

Andy Deas: *Six listeners can't be wrong.*

Robb Wolf: *Yeah, six listeners cannot be wrong.*

Robb Wolf. Andy Deas. *The Paleo Solution. Holy cow!*

Andy Deas: Robb Wolf, Andy Deas back with Episode #61, The Paleo Solution first episode of 2011. How are you today, Robb?

Robb Wolf: I'm pretty good. The sun is starting to come out in Chico's so I'm back and away from the shotgun. There won't be a Kurt Cobain deal going down so it's all good.

Andy Deas: Are you drinking coffee right now?

Robb Wolf: I had a little bit of coffee. I had a little bit of coffee. You know, I've been top and out at about four total shots of espresso per day, whereas, in the past I've been probably as high as about 30 shots of espresso per day. So it's almost a magnitude of 10 change in my coffee consumption so I'm stoked.

Andy Deas: We have several coffee questions today.

Robb Wolf: Yeah, yeah, I saw that you pick some [unintelligible].

Andy Deas: Well, I thought it was perfect that the person that writes Food Renegade has like her 30-day non-caffeine challenge she's going through. It is the perfect time of the year. It's Sunday, January 3rd, 4th, whatever, 2nd today we're recording. So, it's like right on, let's talk about some caffeine. Anything you want to talk about before we get to the questions today?

Robb Wolf: Not me.

Andy Deas: Nothing, you got nothing.

Robb Wolf: I'm going be on Jimmy Moore's show later in the week. What else is going on? I'm on a series, a radio show, Sirius radio tomorrow morning at 6:00 a.m. with Art Devany so that will be interesting and that's about it, yeah. Just hanging out with the Gato like we were gone for the holidays and got home and he's just been sitting on my lap while I'm typing stuff. We've got the new site rolled out. We've got a full room rolling out soon. We're transcribing podcasts. It's insanity. The pseudoscience is gushing forth in a pseudoscientific torrent.

Andy Deas: Quick update on guests. We have closed the questions for Mat Lalonde. I also found a few people who had emailed them in via the forum for Mat even though they're not supposed to, but I sent those along to Mat. Based on Mat's schedule, it's looking like early February we'll record the episode because he's traveling every weekend in January. So before someone asks when is Mat going to be on the show, it will be early February.

Robb Wolf: And then we have Sarah Frago from Everyday Paleo rolling on here pretty soon.

Andy Deas: Yes, it should be in the next week or two once we can finalize schedules.

Robb Wolf: Cool.

Andy Deas: So that's it. You ready to go?

Robb Wolf: Ready to roll, man. Let's do it.

Andy Deas: All right, man. Let's go. First question from Craig. "My wife and I are shopping tomorrow, dumping the pantry and the Paleo diet begins on Monday. I assume we can substitute things like sardines and shrimp for lamb and chicken. As a reference, guys, so those are my suggestions for substitutions. Neither of us like sardines or bell peppers and things like onions and garlic. They're not conducive to our lunch menu due to fact-to-face work-related stuff. Thank you."

Robb Wolf: Shoot. Any protein for protein, veggie for veggie substitute is fine on this. The food matrix is probably a pretty good resource to go to on that. But I mean these are all just recommendations. There's nothing written in stone with any of these. Mix it up as per your flavor and bad breath needs and limitation. So there's nothing written in stone with any of these stuff other than if you are trying to really lean out, you know, avoiding carb-type, vegetable matter and stuff like that at least until you're down to a reasonably lean levels, but other than that it's kind of the wild west, whatever you want. The suggestions are merely as guides, not written in stone.

Andy Deas: And for those who don't know Robb, right there there's a link on your homepage right now to the food matrix.

Robb Wolf: Yeah. The way that we've organized things all pulled us up to make sure that I'm relating this accurately, but we have like book resources and frequently asked questions. I think it's how it's broken down. So all of those squarely things that I've mentioned in the book that we would have available for you and then of course we didn't have them initially, we now actually have. So the food matrix, shopping and food guide, all that sort of jibe is available on the website now. How do we have that?

Andy Deas: Under Tools, book resources.

Robb Wolf: Tools, book resources. Yeah, yeah.

Andy Deas: All right. Right on, there it is.

Robb Wolf: Cool.

Andy Deas: Number 2, Robb, a question from Laura. "Is there any science behind the hype of the Power Balance wristband?"

Robb Wolf: Yes. Next question. This is another one of those things where I was just kind of like, okay, so I had opened a gym and then write a book and then do a podcast, and these guys made a bracelet.

Andy Deas: To the tune of like 40 million dollars of sales or something.

Robb Wolf: It could have been so easy and you know I really dig a lot of alternative medicine type stuff like I really dig acupuncture. I've got a post actually brewing on what I've been doing to help deal with my adrenal fatigue. I like some stuff/items areodetic medicine. All of these things have some kind of energetic elements to them thinking about like kind of energy flows in the body and all that, but actually for me I'm less bought into some sort of like energetic field in developing the body and more kind of an opinion that I think there's good stuff to all of that, but unfortunately the power balance wristband I think is just making some dudes really, really wealthy. The only better idea that I think that I've seen out there for like minimum investment, maximum return is probably the GirlsGoneWild franchise and that's another one that I kick myself. You know, it's like camera, naked chicks, film, distribute like how much more beautiful could that be. So yeah, there's just not anything behind the stuff other than, you know, if you're kind of a ritualized or

superstitious type of person and you kind of like having a binky or something like that, it's probably great but there's no magic crystal at the heart of this thing that balancing. Your shocker isn't going to set the world on fire.

Andy Deas: That was a funny question though.

Robb Wolf: How deep into the email trough did you have to dig to pick that?

Andy Deas: Not actually very deep.

Robb Wolf: Not that deep, yeah.

Andy Deas: There's a platter of choices that will make you laugh and/or cry depending on the day.

Robb Wolf: Terrific.

Andy Deas: And I felt, you know, it's the first episode of the year, this is a good question. Inquiring minds want to know. Someone sent me an email about the rapid increase on like fitness product sales like the first month of the year so you know, take your \$19 and make it expanded elsewhere unless you don't care about your \$19 so whatever they sold is...

Robb Wolf: And if you don't care about it, just, you know, self-addressed stamped envelope and send that to Robb and Andy and we'll spend that money. We'll put half of it towards Gatos' money, device and quibble and other goodies for the Gatos.

Andy Deas: Yes, sir. Next we have a question from number one fan. He says, "Robb and Andy, I'm a huge fan." Obviously given the handle. "I started Paleo this summer at 235 and I'm down to a fit 177 months later and feeling better than I have ever had imagined. Thanks for all your guidance because it has really been a game changer. I noticed that since I started Paleo, I don't have as much of a sex drive as I used to, not sure if this is because I'm going into my early 30s or maybe because I eat a fraction of the carbs I used to, or possibly because I listen to you guys before I go to bed. But the loss of drive is very noticeable. I'm proud to say that my girlfriend is hot, I'm totally in love so I'm sure she isn't the factor. Can you touch on a cause and solution? PS: I want to give you the most sincere thank you for everything that you've done for me. In my 30 years of living I've never been so comfortable with my body. I had a serious lack of energy that was so extreme it was affecting my relationships. Also I have skin irritation issues that are now gone. I hope you guys understand the amazing amount of positive change you brought into the lives of your listeners and readers." That's cool, that's super cool. We made him look good, but we destroyed his sex drive. He's quite betrayed.

Robb Wolf: You know, a couple of things popped into mind. One of them is I think for both men and women there's kind of a seasonal variation in libido. This is kind of right out of the whole sex life and menopause and lights out, sleep, sugar, and survival and just some good evolution or biology which is during the winter we tend to see a decreased fertility in both men and women. We tend to see a little bit lower androgen levels, slower luteinizing hormone and what-not so you just aren't generally going to be a little bit less randy during these periods of time. Some of it I think is related to circadian rhythm and vitamin D levels and stuff like that. It was really interesting like when we did the Paleo Solution seminar in Hawaii, even like three days there just getting some sun on my skin like I immediately felt better, more randy, like the whole thing. So I think that photo period is a big factor in all this so I think that there's probably some element potentially to that. The mention of the decreased carbohydrate intake is also interesting because there is definitely an element of control on the free testosterone levels related to sex hormone-binding protein or sex-hormone binding globulin. Lalonde always pins my ears back because I use the old school version of that thing. It's both the same deal. They just kind

of change the name whether it's protein. It's a globulin and vice versa, but when we have increased carbohydrate intake and increased insulin production, we tend to have a decrease in the production of sex hormone binding protein which then that means that we have less of our androgens from men's testosterone down to this protein and so that means that we should theoretically have more free testosterone which is really going to be more of the effect on our libido and muscle mass and stuff like that although luteinizing hormone and its effects on dopamine production are really, really important for the sense of libido like actually being kind of frisky and all that. So those things are kind of interwoven. But there could be some element of a need for some increase carbohydrate intake to bump sex hormone-binding protein levels down a little. So there might be a need for a little more carbs, post-workout is the perfect time for throwing those carbs in. In general, my opinion, this could also simply be a seasonal variation that will see kind of remedied during the spring when you start getting a little bit more sun on your skin. If you really wanted to deal with that, maybe you do like a couple of days a week of some tanning booth type stuff, you know, two to five minutes and they're right. I don't think it takes much. You know, I'm working on a blog post considering that whole vitamin D and the mixed secosteroids that are produced by sunlight exposure. We actually have a vitamin D question later and just kind of look into the vitamin D issue deeper for a lot of different considerations, but also for libido.

Andy Deas: Nice.

Robb Wolf: Yeah.

Andy Deas: There you go, Number One fan.

Robb Wolf: So if you do any tinkering with this stuff, definitely let us know what you do, what the results are. That would be interesting to know like as a baseline some interventions would be add a little bit more carb and see what happens. Do a little bit of sun exposure and see what happens, and we'll get a little bit of feedback on that. Obviously, going into doing something like an ASI, an Adrenal Stress Index, and doing a full hormone panel would give us some under-the-hood numbers to be able to actually say, "Oh, wow, okay, we see some legitimate low testosterone levels and some low, say, like luteinizing hormone," or something so this all makes sense. OPT James Fitzgerald, he shot me an email where he is working with a young guy who's been doing main page [CrossFit.com](https://www.crossfit.com) workouts for a couple of years and he is trying to figure out what's going on with this kid at age 22 had just free testosterone levels, take note: total testosterone levels at 107 which you don't usually see levels that low in somebody unless they're like 70 years old. So there are some interesting environmental influences that can affect the androgen levels for sure.

Andy Deas: Yes. Very interesting, Robb, there.

Robb Wolf: For some people. Most of us people passed out.

Andy Deas: The carb is interesting too. I feel like from time to time we'll see this where we have some folks that started off pretty heavy, they lean out using kind of ketogenic diet and sometimes are hesitant then to add in more carbohydrates once they've kind of gotten down to this lean phase. I don't know if it's comfort thing or if it's a fear of like, hey, I cut some of this stuff out and that may have probably help my way off. What's your kind of thoughts on when is the appropriate time to start adding some more carbohydrates back in potentially?

Robb Wolf: You know, once you get fairly lean from man down around that's probably under 15% body fat, maybe heading towards 10% body fat and definitely when you see a resolution in the insulin resistant fat mass at the waist, like I think in women, it's all the same story,

just the body mass percentage just a little bit higher and you just kind of play with amounts that you take in and what your response is. Kurt Harris has made some great observations, and we've kicked this around on the podcast at various points too. There may be some people, because of environmental exposure to carbohydrate or different oxidative damage that has occurred whether autoimmune or advance glycation end products, even a potential of pathogenetic problems starting in utero, you know like if my mom had Type 2 diabetes then it maybe predisposing me to all kinds of like metabolic problems. Depending on who you are and where you're at, you may or may not be able to tolerate all that much dietary carbohydrate. Typically once you get pretty lean, your ability to tolerate it improves dramatically but that's not always the case so that's where you just need to get in and tinker with it. But it's true, I think folks who are getting down pretty lean and are running at a pretty good activity level are maybe being a little bit carb-phobic where they would actually benefit from the inclusion of a little bit more carbohydrate, particularly post-workout. I don't think it's going to do anything but potentially good with the thyroid axis and just generally feeling a little bit better and what-not.

Andy Deas: Nice. All right, cool.

Robb Wolf: Yeah.

Andy Deas: Next we have a question from KD. She says, he or she, it's unknown. "Just read your book. Previously read Lights Out. I'm curious as to further thoughts on lights while sleeping. I agree that small electronic lights would not be Paleo. Would our ancestors really have fallen asleep in complete darkness? What about fire to provide warmth and protection from predators? What about the stars and/or full moon? Do lights with the same spectrum/color temperature as fire and starlight have the same effect on our body and its hormones as other lights? I realize this maybe somewhat of an unimportant hypothetical question since most of us live in cities and it would be impossible to filter out all sources of artificial light, yet I'm curious nonetheless. If only that we may one day create lights the same as moonlight/starlight or go back to candles to have some entertainment before bed."

Robb Wolf: Really an interesting question and potentially like a really big question to try to answer, and you could tackle this thing on a lot of different levels. One of them is this is that interface of kind of like a historical revisionism or historical observation that may, you know, it may be interesting but then we need to kind of default back to actual molecular biology mechanisms for the actual like how-to. So the cave men sleep in caves where they're in front of fires, do they experience starlight, where does all that stuff kind of fit into the picture. Part of that whole thing if you think about this is that our current sleep patterns in general, what we're trying to do is to the best of our ability re-emulate the time indexing that most other creatures on the planet experience, which is when the sun goes down we kind of go down, whether we've got fire or not, where our level of activity and our level of light exposure definitely drops and then that last for a significant period of time. Like in Northern California right now, the days are fairly short and the nights are quite long. Even equatorial regions you get some variations within that. It's not as great the change from summer to winter. The light duration changes are much, much less if you're more equatorial, but there's still a little bit of influence on that. But the bottom line is that virtually none of us are spending upwards of 12 hours a day in more or less darkness regardless of whether or not there's a fire or starlight or moonlight, and then that brings in another element to this which is the intensity, not just the quality of light that we're exposed to, but the intensity of light that we're exposed to is orders of magnitude greater than what we would have been exposed to in the past and so yeah, a fire provides a certain amount of light but it's actually significantly less than what we would get out of a simple 60-watt light bulb and you can look up measures on this stuff. They usually measure it like candle as illumines or some sort of a radiant energy measure and

you'll see that this flame-based light sources, the light from the moon, the light from stars is actually very low intensive. So we're dealing with not only the total photo period, the amount of time that we're exposed to light, but then also the intensity with which we are exposed to light and what we're trying to do is to the best of our ability minimize the amount of light that we're being exposed to such that we're actually healthy and this is where we default back to the molecular biology side of this stuff. So it becomes, to some degree, inconsequential whether or not cavemen were or were not exposed to varying degrees of light. When we look at the fact that shift work and overexposure to light, we now understand very clearly what is known as carcinogen. It impacts immune response, and the explanatory element of that goes back to our evolutionary biology. But the molecular biological underpinnings we don't need any type of historical perspective to see that. It certainly provides some nice framework, but it's not at all necessary. Art Devany, when we did a Twit chat, recently somebody asked about sleeping, he had a great piece that he pinged in on that which was that in the past our sleep was not head hits the pillow, sleep for eight or nine hours, wake up and go. It was actually fits and starts. You will go into sleep and then kind of quasi waking dream states and stuff like that, but the problem now is that we don't spend 12 or 13 hours in a quasi sleep state. We're lucky if we get our eight or nine hours, and so what we usually experience as our normal sleep isn't the way [unintelligible], but we're in a compressed window of time that we have to work and we're trying to undo the negative effects of photo exposure. So, there's just a ton of moving parts to this that don't lend themselves very well to like a very simplistic explanation, but hopefully this clarifies things a little bit. Or Andy has just passed out.

Andy Deas: No, Robb, no. Sleep in a very dark room, that's all I'm going to say.

Robb Wolf: Done.

Andy Deas: But that was a very good answer and very long. All right, next we have a very long question so it's a good setup.

Robb Wolf: Nice.

Andy Deas: This is from Steve, a.k.a. Buttercup. "Hi, Andy and Robb. Andy gets first billing because he made you write the book and start the podcast so without Andy there's no info." That's funny.

Robb Wolf: Awesome.

Andy Deas: I'm just going to leave that alone. "First off, the Buttercup abuse last question. I have decided to embrace my inner buttercup, maybe even get a manly buttercup tattoo and make sure I follow the Paleo Solution as closely as possible. So if Andy indeed did punch you with his [unintelligible]-like limbs as I requested, just put a slab of grass-fed beef on it and the Omega 3. It should help with the inflammation."

Robb Wolf: Perfect.

Andy Deas: It's a good thing it's a Sunday. "Now the main question. In a previous podcast, you mentioned Lalonde's reaction to caffeine with the eye bulginess and stuff. I have been known to consume some coffee and have never had any kind of reactions or problems sleeping. Just as an example, I have had a medium ice coffee in the a.m., a medium ice latte with lunch and for the hell of it another ice latte around 9:00 p.m.-ish before blissfully falling asleep at 10-ish. I have also tried more than my fair share of the fat burner pills, maybe even taking a few with ice coffee before I noticed the stupidity of my actions but never felt any negative feedback. I never have felt a head rush, headache, bulgy eyes, heart race, sweats or fatigue. In the past, I have also given up coffee and all caffeine for

over a month with any side effects. I drink coffee for the taste, usually black and always iced since I can't stand hot drinks. Basically, Robb, am I freak of nature? Are my adrenals fried? Will I make it to the next podcast? Does the cold make it less effective? Should I drink decaf? Are there any other signs or symptoms I should look for? Will the juju berry cure me? WTF is wrong for me."

Robb Wolf: Yes.

Andy Deas: Oh.

Robb Wolf: I think we probably just have some individual variation here. I mean, there could be a situation in which you're a little bit adrenal burned out and we're not getting a real potent adrenal cortical response from the caffeine, but we might just have a little individual variation on this and this is where pharmacology just has so much variation within it. Person-to-person, creature-to-creature, they respond so remarkably differently to different substances. Most people will say that if they drink green tea they don't get as nervous and jittery from what they would get from say like coffee. But for me, although tea contains a bunch of different things, but theophylline and caffeine are kind of the main stimulants or a couple of the main stimulants. For me, theophylline is way more problematic than just straight-up caffeine. So like for me, green tea is actually more of a problem than coffee is, which is a little bit paradox going odd. In pharmacology, one of the ways that toxicity is measured in a substance or like radiation exposure or whatever, is this thing called LD50 which is the lethal dose, 50. If you expose say like a hundred creatures to a certain amount of a toxic substance, when you reach a level in which certain gram or milligram amount of that substance kills 50% of the creatures, then it's called the LD50. But what's interesting with that is that 50% of them die, 50% of them don't. The ones that don't, that occurs in large part due to genetic variations and the way that the toxin is processed and stuff like that. So it's a slap dash attempt at quantifying the toxicity of something which is really hard to do when we don't know all the individual variations that we're dealing with, and this is a good example of that as well. Some people are wired up wherein such that they can handle lots of caffeine, other people not so much. I think your disposition plays a large part in this too. If you're a pretty laid back kind of character, I think you could probably handle more caffeine before it starts becoming problematic. If you want it more tight, it becomes more problematic sooner. I know when I'm on vacation, particularly if we're in some place like Nicaragua, and I have no stress, there's no internet, there's no email, there's just like nothing, I'm just like hanging out under a bush basically, like I can drink coffee all day and it doesn't seem to bother me at all. I get home and I'm dealing with elements at the gym and email and trying to do blog posts and all the rest of that and my base level stress goes up, then I've got more problems dealing with it. So there could be a lot of different things, individual genetic variation and how you deal with caffeine just kind of psychologically how you're wired up and it could be that you're at the end stage and your adrenals are shriveled up like grapes, but I doubt it. I think it's probably some of the other stuff.

Andy Deas: I would say, I guess my experience for me and some of my clients is like if I'm to the point where I'm a little say adrenally fatigued to making it, you know, we're going to use that word loosely, whatever, when they drink coffee then it makes them tired. But that's different from drinking coffee and being able to go to bed.

Robb Wolf: Right.

Andy Deas: Does that make sense, Robb?

Robb Wolf: Yeah, yeah. Totally.

Andy Deas: And then our good friend goes on, Buttercup goes on to say "On a side note, my wife hates you guys. Apparently whenever I do something less than spectacular I just tell her that's performance art. You know, like when you miss a few hundred hairs around the sink after you are done shaving, after shower she cleans the sink or you throw out all her beloved Neolithic foods without telling her. Well, she finally heard you use the phrase on a podcast and now blames you for all my failures as a husband. Just to be on the safe side, please stay away from the East Coast. I finished your books and all the podcasts in a month. That should show you the level of punishment I'm willing to endure. Think it will make me to listener number 7 status? Sorry Andy." I like it, I like it. Jeez, Luis Buttercup, man. Good way to start the new year.

Robb Wolf: Indeed. And I think we missed a very serious question.

Andy Deas: Oh, my Lord. Did I get too excited?

Robb Wolf: We skipped one.

Andy Deas: Oh, my Lord. You're right, I did, I did. I'm sorry. Robb Wolf, you're on top of it today.

Robb Wolf: I'm on it, man. Nothing but the best for you guys. We go out of our way to proofread this stuff occasionally before we do it.

Andy Deas: I was so excited about Buttercup's question I forgot. Barry Sears. All right, Robb, here we go. Barry Sears now. I feel like I haven't seen a lot of Barry Sears lately. Maybe it's your fault that it's going off the map.

Robb Wolf: That or associating with CrossFit.

Andy Deas: No comment on that. Next we have a question from Sean.

Robb Wolf: Hey, man, Progenics, look at that. Hmm, like a lot of baked goods gone, Progenics gone.

Andy Deas: They're really not selling them like our baked goods anymore.

Robb Wolf: Oh, no. Their website is gone.

Andy Deas: Really?

Robb Wolf: A couple of months after the Black Box Summit, that whole thing just disappeared even after they interviewed Dr. Sears for the CrossFit Journal talking about all that stuff, but I think the ruckus that we raised about all that, you know, it was hilarious because these molecularly baked goods, they never defined what molecular baking was, very dubious, and then the extra protein that they were adding in these things was gluten, concentrated gluten to raise the protein content and then when we called their scientific advisory folks, they said, "Yeah, we don't recommend that you eat these daily. No more than one portion per day."

Andy Deas: "But we'll sell to you anyway."

Robb Wolf: Yeah.

Andy Deas: I really think the end of the Barry Sears situation was five fries. All right, a question from Sean.

Robb Wolf: Wait, I just have a really quick digression to this along that line. So we were traveling this weekend going to see Nikki's family and then we stop by Santa Fe to visit some of the

folks that one knows, they're in Santa Fe, and we went to this place called the Tune-Up Café which I've got a couple of road Folgers brewing on that, but they have this cool kind of fusion-type food. It's kind of Latin American in some ways and they had a bunch of different burgers and you can either have fries or plantains with the burgers which I thought was so cool, but as I was reading this thing, it was like hamburger, everything was kind of in block format and I'll post this thing, I took a photo of it, but I literally almost had a heart attack because it would say "hamburger N fries," but the "N" looked almost exactly like the number 5. So did you get warm going here? Column after column of "hamburger N fries" but I thought that it was saying "hamburger 5 fries" and like my heart rate was probably like 220. I'm like, "Oh, my God, Nikki. Look at this," and like I gave it to her and she's all, "Hamburger and fries, what?" and then I looked at them and I'm like, "Oh, I'm an idiot." Anyway.

Andy Deas: It's like when you buy a red car and then you just think every car that you see after that is red. Well, there are lots of red cars around.

Robb Wolf: It was super funny to me. Nobody else is going to like it. Nikki didn't like it.

Andy Deas: Well, you know, I'm not going to let Nikki use the judgment of what everyone else is going to think because she has to deal with you every day, Robb. She's got a different level. I think if you put that on Facebook, in Twit, you'll get a funnier response. That's my bet.

Robb Wolf: Probably.

Andy Deas: All right, next we got a question from Sean. "I asked this a few weeks ago, but have yet to see it answered. Hope I'm not pestering, and I really hope I don't miss it. I'll try to rephrase it here, or do I need a better handle?"

Robb Wolf: Handle always [unintelligible], man.

Andy Deas: It's true, Sean. Handles help. "In your book, when discussing Barry Sears and the zone diet, you stated that foods are not additives in terms of glycemic load which is counter to what Sears says. You just say he is wrong, but offer no references. In everything I find online, it is claimed that the glycemic load of an entire meal should be taken into account, not just individual foods. For example, one site says a weighted average of the glycemic load should be used for each food to determine the glycemic load for the meal. That seems intuitively like it would be correct, but I'm open to hear what you have to say about it ☺ and/or read some studies on it."

Robb Wolf: You need to go back and read more clearly what I'm saying in there. It's not related to the glycemic load. It's related to the insulin load. The claim from Sears is that if you add fat to an otherwise carbohydrate end meal, then you're going to mitigate or decrease the insulin release and that's absolutely false. What we find is that the additive effect of food, we get insulin release both related to carbohydrate content, obviously also some proteins forces release a fair amount of insulin. It can be a lot of insulin. But also the size in total of the meal can increase the amount of insulin released. So this is where Sears' idea of if you're going to have some baked potato or something, make sure to have some fat with it to minimize the insulin response is just completely wrong. So it got nothing to do with glycemic load. It's got to do with insulin load. This is simple stuff to track down on the internet and also it is referenced in the book, those 50 or 60 pages of references at the back of the book.

Andy Deas: There you go. Barry Sears' question and answered.

Robb Wolf: Or questions created.

Andy Deas: Well, you're always creating more questions. That's how the world works around. If it were simple, we wouldn't have anything to talk about.

Robb Wolf: That is true.

Andy Deas: Or as [unintelligible] says, people are just addicted to learning new things over and over and over. Next we have a question from Dan. "Gents, and I use that term loosely, I'm grateful for the podcast. I look, feel, and perform better since I started listening and eating low-carb Paleo. Question: If Paleo eating is the panacea, why do you two need so much caffeine to get through a day? It seems out of line with how others have plenty of energy with it."

Robb Wolf: You know, I think to the degree that I needed this stuff before it was because I overused it. I mean, I just like caffeine. I like how it makes me feel and this is the problem with most drugs, it's that you may have a baseline of feeling pretty good and then you do some caffeine or heroin or cocaine and you feel even better and then normal doesn't feel good anymore. That's the problem with all that stuff. So this isn't so much an issue of need I think as caffeine as a drug and it's got certain addictive characteristics to it. At various points in my past, I know I drank enough of it to create a physiological dependence on it, but it's not so much from like productivity or anything. It's you drink it and you feel better, it releases dopamine. Dopamine is very tied into both reward centers and feelings of love and happiness and altruism and a lot of these different things and so, you know, we're talking about spinning some dials in our head more than running a marathon or being productive for eight or nine hours a day. This is also why smoking is pretty damn effective for helping people to work and be focused. Nicotine is more specific in its effects on dopamine and less influential in the adrenal cortical element which is why you can smoke or chew or use nicotine in a very effective way for focusing cognition and work without burning yourself out the way that some of your adrenal stimulating stuff does. I'm not advocating it, but when you look at folks who self-medicate with that stuff it's helpful, like there's an effect there. So there's more going on in simply energy levels, and I think overtime you start kind of physiologically depending on it and then you've got to wean yourself off and figure out how to live at a less rosy level. Andy Deas, thoughts?

Andy Deas: Well, I would say that my addiction to caffeine or former addiction, Robb, since it is 2011, I'm not drinking caffeine anymore although I can feel it, has nothing to do with my Paleo eating style. This goes back to, Robb, why you're going to regret that you created the goodness that caffeine is I'm sure because now we have associated caffeine with Paleo eating.

Robb Wolf: You know, just like CrossFit has created some singers like the 750-pound deadlifting stuff like that, I'll wear my badge of dishonor for some of my false claim and I won't hide them. I'll be like, yeah, I was a jackass. Sorry, guys. I totally burned out 10,000 people's adrenals but I'll take ownership on it.

Andy Deas: I just like rubbing it in because it's funny.

Robb Wolf: It is funny, yeah. Yeah.

Andy Deas: All right. No other thoughts on that, Robb, other than someday you'll give up caffeine, Robb. I'm saying it right now. Someday it's going to happen. We'll see.

Robb Wolf: I might. I've treated down very, very low and we'll see where it goes. This is the lowest consumption I've been at in 10 years by a mile and I don't feel compelled to drink more. I think I'm also hormonally like adrenally healthier than I probably been since probably 2003, 2004, and I'm leaner and I've got more muscle mass and like feeling good at my

training and I don't want to really mess that up, which part of that is traveling including exposures and all kinds of stuff. But the post I've got on this I think would be fairly interesting and it definitely relates to caffeine intake too.

Andy Deas: Nice, cool.

Robb Wolf: Yeah.

Andy Deas: All right, next we've got a question from Ultimate Russell. "Hey, Robb and Andy. It's currently snowing and ultra crappy here in Ohio during the winter and so I decided to spend..."

Robb Wolf: Shocking.

Andy Deas: Surprised, eh. Also if you're near Cleveland, I'm sure the weather is horrible. "So I've decided to spend the next several months doing strength/bodybuilding. I recently watched "Pumping Iron" and on the whim decided to pick up Arnold's Bodybuilding Encyclopedia. Prior to this, I was mostly doing full body weight training session three times a week and seeing some decent gains. Anyway, I've started doing the recommended beginner's program which if you don't know is a six-day a week routine with Monday being chest and back, Tuesday is shoulders and arms, and Wednesday is all lower body. There are a couple of extra power lifts every day, deadlift, clean and press, etc, and then you repeat each session and takes Sunday off. My main question is whether or not splitting up my body parts and lifting six days a week is still going to be considered as beating the crap out of myself? I feel good, am definitely putting on muscle and have managed to stay pretty lean although I may have had a little growth to some lower back fat but that could be my imagination. Now obviously this plan has worked for people like Arnold, Stallone, and many others and while I don't want to have a huge physique, I do want to muscular and lean. I figured if it worked for those guys, I should receive benefits as well. And just so you know, my food is very high and compliant, only occasional cheats during special events. So tell me, am I doing anything wrong? I love the show. I look forward to it every week. Thanks, guys."

Robb Wolf: I'm intrigued enough, I'm going to go out. I used to have an Arnold's Bodybuilding Encyclopedia, and somewhere in my travels across country lost it. You know, my recollection of it was that it's really high volume. It would be my only thing with it, and so is that going to be up unduly. I don't know. It kind of depends on your recovery, ability, and what-not. I think split routine, classic bodybuilding routine with the main focus on big compound movements and then a few isolation movements here and there to kind of round things out I think is totally fine. You know that just wanting to feel lean, looked jacked and call it good, I don't think there's anything wrong with that. It's kind of a nice break from like the real function and performance orientation on stuff. Whether or not it's too much, whether or not it's going to be near to death I think has a little bit to do with all those other factors: sleep, nutrition, how intensely you're going after this stuff, whether or not you're taking the off stage legitimately off your base level of stress, all that sort of jibe. Keep in mind too that a lot of the people who had good success on stuff like this usually have a little bit of pharmaceutical enhancement. Like Silvestre Stallone, God, I love that guy, but he got busted with more pharmaceuticals coming into Australia than I think all of Australia owned at that point. So like he double the anabolic potential of Australia just by like landing there which frankly I have no problem with, but it's important to keep in mind when you're considering what type of program you're going to tackle and what's reasonable for clean versus supplemented individuals and all that sort of stuff. So I would just play with it and have fun and see how you do. I wouldn't be afraid to cut some volume on stuff. You know, if you're feeling beat up and not recovered, I would definitely not be afraid of cutting some volume.

Andy Deas: Yeah, and I would say potentially periods of training like that higher volume would be fine. I don't know if that would be maintainable for most folks long term without some additional support, but it's possible.

Robb Wolf: Yeah.

Andy Deas: Don't drink a lot of coffee.

Robb Wolf: Don't turn your testosterone into cortisone.

Andy Deas: That will not help.

Robb Wolf: No.

Andy Deas: All right, next we've got a question from Sheldon. He says, "Greetings. I think it was last week or maybe the week before when I posted a question here asking about resources for a conflicted ethical vegetarian thing about going Paleo. That's me. Well, after reading the first few chapters of Robb's book and the first couple of chapters of "The Vegetarian Myth," I did it. I ate animal flesh after 17 years of not touching it. In my previous email post, I mentioned having Crohn's disease and Ankylosing Spondylitis and how my doctors have been amazed that I'm not in worse shape than I am. However, I've lived with constant pain for most of my life, helped only by my high level of athleticism. I'm writing here today not to ask a question but to thank you, Robb, for convincing me via your podcast to attempt carnivorous consumption. The last two days in a row have started out like any other with the pain in my gut increasing as the day has gone on. Yesterday I ate chicken for the first time in 17 years. The pain in my gut was gone in less than an hour. Today I ate a sirloin steak. If I'm going to do this, I might as well go all out. The pain went away as I was eating it. Based on what I've heard on your podcast, I expected some improvement on my Crohn's symptoms, but surely not instantaneous relief. Admittedly, I still have some reservations about the ethical stuff, but both chunks of meat were free range. I have a lot to learn about eating ethically and carnivorously so I can live guilt-free. If anyone asks me what made me change, I shall blame Robb Wolf for turning me into a meat eater and changing my life for the better. I really can't thank you enough."

Robb Wolf: That's pretty cool. I may be over sharing or just maybe like overly sappy or whatever, but Andy does all of the compiling of these questions like he and Amber kind of work to see it through because we get a ton of questions. Some of them were kind of, you know, they're all good but some of them are really repetitious and so Andy does a great job of I think digging out things that are interesting and really pertinent and I got to say when I read this thing, Andy shot it to me a couple of hours ago and then I do my research on the show and then we do it, I literally teared up when I read this thing because I know someone who has died from Ankylosing Spondylitis. It's a degenerative autoimmune disease. The results typically are not real favorable with it, but we've had shocking recovery rate with the stuff. Like if we can just get people to try grain-free, dairy-free Paleo, probably doing the edition of limiting some of the other gut-irritating foods: tomatoes, potatoes, night shades kind of stuff, it really helps people put this stuff into remission and this is similar to Huntington's. It's typically a fatal condition. So this is a no joke deal and there's just no real treatment for it like you do some monitoring, you may do something like methotrexate which is fully inhibitor but that doesn't do particularly great things and it increases your likelihood of cancer. So the results that we're getting with this whole autoimmune side of things is pretty amazing and what we're discovering to be autoimmune-related seems to be getting larger and larger all the time and it's just so exciting to see but it also is one of those things where like, you know, somebody chop me an email, there was some gal who was pretty well known in the bodybuilding scene and she was like this whole gluten-free deals is just a phase, people are just trying to profiteer

off of it, blah, blah, blah, whatever, and it's just kind of a standard contrarian deal. But it's this gig again where it's like just give it a shot, just give this stuff a shot, figure out what's going on, give it a legit deal because it literally can save your life or save someone else's life. Not to belabor on this too much but I'm going to throw it out there one more time, probably one more time spit it as it goes down but this was a lot of the conflict that went down with CrossFit where they just couldn't wrap their head around the fact that food quality actually mattered far more than weighing and measuring. You couldn't weigh and measure yourself out of autoimmunity and that was the only thing that I was putting forward with CrossFit. We appeared to be reversing autoimmune diseases. We had a couple of examples of folks with Huntington's disease which is a DNA-based per repeat disease and neurological degenerative disease which is fatal and we've done some autoimmune linkage to it and these folks went grain-free, dairy-free Paleo and they put the stuff in their machine and now do CSD and UCLA or studying this. So this is just kind of my thing. We don't know it all, we don't have all the answers, a lot of the stuff is very observational but it's very, very interesting and there's no like smoke mirrors 49.95 nutritional box, there are no bullshit like that. You just get in and try it. What we're finding is that it helps fan everybody like I always got through that caveat out there like it may not help you but it's worth giving it a month or two months and really going forward because it literally could save your life, and this is also where it is so important to put politicking and posture and all that other stuff aside and like if we need to revamp what we're talking about then we'll do it. If we find something that works better, then we'll do that just like the gluten is death, caffeine is life. You know, it's like I'm going to have to wear that flag because it turns out, well, yeah, gluten is death and caffeine can probably kill you too if consumed in the levels that Andy and I had historically consumed it. But you've got to take your good with your bad and be willing to modify where you're coming from and look at the data and grow and expand from there. But I don't know, I'm just rambling now but it's just very exciting show on Superscope. This is all that any of us -- you know, Andy worked at a big kid's job for a long, long time and did very well with it and went into doing this type of stuff because he loves coaching and he likes helping people and I have always been motivated by that too. So the fact that this stuff goes down the fact that what we do matters and it helps people, it makes all the traveling, it makes the gluten exposure while in crappy restaurants, it makes it all worthwhile because I know it's helping people at the end of the day. So that's awesome.

Andy Deas: Nice. Well said. All right, Robb, moving on. Are you ready?

Robb Wolf: I'm ready.

Andy Deas: All right. "Hey, guys." This is from Steve. He says, "Hey guys, I have recently developed vitiligo on my back and it's beginning to spread to my shoulders. I know that vitiligo is not an autoimmune disease so theoretically strict Paleo diet should help, but will diet treatment just stop it from getting any worse or will it actually reverse the discoloration?"

Robb Wolf: We have a great chunk of video that we shot at the first Paleo brand seminar that Welbourn and Professor Cordain and myself spoke at, and there was a kid there who had "before" photos and then we saw him live. His "before" photos he had vitiligo all over his body and then the "after," he only had a few tiny spots remaining which were shrinking literally like day by day, week by week, so yeah, you can halt it, you can reverse it. It's an autoimmune disease and I think I mentioned at some point in the show that I ended up getting a date with a super hot-looking girl because of my knowledge of vitiligo and autoimmunity and all that. Did I ever mention that on here?

Andy Deas: No. I don't think so.

Robb Wolf: Different day. We're running short on time. I'll mention that another time, but yes, knowledge of autoimmunity can get you a date sometimes.

Andy Deas: Only in certain circles.

Robb Wolf: Only in certain circles, yeah.

Andy Deas: Next we have question from Pat. "Robb, you often imply the Paleo diet is beneficial to everyone, although more beneficial to certain groups, e.g., those suffering from autoimmune disease. However, I was wondering if there are any groups of people for which the Paleo diet is bad. The reason I asked is because I've been talking to my friend about going Paleo for a while, but he is at a high risk for prostate cancer as it runs in his family. Those with prostate cancer are told to eat less meat as meat increases testosterone which is tied to the PSA levels. I don't know if this is true, but he seems to fear going Paleo. Are his concerns real or is this just another misunderstanding by doctors?"

Robb Wolf: This one is just so lost. These questions are really good, but they're also really frustrating in some ways because to really quickly explain them like you need to lay so much foundation and it's tough. So we have a correlation causation kind of deal so people with elevated PSA levels, prostate specific antigen, do they have high testosterone levels? Interestingly not really. They actually have higher estrogen levels. They may have some high dihydrotestosterone levels. but they also tend to have high insulin-like growth factor levels which all relates back to this stuff that we talked about earlier in the day. Metabolic arrangement at the liver and sex hormone-binding protein and like all these stuff kind of emanates forward from there. Your choice here is do you eat food which are less inflammatory, cause less growth factor problems, or do you eat food which are more inflammatory and cause more growth factor problems. That's really what it boils down to. And this whole deal of like prostate cancer runs in his family, this is just the bullshit cap out. It's the same deal, oh, both my parents are Type 2 diabetic so I keep eating the standard high carb, low fat, you know, what American Dietetic Association recommended diet and I have high blood pressure and signs and symptoms of metabolic arrangement. I had a lowish carb Paleo type diet and I show none of those signs and symptoms. I change my epigenetic features, I change the way that my genes are interacting with my environment, then I don't manifest the disease that they have. So I sympathize with the guy that he maybe concern about this, but whether you know the other options are not fixing the problem. That's again like if you read my book, I explain in particular the in the filial-drive cancers, breast colon prostate, brain tumors, glioblastoma, the proposed mechanism behind those cancers is related back to hyper-insulinism and changes in androgen profile. So you've got to make a decision which one you want to jump in and go with. I guess that's my sale for Paleo. Read the book, get educated on what the mechanism is, and then go from there. Make a decision and run with it.

Andy Deas: Yup. Next I've got a question from Carl. "First, my wife and I love your book and look forward to each new podcast. I've read and heard that a temporary drop in athletic performance is not uncommon when switching to Paleo. Here's my question. If someone experiences a drop in performance, what is the typical duration of the decrease in performance? Roughly how long should I expect bear through the performance decrease until I start making gains in performance again? I feel great and I've leaned out, yet the performance hit gnaws at my patience. Background: I'm a 5'6", 47-year-old male, roughly 140 pounds and fairly lean, waist around 28.5 inches. My passion is rock climbing so strength to weight ratio is critical, as well as coordination, balance, and agility. I've been CrossFitting for about two years, zoning for about two years and recently switched to Paleo in early October. After switching to Paleo, I continued to gain performance for the first 10 weeks and I'm not experiencing a decrease in my performance, deadlift down from 330 to 315, shoulder press is down 10 pounds and my

metcons don't seem up to par, haven't repeated any previous WODs since my decrease in performance for actual data though. I started Max Effort Black Box in early November so I'm extra surprised at the dip in my deadlift and shoulder press performance."

Robb Wolf: Normally when I'm talking about a different performance with a food change like this, it's immediate and then it's usually the main focus is metcon related so folks are kind of shifting to a different air fuel mixture and it takes a little while to adapt to that. I did a couple of blog posts like it. It was on an athletic performance and looking at somebody's adaptation that occurred during ketogenic diet and whatnot. I'm guessing that this change like you maybe just eating too few carbs so may need to up your carbohydrate intake since we don't have any exact breakdown and it would be good to see that, so maybe you need to do a little bit more post-workout refueling, but I'm suspecting that we probably just need some periodization in your programming which the MEBB is good but you may need some time off, you may need a little bit more post-workout carbs, but normally the performance dip is immediate. It doesn't happen 10 weeks down the road, again, unless for your activity you're just not eating enough carbs or something like that.

Andy Deas: Cool.

Robb Wolf: Yeah.

Andy Deas: Next question from Brett. "I live in Ohio, and in your book you talked about taking vitamin D and how much we should take as a supplement, suggesting 5,000 IUs per day. My question is should I increase my intake like 10,000 IUs per day during the winter months and if it makes a difference? I'm 6'3", 200 pounds."

Robb Wolf: You know, the main point is just trying to get tissue levels in that like 60 to 80 nanogram per deciliter level. The 5,000 IUs a day should be enough for most folks. Some folks may need to bump it up to 10,000 IUs a day. If you're really concern about it one way or the other and you're thinking about going to 10,000 IUs a day, I would at least get a blood test to figure out where you actually are before you start supplementing even further, and then there's another piece to this which I've mentioned earlier. You know, we're understanding better and better that vitamin D is not a single player. When the sunlight produces vitamin D in our skin, we also produce a host of other secosteroid-related hormone-like chemicals and we're not getting that with typical vitamin D supplementation. I'm still not sure if like cod liver oil has that full spectrum because it's a natural kind of animal drive source. I need to do some research on that. I'm still doing some research on what the full complement of production is from sunlight exposure. Do we get that same production if we get some tiny goof type exposure? So there's more to the story than just simply the vitamin D supplementation I suspect. But if you're going to supplement more, I would go get a tissue level to validate that and also keep your eyes and ears open because we maybe modifying the recommendation based on what I can track down related to the other secosteroid co-factors that are usually produced during vitamin D production.

Andy Deas: Yup. And next question from Purple Karen. "Hi, Robb. Nocturnal toe and leg cramps are making me crazy. On a bad night, I can wake up three or four times needing to stand up and force my foot and leg to relax. Cramps seem more popular on my left leg than right, but both will cramp. On the best nights, I go crampless but those nights seem random. Eat Paleo, still not clear if pasteurized butter and cream in coffee are okay. I do both."

Robb Wolf: You know, butter is just cream that's been shaken so I think doing a dollar per butter in there is probably fine.

Andy Deas: Are you saying in the coffee?

Robb Wolf: Sure.

Andy Deas: Oh, it sounds...

Robb Wolf: Yeah.

Andy Deas: I'm sorry I've never done that.

Robb Wolf: I mean, it's just going to create a fat layer on the top because it's not homogenize, but yeah.

Andy Deas: That's like the person at the gym who remain nameless that sometimes makes so homemade ice cream and puts homemade ice cream in their coffee in the morning.

Robb Wolf: That's madness. That is madness.

Andy Deas: Disgusting. I cannot think of anything more disgusting to think about. Anyway, "Otherwise no grains, no legumes or other dairy. Drink only water, tea, and coffee, maybe too much but it's decaf from noon on, no sugar or artificial sweeteners. Have been doing distance walking for four years. I walk breast cancer for three days, 60 miles every year plus training leading up to it. Two months ago I started CrossFit three times a week with modified elements because I'm 65 and spent the majority of my life carrying an entire extra person around so I'm having to slowly build my skills and strength now that I've lost the extra person. I have been taking fish oil per Whole9 calculator, Natural Calm with Calcium in evenings and sometimes in the morning as well. Recently tried L-Taurine as suggested on blogs. Still the cramps continues, sometimes I even get mild toe cramps after my workout. Some days it's challenging to put work boots on because just pointing my toes will cause a cramp. This has been a recurring theme for many years. I guess I have never paid close enough attention on when they decreased. It has been feeling like it has always been there, but maybe not. In the past, doctors prescribed Quinine, that never seemed effective. Any ideas on solution? Read book cover to cover. I can see you in robe with staff, a prophet in the wilderness. Thanks for helping me end a lifelong carb addiction." That should have been the graphic on the new cartoon, Robb, you in a robe with a staff with a keystone wrap around your legs.

Robb Wolf: Oh, man. Yeah, the Paleo called to stand.

Andy Deas: Yup.

Robb Wolf: Oh, boy. Yeah, and then every once in a while kind of like fight club style, the robe opens just really quickly when the scene is reloading or whatever and I'm like "Oh, God." You know, my only thought on this like when I was reading this I was like, oh, maybe she should type try Quinine, and then she has tried that. I would try something like the "New Chapter," the B vitamin complex, the "New Chapter" has a food level B vitamin. I'm not a fan of really high dose B vitamins at this point, but the "New Chapter" is a pretty cool product. I forgot the name of it. but you just look for their food derived B vitamins and when you flip it over and look at the RDA it's a sparing levels of B vitamins and I would give that a shot, maybe increasing sodium intake a little bit. This could be an electrolyte issue or could be a little bit of a neurological issue. What would be interesting is if you ever got your hands on a little bit of valium or something like that, you could always see if that decreases your likelihood of cramps. It has some modification on that calcium blocks, but also one on neurological elements of what would normally precipitate a cramp. If that's it, then we may need something like some bio-feedback where you just learn to breath and learn to relax like maybe a little bit of the sympathetic nervous system that's a little bit too hyped up too often. So those are my thoughts.

Andy Deas: I like it.

Robb Wolf: Yeah.

Andy Deas: And with that, Robb, that ends Episode 61, the first episode of 2011. How do you feel?

Robb Wolf: Woo-hoo! Nowhere to go but downhill.

Andy Deas: Well, with that I will let you go off to enjoy the quasi sun that we have right now, Robb. Get outside.

Robb Wolf: Yeah, it's out. I'm stoked. I'm running for it.

Andy Deas: Cool, dude. I will talk to you later and thank you very much for your time. I'll see you next week.

Robb Wolf: Thanks, Andy.

Andy Deas: All right. See you, Robb.

Robb Wolf: Bye.