higher than what the carbohydrate content could even create, were we seeing an immunogenic response to the food? Like was there a stress response and then this was causing release of glucose out of the liver and they said, "Almost certainly. That's part of what we're going to test next."

The take away from that was that there was a massive variation in how people responded to different foods with regards to their blood glucose response. There seemed to be a consistent feature which was as they started figuring out this patterns, if they fed people in a way that their blood glucose response was modest, it wasn't spiking super high, it wasn't crashing really low, their metabolic profiles improved, their gut microbiome improved and this tended to continue improving over time.

What I took from that was that, you know, as much as we need these simple heuristics, these simple stories like paleo type deal or low carb or whole 30 or what have you. They're really valuable but they only perfectly match up with a small subset of the population and then there's standard deviations outside of that. Some people need a little bit of a tweak, some people need a massive tweak to be able to make these programs work.

That's where the seven day carb test, it follows on the heels of eating a plan that generally is going to reduce inflammation, reestablish the neuro-regulation of appetite, get people healthier but then we are able to really get granular and figure out what specific carbohydrate amounts and types people do best with.

Your question is really good. In the book, I recommend a uniform 50 gram effective carbohydrate dose for folks and if you have a hundred kilo male versus a 52 kilo female, you're going to have some differences and blood glucose just based off the size of the individuals. Like the bigger person just has more mass to soak up the glucose and stuff like that.

I thought about some algorithms where, "Okay, if you're between this size and this size and you do this much." But it was turning into kind of a logistical nightmare. What I did is I dealt with all that stuff on the back end. I put in a desired blood glucose range that's very conservative but actually quite consistent with what we see in hunter-gatherer groups when they're given an oral glucose tolerance test.

Regardless of what your size is, if your blood glucose stays under a certain level and you feel good after these meals, that's another piece. There are some subjective and objective measures like if you're not foggy headed, if you don't get hungry immediately and your blood glucose looks good, then that's probably a good amount and type of carbohydrate for you.

What people will discover often times is that you were the smaller framed side of things, you're probably going to do best with a bit smaller of an amount of carbohydrates and if you're on the larger side, you might do a little bit better — but even that, there is some interesting caveats.

My wife is a good bit smaller than I am and she consistently — I don't think we've found any carbohydrates source that I get a better blood glucose response than she does. We've just kind

of noticed, we'll go out for some Mexican food and I don't do any gluten at all, but I'll do a little rice, I'll do a little beans and every once in a while, I'll get a little bit frisky with the rice and beans and I'll feel bad for like three days.

I know now, because I wore a continuous blood glucose monitor and I did this experiment, I get very high blood glucose, stem the blood glucose crashes and I may feel bad for several days where as my wife, I'll ask her I'm like, "What's your carb headed sense of this?" She's like, "I don't feel that great for maybe 45 minutes," and then she's totally fine and it doesn't affect her sleep, it doesn't affect her next day.

I don't know if this is a purely genetic story, if it's a gut microbiome story, if it's combination but even though my wife is smaller than I am, she has a consistently superior blood glucose response to me. Which is, you know, was really kind of cool to see this played out with hard numbers but we've noticed this observationally, she can just handle more carbs and do, not just fine, but thrive on that.

**[0:29:08.0] AVH:** Lucky woman.

**[0:29:09.9] RW:** Yeah, pretty lucky, you know? It really shines a light on even though again, the challenge is trying to find simple stories that can help people move along and not overwhelm them with detail. But then on the back side of that, we can't take these simple stories, carve them in stone and turn them into religious doctrine because it really has limited application, there's a lot of unique variables there.

**[0:29:33.8] AVH:** Right, so talking about these unique variables, it seems like there's a shift right now, at least it seems to me, from the golden rule of "just eat paleo" to this personalized nutrition approach that you're talking about that you talk about in the book. It's about testing, seeing what works for you personally and knowing — this is stuff that some people have always maybe known that maybe some paleo foods don't work for them but non-paleo foods can and it's about individual needs.

Do you think that personalized nutrition is just, it's sort of like a natural evolution as we learn more about food and our reactions to it? Do you think that's the next step?

**[0:30:09.6] RW:** Yeah, absolutely I do. That's very well stated and, you know, we see this even in pharmacology where there's more and more discussion about finding targeted therapeutics for various types of cancer and even for, like if you have a certain bacterial infection, they are starting to look at your gut microbiome and your genetics and maybe they do this antibiotic instead of that one.

**[0:30:35.3] AVH:** Right, okay. We have to talk about a ketogenic diet. We have to talk about it a lot because I feel like maybe it's just me, I feel like it's getting more mainstream, maybe it's just the circles that I run in, but you do talk about it a lot in the book. It seems to me like it's so — and this maybe goes back to the emotional or the sort of mental side of it, but it seems like it's so easy for folks to be on one extreme or the other right? We're just going crazy with the carbs, eating everything we can find, or we decide, "Screw it, I just won't eat any."

Finding this moderation and balance and finding a way to make carbs work for you, it seems like it's a lot trickier. But I guess my question is. Is Keto sort of the next logical step? You get your eating in order, you start doing this whole food paleo thing that works for you and you feel good, and then when you want to level up even more, you do keto. Is that something that most people can use and can benefit from?

**[0:31:26.0] RW:** That's a great question and framed really, really well and the context I would put that in is if we're a general contractor and we're building a house from scratch, a drill is not necessarily a superior tool to hand saw a relative to a hammer. They all have appropriate utility. So I wouldn't order this stuff out on a spectrum per se of good, better, best but, you know, appropriate tool usage.

It's funny because I get beat up by all the camps. I am as rabid and excited a person as you could ever find about ketogenic diets and fasting. I think that they have just a shocking amount of therapeutic potential, but I'm also that whacky person who doesn't think that it's necessarily the right thing for every single person under all circumstances.

It took me a long time to arrive at that. Low carb, particularly ketogenic diet, I thrive on those. I feel really good, I have some challenges fueling some stuff like Brazilian jiu jitsu, but on a

cognitive level on like an energy consistency level, I just feel great. Because I felt so great on a ketogenic diet.

Because it was such a great solution for the problems that I had throughout my whole life up until discovering this stuff. It created a pretty remarkable confirmation bias. I was like man, this is the cat's meow. You know, what you work for everybody and over the course of time and breaking some people and talking to folks smarter than myself, I finally figured out that although again this is an amazing tool, it's not necessarily the right tool for all people.

But if you have a neuro degenerative disease, I cannot think of something that one should be doing more aggressively than like some smart fasting coupled with a ketogenic diet and that ketogenic diet may be, what I call in the book, a transitional ketogenic diet where we do a low glycemic load basic dietary approach and then really supplement with MCT oil so that we get some ketone production. Like it may be as simple as doing that.

I actually have four different meal plans on the book. I have a basic 30 day intervention, which is effectively like a moderate carb paleo diet. I have a transitional ketone approach, I have an autoimmune type approach and then also a full on nutritional ketosis approach so that folks can customize all of that based on their needs.

With all those caveats said, the way that I've laid this stuff out in the book I do put these 30 day reset, which is basically like an anti-inflammatory paleo-type diet first and then I leave that ketogenic intervention as a final thing that one might try if they fit into a couple of different buckets. Like neurodegenerative disease.

Or some people who have been significantly overweight, there's some research that suggest that the neurons in their hypothalamus that regulate body composition and a sense of hunger and all the stuff that I talked about extensively related to the neuro regulation of appetite, there may be some stuff in that story that's broken and it appears that a ketogenic diet may reset that process and so it may be something that they need to do for a period of time. It may be something that they need to do long term.

If they are going to avoid obesity and other health related issues from overeating, then that ketogenic approach may be the solution that they need to utilize and there's some caveats within this whole story like ApoE-4,4 folks and maybe they do more monounsaturated fats instead of saturated fats so that we're seeing a more favorable lipoprotein profile and I break all of those caveats down in the book but the title of that chapter is *Hammers, Drills and Ketosis: The one tool your doctor will never use.*

Fortunately that story is changing. There are more and more doctors and health care providers that are savvy to the therapeutic potential of ketosis and fasting, but it's still massively underutilized and it's incredibly powerful, but again, you know what? A hammer can be a great tool but you can also use it to bludgeon a crowd of people. So you need to be aware of both the therapeutic potential but also some of the downsides.

**[0:35:43.0] AVH:** Right and I have to say, as a woman, it kind of grinds my gears that I feel like so much of the conversation about ketogenic diets either don't include women or there's this sort of caveat at the end that it's like, "Oh by the way, women may not have as good a time with this," and also with athletes too.

So I guess my question is for people who don't need it for specific medical reason, or if you aren't the typical test subject like a young healthy male who isn't the high level athlete, if you're a woman, if you're an older woman, if you're an athlete, if you are someone who is looking at this as just potentially an option that's going to up your game, what are some high level things that we should know before we decide to even try to get into it?

**[0:36:28.4] RW:** Yet again, a fantastic question and I hope I can do justice in the answer. I'm honestly still confused about what the story is specifically to women. There seems to be a lot of dialogue out there that, "Okay, there is more challenges for women with a ketogenic diet." But then also, I see a number of women and again, this is all observational and this is where observation can get you to trouble because maybe you are seeing something real or maybe you're not.

This is where some sort of studies would help us ferret this out, but I hear stories and I've seen directly also some women that were doing a ketogenic approach and they didn't seem to do

particularly well on it. Although, I will say this, up until pretty recently and hanging out with the keto gains people, I terribly under-appreciated the necessity of supplementing electrolytes particularly sodium. It's like you take a ridiculous amount of sodium to maintain some blood volume balance, and also I think that there is some adrenal aldosterone issues that are addressed with that.

And that is something that I will add salt to my food while eating lower carb but when I really hang out with those guys and they looked at what I was doing they're like, "Man you're not even close," you know? And then when I upped my electrolytes, particularly sodium, I immediately felt better. So there's still this question of, "How many people are really doing it right?" So that's one thing.

Another piece to this of the people that I would say who have gone, they've gone keto and it resolved so many health issues and they feel so much better that they would never think of eating a different way the rest of their life, I would put maybe 70% of those people in the female category. So that's interesting, you know they had PCOS, they had all kinds of hormonal issues that's just 100% resolved with a super low carb, ketogenic diet.

Again, more than likely we've got a story here of some personalized nutrition and so instead of making it male versus female, I wouldn't be surprised if when we auger into this there may not be that much difference on a gender basis, like an XX or an XY chromosome being the driver, but it may just be much more driven by the individual's situation. I'm guessing at that, I don't have any facts to back that up.

But I've seen so many women really benefit from ketosis that I'm really left like, well I can't say that this is a uniformly challenging deal because clearly lots of them do great on this, and again, there's maybe some caveats that maybe some of the details, the finer points aren't being attended to like adequate electrolyte levels. But also I don't know that probably our most credible argument in this story is that it's going to be a highly individual story and that we need to play a little bit of an experimentation.

On the athlete side, we've historically seen people on the very strength-centric side of things. Like power lifters, shot-putters, those types of folks seem to do pretty well on low carb or cyclic

low carb. We're getting more and more data suggesting that people on the very long duration side of the athletic story, these multi-day events or at least multi-hour events the more oxidative oriented it is. Potentially there is some therapeutic benefit there, some performance benefit.

This middle ground though of soccer, mix martial arts, Jiu-Jitsu, CrossFit that tends to be heavily glycogen dependent, there are a few folks out there that seemed to have some demonstrated success within those circles but I've also seen a lot of people myself included just get totally adrenalized and blown out trying to be both low carb and a glycolytic fuelled athlete and again, was I just doing this wrong? Do I need to do some tweaks and fiddles to make the whole thing work better?

That's all possible, but I think that where we would see the greatest therapeutic benefit is on athletic activities that are longer in duration. So when people are doing these hundred mile foot races or Iron Man triathlon, I think you have some really credible arguments for getting people as fat adapted as possible and then using some targeted carbohydrate as a performance enhancement tool during that event.

But then when we start getting into these shorter, high intensity, particularly interval type activities, I think the likelihood of a ketogenic diet providing much in the way of performance boost is really dubious and it may even be ergolytic. It maybe performance degrading instead of performance enhancing.

**[0:41:22.5] AVH:** Okay, this makes me feel a lot better because I do feel like I read so much negative stuff about women and keto in general and just have them crush in it like, "Okay this is going to be harder for me." So this makes me feel better and the sodium thing is a really interesting point too, because I definitely noticed and I think I've spoken with other people who have a similar situation that when I am eating healthier certainly but definitely way lower carb, my blood pressure drops like crazy so that's an interesting point. And yeah, I definitely liberally salt my food but I probably am not doing enough.

**[0:41:56.0] RW:** Yeah and if you are just doing "basic paleo" which is hard to get a ton of carbs on even if you're putting back a lot of sweet potatoes and stuff, you're not getting four and 500 grams a day. You're lucky if you hit a 150 and so you've got a much different insulin profile, a

much different aldosterone profile. Aldosterone is a hormone that's secreted by the kidneys and it causes us to retain sodium and the higher the insulin is, the more that the aldosterone is released.

This is one of the primary features of metabolic syndrome that we see is in elevated blood pressure because we're retaining for that situation, too much sodium. But if we are eating on the lower carb side of things whether that happens to be within the paleo spectrum or into the ketogenic spectrum, there's a pretty good argument that we might do better from a blood volume standpoint to supplement with salt and this is one of the areas that the really orthodox paleo scene has fallen down.

There's some discussion in that genre that suggests that any additional sodium in the diet is going to be deleterious and problematic and there's some proposed mechanisms to it. But then when you really look at both epidemiological and some clinical interventions, there's a fascinating U curve with regards to sodium intake where disease rates are quite high at very low sodium intake. As sodium intake increases, disease rates drop down to a low ebb and this is around five grams of sodium a day.

And then when you start coming up the other side, then you need 10, 15, 20 grams of sodium a day before you really start pushing the potential negative effects of excessive sodium intake. So it's a fascinating story where probably in the ancestral environment we didn't have huge imbalance of free sodium but every critter that we observed in nature, if they find some sort of sodium source like a pool of water that dries up and there's some concentrated mineral salts there, they go wild on it because this stuff is hard to aggregate and it's a vital nutrient and whatnot.

So this is another part of, as powerful as the basic paleo story has been, it's really important to not stop it at the discussion point of, "Our hunter gatherer ancestors did X, so we should do X also." Like it's suggestive but it's not the final resting place with that discussion.

**[0:44:23.5] AVH:** Right. Okay one last question on keto and then we're going to move on. For folks who are not in ketosis but are doing a lower carb, whole foods, paleo diet, is there any

benefit to using exogenous ketones or MCT oil like something for a pre-work out? Or is it like, “Of you’re not in ketosis don’t bother it’s not going to help anything?”

**[0:44:44.0] RW:** With the individuals that have or possibly you’re at high risk for neurodegenerative disease, I can make an argument that exogenous ketones of whatever variety maybe beneficial. I’ve had some misgivings about some of the exogenous ketone companies. They’ve had some claims that I was not sure were very credible or maybe a little over the top. Some of these things are claiming that the consumption of the exogenous ketones would accelerate fat loss and some stuff like that.

It just didn’t really make sense but I would say that there’s some data that has emerged of late that makes the case that exogenous ketones, whether from ketone salts, ketone esters or even MCT oil, even amidst a mixed dietary approach may create spontaneous caloric reduction in subsequent meals. So there could be an argument that utilizing these ketone salts or MCT oil could reduce your total caloric load spontaneously, because again we’re modifying the neuro regulation of appetite in a favorable way such that we’re eating just spontaneously less calories.

So if somebody is trying to lose weight, there could be an argument for using some sort of exogenous ketone source as an aid in suppressing overall hunger and potentially reducing caloric load but again, some of the folks and some of these companies are making ridiculous amounts of money off the ketone supplements and props to them for doing that; but at the same time, I’m just reticent to get too hyperbolic about what the therapeutic potential is there. I think we need to keep our feet on the ground and not too get crazy with that.

**[0:46:25.5] AVH:** Got it, okay. So going back to you talking about you and your wife having some X-can, eating lots of rice, I get the impression from following you and your podcast, and this could be wrong, but that you and your wife don’t necessarily eat exactly the same way and then on top of that you’ve got your kids. How do families navigate individuals who may have all have different preferences and goals? How do you handle that around meal time and eating in general?

**[0:46:50.3] RW:** Oh man. So my wife, we always have some sweet potatoes made, we’ll make some rice in which we cook it in bone broth and then we also put some veggies in it like some

peas and carrots and all of that and we shred it up so it ends up being 50-50 rice and vegetables and the girls absolutely love that. So we just put out some options and then we, to some degree, let the kids motor through what their options are and then Nicki just feels either fine or better with a higher carb intake.

So she motors along with that and then I tend to eat on the lower carb side of things but with the kids it's funny. My kids eat kimchee and sauerkraut and liver and all of that stuff and there are variability. It's funny Zoe doesn't like what she calls slippery meat, which is basically marbled meat. She does not like it.

**[0:47:48.1] AVH:** The good stuff.

**[0:47:48.9] RW:** The good stuff and Sagan will crush that stuff but interestingly, Zoe loves gluten-free waffles, she likes gluten-free bread. She's kind of our carb addict and Sagan, literally she would push her gluten-free waffles around and she's like, "Dada can I just have some butter?" And so I will cut butter in cheese like slices and she's just slam the butter and Sagan has my hair, she has my shitty disposition when she's a carbon copy of me and Zoe is very much more like her mom.

I'm just wondering if there's even some genetic and epigenetic stuff there. Like Sagan just instinctually gravitates towards a lower carb side of things and you put the same stuff out there but the only carbs that she's motivated by is dried fruit like raisins, some dates and stuff like that. She can smash that stuff but stuff like gluten-free toast literary Zoe would not have an off switch with that stuff. She would eat it until she floated away and Sagan won't even touch it.

But what we've done is we just generally provide some options. I introduce foods in what I call the speed bump method where the things that I know the kids are maybe the least excited about, I'll plate that up first and I'm like, "Once you eat that then you can have this," and then they get to the next most interesting deal and interestingly, this is the exact opposite of what I recommend for people who are trying to affect weight loss.

You don't eat your way to the tastier stuff, start with the tastiest stuff and then you're going to burn out at some point later but that's what we've always done and I am also a little bit of a hard

ass with the kids and that what we have for dinner is what we have for dinner and if they really legitimately don't like that then they can wait until breakfast and maybe whatever we are having then will be more appealing. So I'm sure CPS will come and grab the kids in no time, but yeah.

**[0:49:49.8] AVH:** But what you are saying about just having some different options even for folks who don't have kids, my husband can eat like 4,000 times more than I can and can barely maintain his weight and I obviously don't have that problem. But it doesn't have to be a big deal. It's like you said, you offer options, people eat what works for them and it doesn't have to be difficult.

**[0:50:10.1] RW:** Yeah, it really doesn't have to be difficult and it shouldn't be any drama with that. Where it gets a little bit dodgy is like I'm super gluten intolerant and if Nicki was a person that was just like, "Well I have to have my French bread," or, "I have to have regular pasta," that could be a deal breaker because just the tiniest amount of cross contamination will make me sick for days and so there are some caveats there.

But short of like the food intolerance stuff, it's pretty easy to fix a hunk of protein, some vegetables, and then maybe you've got more or less starchier carb sources or dense carb sources and then people can just buffet that stuff and I guess it gets a little bit more challenging like if you make a soup or a stew and it's all uniformly dropped in there. Like you do a lot of potatoes or little potatoes. It gets a little more dodgy in that regard, but it's really not that big of a deal.

**[0:51:08.0] AVH:** Right. Because I think people are nosy and we love to see how other people live and eat and work out, can you walk me through a day in your life food wise both on a day that maybe you are working all day, you're not going to get a chance to move or exercise much versus a day where for example you might do an hour or two of Jiu-Jitsu. How do those differ for you?

**[0:51:28.2] RW:** Yeah, that's a great question. I'll start it at the end of one day and then cycle into the next. So we tend, we try to get dinner served somewhere around 5 o'clock. Our girls wake up early but they also go to bed early. They actually have a pretty good circadian rhythm deal set up. But I mean, they wake up 5:30 or 6 AM.

Nicki and I go to bed early too so we might be done with dinner at 5:30 or six, go to bed relatively early. I get up the next day, hit some coffee and I have been in a weird mode lately because I have this book launch deal and I've got three times more work than what I normally would so I am in my office usually by 6:15, 6:30, which I wouldn't normally be that neurotic but my most productive time is in the morning. So I get in and start trying to get some work done but I usually do just a coffee until about nine or 10 AM and then I have my first meal, my breakfast and if I am training Jiu-Jitsu that day then it will have a little bit more carbs on it.

I might go 40 grams of carbs in the meal. If I am not going to train that day like it's a really sedentary day, that breakfast maybe just protein, veggies and some fat or maybe just protein and fat. If I am really in a hurry, it's going to be a bag of jerky and a bunch of almonds and that's it and then on a day that I know I'm going to do more training, I'll have some pre-emptive carbs and then around noon or 1 o'clock, I usually do Jiu-Jitsu and then after that based off the volume and intensity of training that I have done, I'll do a lunch and make the carbohydrate appropriate to what the volume and intensity was.

Then usually my dinner again, that pops up around 5-ish, that tends to be a pretty low carb meal. So I end up in that restrictive feeding window intermittent fasting period of 16 to 18 hours most days but I'm not religious about that. If I start getting hungry a little earlier I just eat. That's one thing I've learned is I can get on the adrenal burnout side of things. If I legitimately start getting hungry, it's like, "Oh, I just eat." It is doing me no favors to push that issue out further.

But most days I feel pretty good, my digestion is better. It seems like my carb tolerance is a little better but again, the dinner tends to be pretty low carb so I finish the day low carb. Have a 16 to 18 hour fasting period, drop in that first meal and two days a week I will do a little bit of gymnastics and/or some weight work for just outside the gym conditioning, I try to throw one of the girls in a backpack and hike around our house. It's either up or down so I end up at a 200 beat per minute deal in no time around the house.

**[0:54:18.1] AVH:** That's awesome. I actually was curious about what your strength in weightlifting or your gymnastics workouts look like. When you are not doing your Jiu-Jitsu, you

are not doing low level stuff, when you are doing really dedicated strength training stuff, what do those workouts look like?

**[0:54:32.3] RW:** They're super abbreviated. I have a two day a week program that I've fiddled with over the last five years but I have a vertical press and a vertical pull. So it could be hand stand pushups or chin-ups or dumbbell press or something like that and then usually some sort of hip or quad dominant movement either a squat, a deadlift, or a hip bridge. I will get in and so a mobility warm up and then I'll do an initial set in a circuit fashion but not a cross fit circuit fashion.

I am not trying to make myself vomit, it's just I go from thing to thing. I'm not really lolly-gagging between movements and I get system analysis about where I'm at that day. If I am feeling pretty froggy, then I will really up the weight on the next circuit and I get into a work weight range, which is usually about 80 to 85% of my one rep max and I will do between three to five reps in that set and the repetitions need to be fast. They need to be explosive.

If there's any slow grindy element to it, it's too heavy and so there's this concept of rate of force development or compensatory acceleration. Trying to move the weight in a controlled fashion or very controlled down but then an explosive up movement and that varies whether I am doing a pull up or whatever and then I'll do three to five sets of that and again, kind of in a circuit format just not wasting a lot of time

So I've got my upper body movements, lower body movements and then in between that I'll usually do like some trunk work back extensions, core movements and that whole thing maybe takes like 20 minutes, you know? In and out, I do two of those a week and what I've found is that it doesn't hamper my recovery with Jiu-Jitsu at all. If I feel knackered from the strength training session, I did way too much.

Now, because my primary goal is the Brazilian Jiu-Jitsu. If I wanted to be a competitive power lifter, if I wanted to do CrossFit or something, I would need to devote more time into the gym. But, you know, there's never anyone that is my own weight, my own size that's stronger than me doing Jiu-Jitsu, it just doesn't happen. Because of my strength, I guess kind of headroom that I have, I don't really start noticing other people weight in strength until they're 40 or 50 pounds

heavier than I am and then it's like, "Okay, you know I'm glad I've got this junk in the trunk for being able to handle this."

But it's a super abbreviated program, very modest recovery demands and then if I do any type of additional cardio, again, it's usually like hiking or some low level Makaton pace aerobics, which is 140 beats per minute, being able to breathe through my nose. The only thing that looks like kind of high intensity intervals occurs when I'm actually doing Jiu-Jitsu and even that I try to keep pretty rare maybe once every 10 days, it's really a white buffalo in the sky kind of event because those days do require some pretty significant recovery time for me.

**[0:57:39.9] AVH:** I'd love to spend some time talking to you about jiu jitsu specifically because it's actually something that I've gotten into recently in the last

**[0:57:46.8] RW:** Oh nice.

**[0:57:47.8] AVH:** When I started, of course I immediately thought like, "Why didn't I start doing this when I was 16 years old instead of you know, 15 years later than that?" Which is unfortunate but it's the better late than never kind of deal but I'd love to talk about that kind of training when you're not 21 anymore. However, we are running out of time so that might have to be — I might have to bring you back on and we can talk about that more.

**[0:58:08.4] RW:** I would love that. I love talking about Jiu-Jitsu a lot more than protein, carbs, fat.

**[0:58:13.1] AVH:** Oh good, okay. We can have a whole other session about that. Because I'm very into it. I guess the last question I have for you in this session is you will be a Paleo f(x) this year again right?

**[0:58:24.7] RW:** Yes, it's of my parole stipulations.

**[0:58:27.6] AVH:** Right. You'll be talking about your book, what else is on the schedule?

**[0:58:30.8] RW:** You know, talking a bit about the book but mainly my goal and I'm still working on the talk but I really am trying to do my take on "the quantified self schtick". What's the stuff that I feel like is actually valuable, I have a line in my book, something to the effect that you know, some people have claimed to spend \$300,000 on hacking their biology or whatever and it seems more like taking a machete to a cow pie than actually anything that's interesting.

So I think that there is some great return on investment with things like blood glucose monitoring, HRV, and some stuff like that. But there's also — you can get buried under data that gives you no actionable insights and so I'm kind of putting my take on what I chose to track and what I've learned from that and how that's kind of informed what I'm up to.

**[0:59:21.5] AVH:** Awesome.

**[0:59:22.6] RW:** Then, in between any obligations I have there then I'm going to be doing some Brazilian Jiu-Jitsu. So bring your gee to your Paleo f(x) and we'll do some rolling.

**[0:59:29.9] AVH:** Yeah, next time, Last paleo FX was my first time but I'm going be there again this year and I think if I get a chance I'll go over there and work on my arm bars.

**[0:59:38.2] RW:** No, it's not if you get a chance, this is a done deal.

**[0:59:40.4] AVH:** All right, good. I'll do it. All right. Well, Robb, thank you so much for your time and thank you for this book. As someone who spends a lot of time reading and learning about paleo and nutrition, I really found the way that you kind of distilled everything and laid it out so clearly. It was really helpful and I think that folks are going to feel the same way. Thank you for that.

**[0:59:57.5] RW:** Thank you. Huge honor being on the show and look forward to seeing you in Austin.

**[1:00:00.9] AVH:** Awesome, cool. See you then.

**[1:00:02.3] RW:** Buh-bye.

**[1:00:02.9] AVH:** Bye.

[END OF INTERVIEW]

**[1:00:03.9] AVH:** That was Robb Wolf talking about his new book, *Wired to Eat*. If my mom is listening to this podcast, mom, I will lend you my copy but everyone else should get their own, it's available this month and you can find out more at [robbwolf.com](http://robbwolf.com). If you aren't already, I'm sure you all are, you should be listening to his podcast, The Paleo Solution. I've been listening to it forever and I think I'm at least 50% smarter because of it. That's one woman's opinion.

Next week, we are talking to Tero, the founder of Four Sigmatic, a company that makes drinks and super foods supplements from medicinal mushrooms and they offer up tons of knowledge on their websites that you can figure out all about the different mushroom properties and which ones work best for you. Whether you want to relax, or have more focus, or energy. I've tried some of their products, I really like their Reishi mushroom products because those are good for calming you down and helping you get to sleep.

But more importantly, in the call, we talk about, you know, there are pretty serious health benefits and even cancer fighting properties of a lot of this mushrooms too. So there's a lot of information in this one and if you don't want to miss it, you should subscribe to Paleo Magazine Radio on iTunes or Stitcher and follow us on Facebook, Twitter and Instagram at paleo magazine and we'll remind you.

One more shout out to our show sponsor, BIRTHFIT. If you're pregnant, if you're thinking about getting pregnant, if you have a baby, you can benefit from their team of consultants, their coaching and workshops and even their free BIRTHFIT podcast. I think this is a really cool concept because, as a woman of child bearing age, I feel like so often pregnancy is considered a kind of scary medical condition that you have to manage and get through rather than a natural part of life and one that your body should be strong and healthy for.

The goal of BIRTHFIT is to empower women to learn about themselves and what you need to have the best pregnancy possible. It sounds like a no brainer to me. but you can learn more at [birthfit.com](http://birthfit.com).

[OUTRO]

**[1:02:00.8] AV:** Paleo Magazine Radio is brought to you by the Paleo Media Group and is produced by We Edit Podcasts. Our show music features the song *Light It Up*, by Morgan Heritage and Jo Mersa Marley, and on behalf of everyone at Paleo Magazine, thank you for listening.

[END]