

## Paleo Solution - 409

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Robb: Six listeners can't be wrong. Another edition of the Paleo Solution Podcast. Hey guys. How are you? Hope that all is well. I've been trying to put this podcast together for a long time. It is with Amber O'Hearn. She is well known within the carnivore diet community. She has been eating this way for over ten years. Just a fascinating woman.

She is a computer scientist and mathematician by training, struggled with a host of health issues ranging from depression to just kind of a weird systemic malaise that kind of an incremental approach to exploring ancestral eating, starting off with a low carb then ketogenic and ultimately, carnivore has transformed her life.

I know the carnivore diet topic is both hot and controversial, but I think Amber brings just a remarkably balanced and thoughtful approach to the whole thing. I think you'll really enjoy this one given lesson.

Amber, how are you doing?

Amber: I'm doing great, Robb. How are you?

Robb: I'm good. Thank you for being patient with me. We've been trying to put this thing together for the better part of a year. Given my squirriness and dodgy schedule, we've had to punch a couple of times. Thank you for being patient.

Amber: Well, I'm sure, it'd well worth the wait.

Robb: Hopefully. Hopefully. It will be because you're here, I'm never sure if it's worth it when I'm here, but we'll do the best that we can. Amber, you have a really fascinating story. You are one of these folks that have approached this carnivore way of eating and you've been doing it for a very long time. Can you give folks some of that back story?

Amber: Yes, absolutely. Well, I came to the carnivore diet through the low carb lens because my story-- The way I used to conceive of it was always a weight loss story. I had ups and downs in my weight as a child. When I first went to university, that's when the weight really started piling on for me. At that time, I had been brought up vegetarian and so it matched all my biases when I looked up what to do about weight and it told me to go vegetarian.

I tried that for a while and it didn't help me. It wasn't until I really got to an end of frustration with that that I decided maybe this low carb idea that I had heard about that sounded so crazy might be beneficial for me. That was, I guess, it was 1997 that I first decided to try a low-carb diet. That was from reading the Eades' book Protein Power and it worked--

Robb: Which is a phenomenal book. Yeah.

Amber: It is. I think, even though we've learned so much since that time, the things that they were writing about then are still relevant. But it worked for me and it also had a lot of references that they addressed the skepticism that I had because I was able to go to the library and say, "Oh well, actually, the thing that they're claiming in here is actually correct." I started learning a lot about low carb and insulin resistance, as well as having the experience of it helping me. But then--

Robb: Just really quickly, when you say skepticism, you have a little bit of a scientific and technical background, can you tell folks what that is?

Amber: Sure. Well, my background is very meandering because my interests have always been really broad. Since the time when I was a child, I wanted to be a mathematician, but I also wanted to be a writer and I wanted to be a singer, all kinds of things that I wanted to do. I did eventually get a degree in Math and Computer Science.

I have a little bit of the hard sciences as part of those degrees. But I do have a strong background in data science and numerical kinds of analysis, as well as I've also studied Russian and linguistics and psychology. There isn't anything that I get involved in that I don't get really interested in which is kind of a flaw sometimes because it's hard to get into one thing really deeply when other things are also calling you.

**[0:05:18]**

Robb: Right. Right. I have a conversation with my wife. She did a decent amount of Russian at some point too and she every once a while will be traveling and she'll dish some out. The shock that people have is pretty funny to witness, particularly when they figure out that she's American. She looks Italian, but when they figure out she's American. She can do some passing Russian and her accent is totally on point, like folks are a little shocked, so that's awesome.

Amber: Atlee'chna [Russian: Excellent]

Robb: You've got this well steeped, hard science background which I think is just so incredibly valuable. Really interesting to me that so many of the folks that I think are major contributors in this kind of low-carb ancestral health scene, like when the engineers and mathematicians kind of sink their teeth into this, they oftentimes arrive without a ton of biases, but arguably without the bias of like a formalized medical background, for example. But they're armed with a really good ability to analyze data, look at statistics and whatnot.

Frequently, they end up saying, "Oh yeah, there's kind of something to this lower carb, may be ancestral way of eating." I just kind of find that intriguing. It sounds like this probably served you well in both this kind of empirical and equals one. Okay, you started experimenting with this stuff, you individually felt better, but then you were able to look at the primary science and really give it a good go. As far I get, the stuff looks pretty legit.

Amber: Yeah. I think that also my early experiences with vegetarianism failing me and seeing how some kinds of data can be used to support results that don't seem to actually be real or have the kind of validity that they're claimed to have, that also really made me become much more alert and skeptical. If I had just come at it with the mathematical background and hadn't also had the experience of that kind of feeling of betrayal from the way literature was being presented, I don't know if it would have been a complete picture.

Robb: Right. Right. It seems like your story, it's similar in that most people don't arrive at this carnivore diet concept and they just jump directly and there's kind of a step-wise process. Paleo might be an entry point. Low carb might be an entry point. The distinction between those is nebulous even to me oftentimes. But could you kind of detail what that process look like?

Amber: Yes. Well, for me, as a personal story, I had begun to gain weight again. In particular, every time I got pregnant and I had two pregnancies before I discovered carnivore one after, I would gain a lot of weight and then that didn't necessarily completely recede when I went back to a low-carb diet. There may have been a component of aging, there may have been a component of antidepressants because it turns out that I was also struggling with a mood disorder.

But for whatever reason, by the end of 19-- Oh sorry, 2008, I was still in a low-carb diet and yet I was nearly 200 pounds and I'm 5'6". It's just way more than I need to weigh and it wasn't all muscle. I was at this point of real desperation and I had studied so much about low carb and ketogenic diets. I didn't know where else to turn. It seemed like the diet couldn't be doing me wrong, but was this really the best that I could do? I was always on the lookout for something.

At the end of that year, I came across this forum that Charles Washington and Dana Spencer were running called Zeroing in on Health. They had a lot of people like me who had come from the low-carb community, but it wasn't getting them everywhere that they wanted to be or they were stalled out. When they took out the plants-- They were calling it zero carb then just to-- I think to distinguish it from using-- They weren't using net carbs, but it really was even then all about plants versus animals.

**[0:10:01]**

They were having the same kind of success that I was hoping for which was that they were able to lose weight again and get back to their ideal weight and so I decided to try it. But you know back then, now, everything is so different now that this diet has become so much more popularized because I think a lot of people are hearing it without necessarily having a low-carb background or they're hearing it and they're hearing about all these different effects that really we didn't have any idea about back in 2009.

People would come onto the form and say, "This may sound crazy, but not only am I losing weight, but it seems like my asthma is not acting up anymore." Those weren't effects that we were expecting and sort of tricking ourselves into believing were happening because we thought they might, they were just unexpected things that were happening. It was a really exciting time to be there.

Robb: Oh, I bet, I bet. Also, I mean, probably feeling like you guys were about as crazy a group of people as you could possibly find. I mean, low carb is already kind of like pushing the boundaries. Then ketosis is like, "You'll die being in ketosis." But then you suggest that you're just flat eating no plant material at all and benefiting, then it's kind of like dead pool time. Like, we're going to bet on when all of these people were going to die.

It's interesting. I want to ask you a little bit about where the state of the science is with this topic here in a bit. But it's really fascinating when you poke around some of the forums, particularly now with some of the Facebook groups and whatnot. The stories of transformation are shocking. We always have to be careful with anecdotes, all the rest of that. When you start seeing hundreds and then thousands and people that have had intractable horrible autoimmune diseases like-- Mikhaila Peterson really comes to mind right now, two joint replacements at the age of 17 and just a laundry list of health problems.

Then she's been eating beef and salt and water. Just a shocking transformation. Again, in equals one, one person. But man, it's got to perk your ears up, particularly if you dig around it all on what the standard of care promises for autoimmune conditions. It's terrible. It is flat out terrible. My wife's mother died at the age of 50. I'm 46 now. She's been dead now. I think coming up on 15 years

from a rheumatoid arthritis complication. The outcomes for these folks are not good. If we have any type of a diet and lifestyle intervention that might fundamentally address that, it could be incredibly powerful.

Amber: Yeah, I completely agree. It's true that we don't have rigorous trials and we don't know the number of people who are coming and not getting results. But as you say, the sheer number of positive results and the degree of the results is really, I think, deserves consideration. Especially in light of the fact that spontaneous remission in autoimmune disease is-- Well, there are some kinds of diseases that have this remit and relapse pattern, but the relapses are short.

You just don't see people one day having a manifestation, a deep manifestation of these kinds of diseases and then the next day, they don't have it. I think that there is absolutely consistency in the observations that we're seeing that it would be foolish not to pay attention to. Even if you don't say, "Well, we know exactly what's going on," or that we know it's going to happen with all people in all cases I think it still bears looking into.

Robb: Absolutely. Absolutely. Amber, it's interesting. You would think you throughout the term carnivore diet and there's consensus upon that, but even this is a super controversial topic. Some people eat exclusively like one cut of beef, other people, it's basically all the way from like escargot to crab legs in every creepy, crawly thing in between. Could you paint a little bit of a picture of what can kind of broadly nest under this carnivore concept and then maybe some of the sub-categories of where people have found success?

**[0:14:46]**

Amber: Sure. One way that you might understand it is through contrasting it with a ketogenic diet. A ketogenic diet, you can tell it's ketogenic by a biomarker. It's by definition ketogenic if whatever you do, it results in ketogenesis. You can do that with a plant-based diet and you can do that by just being kind of an ascetic and not eating very much or exercising a lot or you can even do it by taking certain supplements or a lot of MCT oils for example, all of those can be ketogenic.

None of the studies that we rely on to say what a ketogenic diet is good for, relies on having a certain food profile as long as it's low enough in carb and high enough in fat or at least that you're getting fat from your body. Whereas the carnivorous diet is from just from the get-go a lot more constrained in that we basically say it's carnivorous if you're not eating plants.

There's a little bit of maybe not exactly disagreement, but where you put the boundaries in terms of plant extracts. Some people might have some spices and

say, "Well, this is still carnivorous diet because I'm not eating a whole-- I'm not getting any calories from the plant or--"

Robb: Or even like a cup of coffee for example, or tea or something.

Amber: Right. Then you might say, "Well, that's a plant-derived drug more than it's actually a plant and so if you're consuming this infusion of a plant that has a lot of caffeine in it, does it really count as plant eating?" There's some disagreement about that. But I think generally, something like coffee or tea would be considered okay.

But in terms of what's left, there can still be a lot of variants. Like you said, there are some people who basically eat only beef and only the muscle meat, and you would think that those people might be in danger of not doing as well just because they might be susceptible to deficiencies. But the data that we have, at least the examples of people that we have that have been eating that way for as long as I have without addition of a lot of seafood or organ meat or much variety, in fact is that most of them seem to be doing really, really well.

Robb: Who is the woman that's been eating this way for-- Charlene Andersen, is that--

Amber: Yes. I think she's been doing it about 20 years. She was around on that forum that I was on in 2009, as someone who had been there for a long time.

Robb: She's in that camp of a really constrained-- Like she's not eating escargot, she's not eating crab legs. She's eating cuts of beef and mainly muscle meat and that's it, right?

Amber: Yes. In fact, she says she and her husband both do this diet and they say that they actually felt worse when they were eating liver.

Robb: Interesting. Interesting. For me, in some of this-- Maybe all of this stuff, like my crazy used-car salesman pitches try something for a period of time to assess it for the effects and either keep or delete based off of that. But even circling back to things like tea and coffee, depending on what your situation is, I guess I could make an argument that instead of getting really wrapped specifically around the axle of what defines carnivore versus what doesn't, mapping what an individual does well with versus not.

Well, maybe some people do great with some diced ginger with a meal or something. It's something that I feel really good with. It just seems like it helps my digestion. I'm not eating carnivorous, but I'm eating low-carb keto. I really seem to benefit from that. I seem to feel good with black tea. Could you make an argument for just trying to map what you can and can't get away with than

maybe push towards the latitude that gives you the best results or is that crazy talk and we should just like run to as constrained an option as we can possibly get?

**[0:19:35]**

Amber: Well, I think that as a starting point, it's really helpful to go very constrained. Especially, if you're trying to address some kind of physiological problem or medical problem that you have and you want to figure out what things you can tolerate and what things you can't, going down to the bare minimum of things can be very helpful. Because for one thing, you don't know if things are interacting and you don't know if you have multiple sensitivities.

For example, I have a friend who had a son, who had a lot of developmental delays and they suspected that he had food intolerances. They tried taking dairy out of his diet and didn't have any effect. Then they tried taking soya out of his diet and didn't have any effect. It took them a whole year to realize that both soy and dairy or have an effect because they didn't see the result of taking them both out. Just from that simple kind of elimination perspective, I think you're just going to find out a lot quicker what your best possible scenario is if you remove everything that is a suspect.

Well, there are individualizations to go in both directions because for example, I know Georgia Ede who is eating carnivorously now is sensitive to beef. She can eat lamb and I think she can eat lamb. I'm not even sure about lamb. She can eat duck, but she wouldn't have done well. I don't think if she had just started out with an all-beef diet. You can actually get false negatives there. But then the thing about plants is they're all so different, even there are different families of-- Well, I'm going to speak on the presumption that it's some kind of compound in the plant that's causing a sensitivity.

There are families of toxins in different plants, but even within families, there are differences. It may well be that-- I mean, I'm almost positive that there are some plants that I would be able to tolerate just fine, but it's just that the consequences of trying them, to me, have not been as-- Have made it not as important to me to try to figure out what those things are. But I think that it's quite reasonable to assume that some people are going to do fine with ginger. In fact, I've had ginger tea when I first started a carnivorous diet. I had ginger tea from time to time and it didn't seem to interfere with my results at all.

Robb: You know what? I think that this is something that's hard for some folks that haven't been really sick before to appreciate. Joe Rogan just had Mikhaila Peterson on and it was generally a pretty good interview, but Joe got really feisty with her on this topic of exercise. I don't know if you've listened to it. I love Joe,

he's a great guy, but he was kind of a dick to her. He got really fired up on this topic of exercise. These people who are sick, they still should have pulled themselves up from the bootstraps and gone and done some sort of exercise.

But when I was at my low web, I was vegan at the time. I was eating as much food as I could sit down, my pie hole and I had a wasting condition. I was down to 130 pounds. My nails were split, my hair was falling out. It was everything in my capacity to just go to work and get the minimum done so that I could have a roof over my head and not be homeless. There was no exercise left in that buffer because I felt so bad.

I really do appreciate that when you find something where-- Particularly, if you've been sick for a while and you actually feel well and then you've tinkered a time or two and you really get hammered down, you're like, "Man, I'm good. I'm totally good." The experimentation doesn't really need to happen. But if an individual hasn't been sick like that, it's really hard to dismiss that reticence to experiment with this stuff.

Amber: Yeah. In terms of exercise, I've been on sort of on and off exercise and it's never been a really huge part of my life. But one thing that I notice is that if I don't have the energy to exercise, mitochondrial biogenesis effects of exercise aside, I don't see how dragging yourself out to make yourself get on the bike or make yourself lift weights or whatever it is, that's just going to further deplete you.

Whereas if you start to heal, all of a sudden you're going to feel the energy start to come back to you and then you're going to say, "What am I going to do with this energy?" Actually, I feel like running has never happened before. There's a bit of a cart before the horse thing with exercise in many cases I think.

Robb: Yeah. Yeah. I think what Joe was talking about in this case if for himself. There were days where he would feel unmotivated and then he would fire himself up and get to the gym and then he felt better afterwards. I totally get that and that's awesome. But if you either haven't been this sick or haven't tried to work with people who are sick in this way where just getting through your day, it's all you can do and sometimes it's almost more than what you can do.

It's easy to kind of dismiss that as laziness or a lack of mental fortitude or what have you. But this profound kind of metabolic illness that some people find themselves in, it's crushing. It is absolutely crushing. I don't want to diverge too far into that. I have so many questions around all of this.

**[0:25:39]**

Amber: Well, you know that--

Robb: Where do you-- Oh yeah, go ahead, go ahead.

Amber: That reminds of depression because-- Well, I haven't said it so far in this conversation, but you may know that the reason that I stuck with a carnivorous diet wasn't because any disease that we recognize as autoimmune was affecting me, although it may actually be autoimmune in character, but I had bipolar disorder type 2. I had crippling depression from 20 years old until I found the carnivorous diet. I was doing this experiment in order to lose weight. It was all about vanity.

Within a couple of weeks, I started going, "What's happening? Why do I feel so good all the time?" It's just like you were talking about with the physical energy. When you're depressed, and I think people who haven't had depression don't understand this, but when you're depressed, the mental energy that it takes to get through your day and to feel like anything is even worth doing is absolutely crippling.

I mean, I think some cognitive behavioral therapy can be very useful, but I think it's much more useful once you're not depressed when you're depressed. It's very difficult to just talk yourself out of it or to say, "Oh yeah, I know that when I go out for a walk or when I go out and meet friends for coffee or whatever, I feel better after." But it just has no impact on the ability to get up and do that.

Robb: I completely agree. This is something I don't think I've mentioned a ton, but when I was both vegan and living in Seattle, which I stacked the deck against myself too, but too lazy, not enough sun, a diet that's just for me under virtually any circumstance, just wasn't really going to work well for me. I had just virtually crippling depression. If people could peel open my head and experience what my day-to-day, moment-to-moment thought process and kind of emotional experience was, it would probably be pretty shocking.

It was terrible. This is one of those things that, again, July mark 20 years of this kind of low-carb eating for me. It was just like a switch and then flipped. I've tried doing some experimenting like safe starches were all the rage within the Paleo scene for a period of time. I really diligently tried to tinker with that and it made me feel terrible and--

Amber: I have the same experience.

Robb: I've kind of settled out. Yeah. Yeah. I suspect that a lot of what we have going on here is something to do with the gut, something to do with the gut microbiome. I know some people within the Paleo scene that have had horrible food

intolerances, all kinds of problems. To the degree that if they had conventional beef, they would swell up, gain ten pounds.

They only could be grass-fed beef and it had to be super well-treated, pastured through the whole process. Then folks had a fecal transplant and now they've got much more latitude in what they can eat. Are you aware of anybody in the carnivore scene that has done a fecal transplant and then been able to add more latitude to what they're doing? Do you know of anybody that's tinkered with that?

Amber: No. I think this connection with the gut is that we don't understand it very well. The fecal transplant idea, I think is actually a pretty good test of what I was going to say, which is that a lot of the effects that of on the intestinal permeability that could be coming from the plants don't necessarily-- Aren't necessarily caused through changing the gut biome.

One could make the case that what is affecting intestinal permeability is affecting the gut biome is a side effect. Or it could be that the gut biome is somehow actually repairing or ruining the barrier. I don't think we have a lot of things that can differentiate as a test between which is actually causal.

**[0:30:20]**

For example, I think that-- When I first heard about Paleo diets, I didn't find it that compelling because I hadn't had any experience with GI distress. Everything that I was seeing, I was seeing through the lens of insulin. I thought, "Well, the Paleo diet just works because the foods that it gets rid of are the ones that are high in carb."

Then even later, when I stopped eating plants and it had this crazy, wonderful crazy effect on my psychiatric experience, I still wasn't able to make the connection between intestinal permeability and my experiences because everything that I read about that, for example, papers by Cordain, were about gluten and lectins which I didn't know at the time or ubiquitous in plants.

I still thought, "Oh, this is all about grains. How could that haven't have any difference in a low-carb diet versus a low plant diet?" But now, I have because I've been searching so long to figure out what has caused this in me and in others. I realized that there are other plant compounds that can be affecting intestinal permeability and that intestinal permeability could well have an effect on your psychology and your psychiatry. Because there are plant compounds that can affect that, it's still unclear to me how much of a role the actual bacteria have and how much of a role is just the plant compounds themselves.

Robb: Right. Right. It's fascinating. There are folks out there that will claim that they can look at a gut microbiome analysis and then they can have some really deep insight into what your individual situation is. But the gut biome can change from morning to evening in shocking ways in the same individual. I think watching a scary movie can probably change the gut biome in remarkable ways. It's this really labile target that is, to me, really hard to pin down. There's this other layer to the story that currently we're looking at the species level of these different bacteria.

But there's a reality that the bacteria swap genes all the time and so a given species may or may not have the gene that produces a given protein that either helps or exacerbates a certain situation. Then you have to get into metabolomics to-- Well, okay, so we've got this particular species and we think it's good, but does it really have the stuff that is supposed to be good? Is it good for these genotypes or for these genotypes? Maybe in these people, it's bad, like there's this interesting-- It's kind of associated stuff, but children exposed to H Pylori early in life seemed to do well and H Pylori exposure early seems to be a benefit over the long haul.

Whereas if an individual is not exposed to H Pylori early in life but later in life, then it may end up being pathogenic and extremely problematic. Then you have this other stuff where they took a number of kids, I think it was 22 kids with a diagnosed celiac disease, the enteropathy, that cilia were all kind of crushed down. They did a fecal transplant and about half of these kids upon gluten challenge, they no longer showed gluten enteropathy.

Amber: Wow.

Robb: Now, I still don't know if it's entirely healthy for these kids to be being that in part because the gut microbiome could change. But there is a reality that there are bacteria that have these prolyl endopeptidases that can break down gluten and gliadin, but maybe it doesn't break down wheat germ and gluten. It just goes on and on. This is where I'm really fascinated by all that stuff, but I think it's almost a dead end at this point because it's so-- The complexity threes just explode.

Amber: It is in expansive number of factors.

**[0:34:49]**

Robb: It is. Then it, versus, if we just dial this back to a diet and lifestyle intervention. "Okay, let's make sure you're sleeping well. We've got some good circadian biology established. You've got some meaningful relationships." Let's kind of figure out what lane lines kind of makes sense to play with stuff. Is it Paleo? Is it

keto? Is it carnivore? Let's use one of those templates as kind of like our starting point. Like when we're little kids and you play tag, you've got home base, like that's our home base. Not saying it's necessarily the only place that you exist, although it may in fact be, but let's use that as kind of our starting point.

Then at the end of the day, all that really matters are the clinical manifestations. Are you still depressed? Do we see improvements in GI function or autoimmune factors improved? We're just drowning in information, which again is really cool. I just did a post on my Facebook page today that it was this global review of the effects of intestinal permeability. I have the screen shot that I need to dig up from 2002 to when I searched in PubMed for intestinal permeability and there were like 200 citations and almost all of them were basically saying that intestinal permeability is quackery.

Amber: Wow.

Robb: Now, there's 13,000 citations and it's like one of the hottest areas of medical research. It's really a cautionary tale that reminds me of Semmelweis. The guy that suggested that if physicians washed their hands between autopsies in child delivery, that the kids wouldn't die as frequently. He was run out of town basically due to that and then 50 years after his death, they were like, "Oh yeah. Here's the germ theory of infectious disease. That guy happened to be right."

Amber: Right. Well, symptom control definitely does have to trump any kind of theory based on no matter how much data there is. One of the problems with all the data that we have, not only are there countless factors that it's hard to pin down a set of things that can align, but the context matters. That if you're looking, if all your research is being done in a high-carb grain-based diet, no matter how much predictive modeling and how sophisticated your machine learning algorithm is, it's not necessarily going to be able to translate anything to the context when you suddenly remove all those grains and are in a low-carb situation.

I really do think that we have to put the experience that the person is getting from their home base like you said and from trying different home bases. Those results in individual people in a certain sense have to go above any kind of averaging from thousands and thousands of people, even though it may seem like more people is going to lead to more truth finding.

Robb: Right. No. It's funny, I think it's exactly the opposite. I was listening to a podcast with a really brilliant guy, Stu Phillips, this morning, he was talking about just kind of protein and take in general, but he makes this great point. When drugs are assessed for efficacy, let's just use the example of a blood pressure medication which is what he used.

If we give this blood pressure medication to a given number of people, 100 people, 1000 people, what have you, let's say, arbitrary numbers, one chunk of folks may end up getting a ten-point systolic and diastolic suppression and blood pressure. Another group of people may get a 20-point systolic and diastolic suppression of blood pressure due to this medication. Another, let's say it's three groups, the third group gets absolutely no effect at all.

Then they jam all those folks together, average it and then you just kind of hope, even though I think blood pressure medications are super inappropriate because there's better intervention for, but the point being that it's really not a controversial topic that we would expect there to be a pretty remarkable spread in the way that people would respond to a blood pressure medication. Why would we not expect there to be a remarkable spread in the way that people interact with their food, which arguably is it's literally infinitely more complex than a single no medication in intervention.

Amber: Right. If there is an immune component to it all, it could have everything to do with early exposures. If you're tight junctions in your intestinal epithelium were opened while you were eating one thing, then you might have an intolerance to that that nobody else has. It can become quite individual, even without falling back to genetic differences.

**[0:40:16]**

Robb: Right. Right. Amber, what do you see-- I always like to look at things from a return on investment and a risk-reward kind of story. What do you see being the risk-reward story of tinkering with the--

Amber: The risk-reward ratio for a carnivore diet is one of my favorite things about it because you don't even need a study to try something and find out what it does to you. As far as a carnivorous diet goes, the risks that are associated with removing plants from your diet for long enough to tell if it's going to have an effect on you, I just don't even know of any.

People might talk about deficiencies, although I don't really buy a lot of the claims for nutritional deficiencies on a carnivorous diet, even in the long term. If you were going to say, "Well, I'm not sure about how much nutrient density you would get in the long term," there's nothing that would be of concern in say, one month or six weeks.

The potential, if you have any kind of health problem that might have an autoimmune component or mood disorder component or even just insulin resistance component of trying it, seems like it could be a life changer. Those kinds of odds are the kinds of odds you really want.

Robb: Absolutely. That is much the greasy used car salesman pitch that I've used in the past. It's like, "Hey, think back to your college days." There's a period of time where virtually everyone drank beer, ate pizza and just lived like an asshole. Somehow you live through that. You may be felt terrible, but you lived through it. It was 30 days, six weeks, whatever.

Recommending that you do this whole unprocessed food approach, even if it's very constrained down to, okay, beef and salt and water, I too-- Particularly, again, I guess, some of the risk-reward story there is if you have some health challenges, if you are not as healthy as what you would like to be, if you have some symptomology that you would like to address, give it a go for 30 days. It doesn't seem like the craziest thing in the world to do.

Again, modern medicine is so good at addressing acute problems. If you get hit by a bus, if you have a car accident or something, it's really remarkable. But once we shift gears into anything kind of chronic and degenerative which again, ranges from mental health to gut issues, autoimmunity, cardiovascular disease, it really isn't all that helpful.

It's incredibly expensive and there's lots of kind of collateral damage and side effects that kind of go along with that. Yeah, I fully signed off on that. It seems like a reasonable intervention. But when I do a media piece and I'm talking about either keto or Paleo or whatever, I always get these super annoying questions all thrown out to you just to spread the love around a little bit. Who should not do a carnivore diet?

Amber: Who should not do a carnivore diet? Well, that's a great question.

Robb: I'm oftentimes left sitting there because our previous conversation was kind of the-- If you're feeling great and everything is good, then probably keep doing what you're doing. But if you have problems, then it's probably worth a shot, almost regardless of what your situation is.

Amber: There's one population that I think-- I don't know if they're worse off, but that carnivore or a ketogenic diet can sometimes tap into their particular issues and that's people with eating disorders. I think ketosis allows you to eat less and be satiated. I think that people who have a dysmorphic idea of their bodies and are trying desperately to get thinner and thinner when their body really doesn't want them to get any thinner can probably exploit a ketogenic or a carnivorous diet to exacerbate that kind of problem.

However, if they're going to reduce their calories, you might as well be getting the most nutrient density that you can out of your food. The particular kinds of

micro-nutrients that are found in animal source food are really important for the brain, as well as the rest of the body. I'm not sure it's strictly worse.

[0:45:97]

Robb: Right. Right. The only thing I could think of is maybe like PKU, the phenyl--

Amber: Oh sure.

Robb: Like that's going to be a hell of a problem to deal with. I'm sure that there are some other arcane metabolic, either fatty acid, some people can't process fatty acids beyond a certain chain length. There's some things like that.

Amber: Yeah. It's getting more near metabolism--

Robb: That's getting out of the weeds, like that system. It's getting pretty far out in the weeds. Yeah.

Amber: That type could make it doable. I mean, there are religious reasons for sure and there are cultural difficulties when you talked about the risk and reward and kind of the cost of doing the diet. I do think that the biggest cost for a carnivorous diet and it's way more acute than a ketogenic diet is just the social ostracism. So many of our social activities are centered around food and it's really hard to be private about what you're eating. When you're on a ketogenic diet, you can at least fill your plate with salad and maybe no one will notice that you didn't take the bread, but if you literally all you have on your plate is a hunk of meat, it really stands out.

Robb: There's a lot of situations where the hunky meat doesn't materialize. It's got barbecue sauce on it or whatever. I've been thinking about tinkering with a carnivore intervention, doing some blood work before, doing some blood work afterwards. But this social piece is funny for-- I've been eating this kind of ancestral health low-carb way for 20 years now and I'm finally at a spot where I have a peer group that I can go hang out with in the way that I'm eating, isn't totally crazy. They may be close to or-- There's some easy enough overlap.

When I start noodling on like, okay, every time I sit down to eat, it's going to be a piece of stake. That's the totality of it. That's honestly been a little bit of a deal breaker for me thus far. I've been feeling really good, my performance at jujitsu when stuff is good. I'm like, "I don't know if I really want to go down that rabbit hole right now. Although funny enough, Nicky is really intrigued by it.

I think that she has a little bit of traveling, she has to do coming up here. Then after that, she's going to give it a six-week intervention. Again, we're going to do

blood work before and afterwards, do hormones, also do like an advanced testing on lipid panel and whatnot and see what goes down the curve.

Amber: It's interesting that you brought up anaerobic performance because some people have trouble getting the performance that they'd like on a ketogenic diet. Sometimes I think that if you're eating a carnivorous diet which doesn't put any constraints on the level of protein, you might be able to fuel that kind of workout better than a ketogenic diet does. Although I don't know if that's any better than doing, say, a targeted style of ketogenic diet where you're just taking some dextrose before you go in there.

Robb: Exactly. Yeah. Yeah. But I would agree and it's interesting. It's one of the things that I think where people really steer the ketogenic diet wrong is in the process of chasing ketones, the abandoned protein, and the abandoned protein to such a degree that they start eating massive amounts of fat and the fat isn't particularly satiating compared to the caloric intake. These people end up gaining body fat. It's on a ketogenic diet.

I think that there is a really stout argument to me, may it even if you are following more keto ratios versus a carnivorous intervention, looking at something like a modified Atkins or something like that. Don't be so wrapped around the axle of your ketone levels, figure out a way to fuel for the performance and the body composition and the kind of favorable lipid profiles that we would like to have. Funny enough, a higher protein take seem to deliver that. I think your point is a really well made.

Amber: Well, that's a topic I'm very interested in because the beta hydroxybutyrate, just chasing levels of that in the blood, I think that comes back to the whole definition of a ketogenic diet being based on ketogenesis. There isn't really a-- If you look at literature on epilepsy say, the reason a linear kind of result, once you're in ketosis, there isn't necessarily better efficacy for higher levels of ketones, but I think that a lot of people get really riled up about not just getting into a basic level of ketosis, but getting into deeper ketosis.

**[0:50:10]**

Thinking that this means that they're going to get better result and it doesn't necessarily reflect that. I mean, it could-- There's the oxidation versus just the level which are not necessarily the same. There's division returns. There could be effects of the levels of glucose in your blood. For example, if most of your ketones are coming from exogenous ketones, then maybe you're not going to get all the beneficial effects because your glucose isn't down, as low as it would be, although maybe the ketones will drive the glucose.

The other thing is with protein, a lot of the research that's been done in ketogenic diets has been done in either fasting people or in animals that are non-human animals who really don't have the capacity that we have to eat more protein than is absolutely necessary and stay in ketosis. Rats for example, the line between what's enough protein and what's too much for ketosis is very, very small.

In dogs, also, they basically they're not going to get into ketosis unless your calorie restricting or protein restricting or adding MCT oil. A lot of the stuff that we know about the efficacy of ketogenic or about how the ketogenic metabolism works is based on high levels of protein restriction that humans might not need.

Robb: Right. Right. There have been interesting studies looking at the efficacy of an MCT oil ketogenic diet versus a standard ketogenic diet where folks just eat a low glycemic load carbohydrate intake supplement with MCT. Unbeknownst me, I just learn this maybe six months ago, but the brain can actually use different MCTs directly in addition to these ketone bodies. But the overall efficacy for epilepsy and some other neurodegenerative diseases were as good with these modifications that you've mentioned as a much more onerous intervention.

But going back to this Stu Phillips' podcast that was listening to, one of the big dangers with folks, particularly as the age, is that protein restriction, particularly for chasing ketones, is a profound recipe for sarcopenia, for losing lean body mass. If you want to accelerate your rate of aging brought five pounds of muscle, you probably just put a decade of aging on your person by losing five pounds of muscle. This is part of what potentially could happen under these circumstances.

But again, like that adequate protein intake is really a profound buffer against that. Then just doing a modicum of resistance training and basically being active, it's a profound hedge against that, that age-related sarcopenia. The ketone topic, it's kind of the locker room dick measuring of nutrition. It's like, "What's your ketone level?" It's kind of like, "What do you bench?" "Well, I am a .5. Well, I'm a 1.5. I'm morally and physiologically superior to you." It's just not the case. It's really directing people in some well-intentioned, but bad--

Amber: Yeah. The protein and calorie restriction, when it gets to-- When you start talking about fasting, becomes very contentious, very quickly because there are some people who think that fasting for long periods or even short periods often as in one or two days at a time, you might start compromising your lean mass. Other people are quite insistent that that's not going to happen and that the ketogenic state is going to preserve early mess. I don't think we really know all the answers, but it's extremely controversial. I think that's just the kind of the end game of where you go if you're taking your protein levels down all the way.

**[0:54:40]**

Robb: Right. Right. Yeah. Again, versus lift some weights two days a week, do a full body circuit deal, takes you 20-30 minutes to do it, somewhere between .8 and 1.2, 1.6 grams of protein per pound of lean body mass at a minimum. That's probably a pretty good prescription for maintaining good satiety signaling so that you're not going to have a tendency to overeat. You're probably getting a good nutritional profile because of the nutrient density of high protein foods and you're really hedging your bets on that lean body mass index. It seems like a very safe, sane, reasonable place to be.

Circling things back around to Dr. Michael and Mary Eades, their point in protein power and protein power life plan was to the degree that you want a glucose to be a factor in your metabolism, why not run it through the control rod of getting it via gluconeogenesis first so that you've got a really tightly controlled titration on that? That's always seemed really reasonable to me. But then when you overlay the fear that the keto folks have around gluconeogenesis, then they just kind of freak out because, again, they're focused more on keto and bodies and they are on full force performance.

Amber: Right. There seems to be a lot of misunderstanding about what causes gluconeogenesis and whether or not it's desirable. I mean, you can't just add substrate and have gluconeogenesis happen, it's just not the way it works. But on the other hand, gluconeogenesis is always going to happen when you're in ketosis because they're both up-regulated by the same conditions, so you can't have one without the other.

Robb: Folks forget that-- I forget if it's 20%, 30% of the amino acids that make up most proteins are also ketogenic. We have a gluconeogenic cross-section, a ketogenic cross-section, so it's not-- Yeah, it gets complex quickly, but I agree. It's interesting, when you over-- Amber, you still there?

Hey folks. We're back. We had a little interruption in the inter-webs. Amber, you're back too.

Amber: I'm back.

Robb: Hey, I know we were both waxing eloquent about gluconeogenesis and the adequate protein intake. I don't want to overly capitalize your whole day here. Do you have any takeaways from people if they're thinking about a carnivorous diet? Like what are some of the resources that you would recommend for people to learn more about this way of eating?

Amber: Well, if you don't mind me turning my own horn, I think that my own guidelines that I wrote on my blog, empir.ca are-- Well, my best ideas for how to get started, so I have a guide that's called Eat meat. Not too little. Mostly fat. Originally--

Robb: Which is a nice repost day to-- Oh God, I'm blanking on his name.

Amber: Michael Pollan. Yeah.

Robb: Michael Pollan. Yeah. Yeah.

Amber: Thank you. Yeah. Originally, I had written-- My ex-husband Zooko and I wrote it together originally to give people a guide for how to start on a ketogenic diet by doing this sort of extreme phase one of eating only meat. But then I re-wrote it recently, maybe a year and a half ago because there was more interest in just how to start a carnivorous diet when you're already coming from the world of ketosis.

There's another website called Justmeet.co that Michael Goldstein put together that has links of a lot of different resources on the carnivore diet, everything from a link to Stefansson's The Fat of the Land, to people's testimonials and different aspects. I also highly recommend that if people are interested in the ways that plants could potentially harm you, that you look at Georgia Ede's website, diagnosisdiet.com.

Robb: Fantastic. What are some of your social media handles so folks can follow you there?

Amber: On Twitter, I am KetoCarnivore. I'm also on Facebook just as myself, L Amber O'Hearn. I have an Instagram account under the name ambimorph. As in it's like a play on the word Amber sort of two forms. When I was first losing weight, I was imagining having two forms and so I was the ambimorph.

**[0:59:53]**

Robb: That's awesome. Well Amber, it was so great to have you on the podcast. Again, I apologize for taking so long to do this, but it was definitely worth the wait. I just really respect the work that you've done. This carnivore topic is another fascinating chapter in this overall ancestral health story, so I really appreciate the work you're doing.

Amber: Well, thank you so much for having me, it really is a great honor. I also, in all of your work and all the things that you've done in the last 20 years since you

discovered this land is just an amazing reach and help that you've given to so many people and I thank you for including me in it.

Robb: Thank you. Nobody is going to solve all these problems out from under us. We have a profound job security doing this type of work. Well, Amber, I can't wait to see you in real life again. Are you going to be at any of the Ancestral Health, Paleo f(x) or low-carb functions coming up?

Amber: I will be speaking at Low Carb Houston, that's in October. I don't know if there are any more in the next year that I've got planned, but the season is kind of winding down.

Robb: Yeah. Yeah. It is. Well Amber, thank you again and to take care and I'll talk to you soon.

Amber: Thank you. Bye-bye.

Robb: Bye-bye.

**[1:01:14] End of Audio**