

## VIDEO\_ Diet Doctor Podcast with Amber O'Hearn (Episode 11)

**Dr. Bret Scher:** Welcome to the Diet Doctor podcast with Dr. Bret Scher. Today I'm joined by Amber O'Hearn. Now Amber has become one of the leading personalities of the carnivore movement. I don't know that she's set out to do that. She sort of just came to it by her own health issues and because of her intellect and her thought process and her very good way of examining things and explaining things.

She's really become a sort of a go-to person to learn more about this carnivore movement and it's fascinating because on the one hand there are all these preconceptions that it shouldn't be, that people shouldn't be living this way, that there are all these risks, but they're mostly theoretical. And we're going to talk a lot about that.

Are there any proven risks, what do we need to be careful of, and what are the potential benefits and who can this be a wonderful thing for? And it's interesting to explore that especially as a cardiologist with 20 years of training saying that this would be something that's awful for people to do. But I think hopefully you'll learn a lot today from her balanced approach.

We'll also talk about evolution and of course about fiber, which is a very misconstrued component as well about how necessary and healthy that is. So I'm sure you'll appreciate Amber's approach, she's very thoughtful, and this is a very interesting feel that we don't know a lot about and we're continuing to learn a lot about from personal experiences and people sharing their very intimate personal experiences like Amber has. So please enjoy this interview with Amber O'Hearn.

Amber, thank you so much for joining me on the Diet Doctor podcast today.

**Amber O'Hearn:** Thank you so much for inviting me, it's a great pleasure.

**Bret:** You are one of these personalities in the low-carb world that just everybody loves, everybody wants to talk to you, everybody wants to be around you, everybody wants to hear your story.

And you have quite an amazing story that you've been very open and honest about that maybe sometimes can be difficult to talk about, but for you it doesn't seem so. And it's a story that involves weight loss and pregnancies, but then also some psychiatric challenges. So give us a brief introduction about your transition into the low-carb world.

**Amber:** Well, you know I wasn't always quite as open about it, but over time it's become easier, in part because I think so many people can benefit from hearing what happened to me. So I did use to tell my story primarily as a weight loss story, because that's how I started on it, that's how I got into low-carb. I don't think I ever would have come to the low-carb world if I hadn't been overweight a few times in my life.

So the first time that I tried low-carb it was for weight loss and that was just a regular low-carb diet and it was back in 1997 and I had tried other things, I tried to exercise, I tried veganism and they hadn't helped me with the weight loss and I finally thought, "Maybe there is something to this low-carb stuff."

So I had been on a low-carb diet very successfully for many years and I do think pregnancy had something to do that or maybe aging, but I was gaining weight over time. So I'm 5/6 and I would say my ideal weight is maybe around 130 pounds and by the time I got to the end of 2008, I guess I was about 35, I weighed almost 200 pounds. I'd actually stopped looking at the scale because it was too depressing.

**Bret:** Right.

**Amber:** But I was doing a low-carb diet and periodically I would stop because I thought, "What's even the point if I'm continuing to gain weight?" But then I would gain weight even faster and so I would eventually go back on the low-carb diet. It wouldn't take too long.

I again was facing a weight loss issue, a weight gain issue, and I found some people talking on the Internet about doing what they were calling a zero-carb diet. That name is a little bit confusing because it really has to do with animal foods versus plant foods. And so it was an all meat diet, no plants included.

**Bret:** and when was this? How long ago?

**Amber:** It was in the end of 2008.

**Bret:** Wow, so really early times for that movement.

**Amber:** Yeah, there weren't a lot of people talking about it, but the people that were talking about it were people like me who had been on a low-carb diet, had studied some of the low-carb science and were convinced that that was healthy but it wasn't quite enough for them and only when they gave up the plants were they able to see the results they wanted.

And I didn't think about it as a kind of lifestyle change. I thought well I could do that for a little while and lose this weight maybe if I'm lucky and then I could just return to my garden-variety low-carb diet.

**Bret:** Right.

**Amber:** So I made a plan and it took me I would say about three weeks to really work myself up to it and I planned to go on it for three weeks and then have a low-carb birthday cake for my birthday. And that birthday cake never came because the results were so great for weight loss, but they profoundly affected my mood and so that's why I'm still on a plant free diet today.

**Bret:** So when you were having your weight challenges, was that when you were also having challenges with bipolar type 2 disorder?

**Amber:** Yes in fact if you look back at the timeline of various mood and weight times in my life, the times where I had the worst mood problems were corresponding to the times that I had the biggest weight problems. And it was only recently that I really looked back at that on a timeline Birdseye view and said, "Oh these are really pretty deeply connected."

So I was diagnosed with major depressive disorder when I was 20 in my first year of university... it was really disruptive. And then I was on antidepressants for a long time. And in my 30s I was re-diagnosed with a form of bipolar disorder called bipolar type 2 and the difference between that and traditional bipolar 1 is that you don't have the psychotic mania states.

So you have the depressive side and you have a milder form of mania called hypomania. And so then I was actually really happy to be diagnosed with that even though it sounds much scarier, because I thought, "Oh, this is why I haven't been able to get any real results with my depression treatment because they're treating the wrong disorder. And so I then went on this horrendous ride of a variety of bipolar medications which never really helped.

**Bret:** But then the carnivore diet did help? Is that when you saw the biggest change?

**Amber:** It is and you know it's funny because bipolar and depression can sometimes be slow-moving. So if you see yourself having a great mood within a couple of weeks, you don't necessarily think that your bipolar disorder is cured, but it also seemed qualitatively different.

Another problem with bipolar disorder, and it's a clinical problem, is that people who have bipolar disorder often don't have the self-awareness to know what's going on or when they're in what state. And so I'd kind of learned to distrust my own mind. So it took a long time to regain that and to say, "Yes I really am better." But I've been med-free for nine years unless you count coffee.

**Bret:** I think that counts for something but not as bad as medicines in this case. So nine years, that's impressive. Now people talk about the ketogenic diet as being "restrictive" and those who are in it obviously know it's not restrictive.

But then you talk about the carnivore diet and the people in the keto community, someone called the carnivore diet restrictive and crazy and for you to be doing it for so long, did you have a part of this cognitive distance, like "I'm feeling better but I'm not supposed to be doing this and maybe I'm doing something wrong"? Have you been wrestling with that?

**Amber:** Well, maybe for a very short time as far as the feeling of restriction. I mean obviously it is more restricted just from a technical standpoint, but the feeling of restriction is actually I think a lot less. For one thing when you're not eating anything that has any trace of sweetness in it the cravings for sweet and for other foods really go away.

I think even when you're on a ketogenic diet you can see this. If you're in a bakery and walk past those cakes with the blue icing and you say, "Does that even register as food? Probably not."

**Bret:** Makes you more nauseous than craving.

**Amber:** Right, so when I walk through the products section, I wouldn't say it makes me nauseated but it's like pretty flowers or something. So I don't feel restricted and I also don't have to try to eat a certain amount the way that even sometimes on ketogenic diets you do, you have maybe a protein restriction and that might make your meals a little more restricted.

**Bret:** Very interesting. Now why do you think this works? I mean I know there is such a fascinating wild West feel that we don't have science or data on this necessarily to say this is what works and why. So is it because it's an elimination diet? Is it because there's something beneficial about that much meat? Is it because of a gut imbalance?

I mean can you think of what--? And you've obviously done a lot of research into this and you approach things from a very intellectual standpoint. So what is your thought that you've come across as to why this has worked for you and for so many others?

**Amber:** It's really the million-dollar question but I've had a lot of time to think about it and my thinking about it has changed over the years. So when I started-- you had asked earlier if I felt like maybe I shouldn't be doing it, and everyone tells you that you need to eat vegetables, that's the narrative even in the ketogenic community.

And so at first when I've realized that I felt so well, I thought I'm feeling better in spite of the fact that I'm not eating vegetables. And it didn't occur to me for a little while to think, "I'm really feeling better because I'm not eating vegetables", even though obviously it has to be that in some way.

So one of the first insights that I gained about it was from reading Dr. Georgia Ede, who has written a lot about the fact that we evolved-- plants evolved... in order to survive they had to have a kind of biochemical defense because they can't run away. And so there's been this arms race between herbivores including insects and plants on the other hand always trying to get this survival. And so it hadn't been until I saw her work that I thought, "The things that are in plants many of them are actually toxins."

And so maybe that could be part of the problem. One of the great things that I learned this year was I went to visit a clinic in Hungary, the paleo medicine clinic, and they are treating patients with chronic diseases using an all meat diet, a very ketogenic form of the all meat diet.

**Bret:** Interesting.

**Amber:** And their theory is completely based on intestinal permeability.

**Bret:** How long have they been doing that, how long has that clinic been around?

**Amber:** I think it's on the order of five years, I'm not sure exactly.

**Bret:** Very interesting.

**Amber:** When I first heard of intestinal permeability, I thought it couldn't possibly apply to me because I'd heard of Cordain's work and he was talking about the lectins in grains and how they might cause intestinal permeability and then go on to cause autoimmune problems.

So on the one hand the difference between my feeling better and feeling worse had nothing to do with grains, I already wasn't eating grains. And on the other hand I didn't think of a psychiatric issue was having anything to do with autoimmunity. So I saw those papers and didn't look into them really.

But I didn't realize that many plants have the ability to cause intestinal permeability or on the other hand if you already have an intestinal permeability issue then the toxins in plants that might not even be causing it so much on their own can start causing problems that they wouldn't have if you didn't have intestinal permeability.

**Bret:** And that makes it hard because you see so many people eating plants and doing just fine mean. And most people can tolerate plants and say, "Well if there are toxins

in these plants why aren't they affecting everybody?" And it might have something to do with just pre-existing intestinal permeability or a genetic predisposition and you sort of have to think of yourself as a special case, which we don't always want to do. So was that a part of, "I'm different, I don't want to be different, but I am"?

**Amber:** Yes, I mean you're absolutely right about seeing individuals who are able to eat plants. It's a little bit like in the low-carb world we see for example modern hunter gatherer societies that have a higher carb intake and don't have any signs of metabolic syndrome, diabetes or heart disease, and so we say, "There you go, carbs can cause a problem."

But I think that you get to a certain point where you have a certain amount of disorder and now you're no longer able to eat those carbs and still be healthy. So I think there's a parallel kind of situation where if you have a certain-- maybe it's an intestinal permeability issue, maybe it's something else, but you've gotten to a point where the plants are no longer safe.

**Bret:** Right, so the Kitavans are sort of the classic example of a high carb diet, but yet relatively healthy when we talk about the chronic diseases and the diseases that we're fighting now presumably due to carbohydrates.

But the same thing can be said about the "Blue Zones" populations, that they eat their whole grains and their fruits, and their vegetables, but we have to factor in their whole lifestyle and just how they live their life with their relaxation and their connection, and their exercise and what the other quality of their food are that they're eating and possibly even their genetic.

So they're going to be a separate subset and we can't assume that we're all the same, that we're all going to be like that. So you've made this transition years ago. And would you ever think of going back?

**Amber:** Well, honestly I don't really like to play around with it much, because the consequences are so severe. I've had a couple of situations where something that I had added to my diet, be it a supplement, I don't normally use much supplements, but I've tried things here and there and I've ended up lying on my bed, looking up at the ceiling wishing I was dead and thinking, "Wait a second, I've been here before."

**Bret:** That's dramatic, yeah.

**Amber:** It really is and so from that standpoint it's not something that I've been eagerly trying to test things out and see if I can reintroduce them. I'm also pretty satisfied with my lifestyle as I said before, you know, the cravings just disappeared and beef and other meats are quite satiating. But that said, you know, if I learned

something new, I try to really keep an open mind and I'm not at all averse to the idea of learning more and finding myself somewhere different 10 years from now than I expected to be.

**Bret:** So one of the most interesting concepts I think when thinking about a carnivore diet is thinking of it as a short-term intervention to fix something versus a long-term lifestyle and the difference between those.

So as an example, you do it short-term, it's elimination diet and then as you're feeling better you slowly start adding things in, like just some spinach, some broccoli or cauliflower, whatever the case may be, until you find something that's a trigger so that you can start experiencing and enjoying vegetables and find out what you can and can't eat.

Or just say, "I'm feeling better, I'm sticking with it." So I think the main question is, "Is there a danger? Is there a risk?" And obviously we don't know the answer to that question. Yet another million-dollar question.

**Amber:** Is your question, "Is there a risk to adding things back?" or, "Is there a risk to not adding things back?"

**Bret:** Sorry, "Is there a risk just staying carnivore long-term?" I think that's the main question. The risk of adding things back, you will notice, because if you went carnivore for a reason and something improved and you start adding things back and you feel those again, then you know you can't add those back.

Because the way I think of carnivores it's a great intervention to try and fix something, change something, but then I want to get people back to a variety of vegetables. Now why do I feel that way? Because again I've been ingrained for decades that this is not necessarily a healthy long-term option?

Do I have any data saying that? Do I know that for sure? I don't, but it's hard to overcome some of those personal beliefs and yet here you are 10 years later obviously doing just fine. So do you have any concerns for long-term health or sustainability for you?

**Amber:** I would want to enter that a couple of ways. One is, would you say the same thing for a low-carb diet? Would you say, "Well it's a good short-term intervention, "but eventually I want to see people adding back potatoes and grains so they can get back to a regular diet?"

**Bret:** I would not.

**Amber:** But of course we do have a lot more data for the low-carb situation, but it wasn't too long ago that we had a lot less data and we had to kind of go with our gut feeling of this is creating a better health situation for you, so why mess with it? The other thing that I would bring up is these more recent societies that we have in the recent past that have been living on very low plant diet.

So for example the Inuit, although their diet is quite different in terms of things like the polyunsaturated fatty acids. The Masai are often brought up, the Mongolians who at least before the introduction of wheat lived for very long time. They had two words for food; there was red food and white food. And that was meat and dairy and they basically didn't eat plants either and they were not known for their wimpiness. So I think we at least have some reasons to believe that it could be quite sustainable.

**Bret:** It's interesting, with the Inuit, some people say they ate sea vegetables and berries and with the Masai they traded for bananas and other... So I guess there's an argument there if it was truly 100%... does it matter if it's 1% versus 100%? I mean it's still a very low amount. But interestingly I think that a lot of people who will say that there is no evolutionary or population base who's done this as a comparison are sort of the vegans.

And you can say the same thing about vegans, there has been no society that existed as vegan, but yet somehow that seems more acceptable among the general population than the carnivore. The carnivore movement seems have created much more of an uproar again because of our dietary guidelines and where we've come from and what we think are healthy.

But when the question comes down to the nutrient deficiencies... So with a vegan diet, which is a very restrictive diet, it's well accepted that there are nutrient deficiencies and you need to supplement with B 12 and Omega-3's and maybe vitamin D and other. So with a carnivore diet there's the same concern, magnesium and selenium and a number of others. So do you find that you do supplement or that you would recommend people supplement if they are on a carnivore diet?

**Amber:** I don't supplement and these though were traditional but I have been in this phase for a while, the traditional wisdom among the carnivores that I know is that supplementation usually leads to more problems than it solves. One of the things that's really interesting about nutrient deficiencies in a carnivore diet is that a carnivore diet is also a ketogenic diet if only mildly so.

And as one of the speakers at the conference here was saying today when you are in a ketogenic state, a whole host of metabolic pathways become different. And what vitamins are technically, are enzymes for metabolic processes, or coenzymes I should



say. And so if you're using a whole host of different metabolic pathways it shouldn't be a surprise that some of those coenzymatic needs are going to change in their levels.

And so in some ways I think we are back at the beginning, the RDAs are all based on high carb dieters and there are so many different factors. For example there are absorption factors. If you're eating grains or legumes then you're going to need a higher level of zinc than if you're not, because there are phytates for example that interfere with the absorption of zinc to a very large degree. And so if you remove the plants from your diet all of a sudden the balance of nutrients is going to change in ways that we can't necessarily predict.

**Bret:** That's a very good point. So all the RDAs all the assumptions about what we need and we don't need are for a grain-based type of diet or high carbohydrate type of diet so this changes that dramatically. So it really is sort of a period of unknown though, isn't it?

**Amber:** It is. It's fun and of course not without risk.

**Bret:** Right, but one of the other concepts when you compare it to evolutionary societies is they ate differently even from a carnivore standpoint. They ate nose to tail, they ate organ meats, they made use of the whole animal.

And I don't know about you personally but a lot of people in the carnivore community eat sirloin steaks and ground beef and that's it, more of the muscle meat. Do you have concern from that standpoint? Do you think it should be more varied or even adding fish and eggs into that as well?

**Amber:** Well I'm going to play devil's advocate a little bit. How do you know that during our evolution we were eating nose to tail?

**Bret:** That's a great point, that's an assumption, because when you had to kill, you didn't know when your next one was going to be and we've been taught that they made the most use of that animal and they ate all of it. I don't know any science that proves that were not, that's the sort of the assumption I guess, isn't it?

**Amber:** It's a little bit difficult to know. I'm not totally objecting to the idea that we might have and certainly if you are in a time of less abundance you wouldn't want to throw anything away that you could use.

But even if you look at our use of plants, we don't eat the rinds necessarily and we were also, at least in certain times, possibly competing with other carnivores who might have for example gotten to the carcass first, so if we were scavengers at one

point we might've been eating a whole different set of part of the body than the whole.

There are also anecdotes from Stefansson for example that the Inuit weren't eating the whole animal, that they were sharing a lot with their dogs and they were preferentially give organs. On the other side of the coin we know that organs tend to be high in certain nutrients that are important, critical for the brain in fact, so some people argue that you should be eating the liver and the brain and I feel I have to be a bit agnostic at this point; I eat organs myself because I like them, but I'm not really sure what the true importance of them is.

**Bret:** So you mentioned the Inuit, what about the Masai and modern hunter gatherer societies? We can still see how they eat. Do they tend to eat nose to tail?

**Amber:** That's an excellent question that I haven't looked into for the Masai. What I know about the Masai is that they mostly eat blood and milk so they're keeping the animals alive and that would suggest that they don't get a lot of access to the organs. But I imagine that at some point they probably do eat them.

**Bret:** And what about the absolute amount of protein? So in a ketogenic diet there's a lot of controversy about protein. To oversimplify it, the risk of oversimplifying it, the more insulin resistant you are, the less protein you can have to remain in ketosis and the more insulin sensitive you are the more protein you can have to stay in ketosis.

I think is a relatively fair oversimplification. But then when you go to carnivore your protein levels go up dramatically. Is there a concern of too much protein not only from a ketones standpoint but an overstimulation of mTOR and growth pathways and potential IGF-I cancer risk down the road? Because that's something that's been talked about and examined quite a bit as well.

**Amber:** I really like the way you articulated that because I do think that a lot of it depends on your insulin damage state and I know that some people in the keto world and even in the carnivore world seem to do better on less protein. But it's not all about ketogenesis in the carnivore world, which was really surprising to me actually because a lot of the benefits seem to come just from the abstinence from plants.

And so there are people who I think eat so much protein on a carnivorous diet that they are in very mild ketosis or maybe more infrequent ketosis and yet they still seem to be getting the full benefit of that. So for example you could imagine that someone whose reason for being carnivore is that they have irritable bowel disease, they wouldn't necessarily have an insulin problem and so they wouldn't have as much therapeutic need for ketosis.

The other idea though that I would like to bring up is that maybe using a glucose based system that's on demand when you need it to be made from your liver is a still much healthier state than bringing in exogenous carbohydrates. So that you're always on this this kind of, "I've got too much" or "I've got too little" and having to adjust to the outside intake.

If you're eating protein, most of your metabolic processes are still being predominantly glucose, if that's coming from gluconeogenesis that still might be a healthier state than being on a high carb diet where you're always having these blood sugar swings.

**Bret:** That's a good point, where your glucose comes from matters for sure. So you've mentioned a couple of things, we talked about you and specifics... so there was weight loss and psychiatric effects and you mentioned irritable bowel or even inflammatory bowel, it seems like there is a certain autoimmune component to what a carnivore diet can benefit.

So would that sort of be your go-to if somebody said, "Who do you recommend this with autoimmunity sort of top the list for you?"

**Amber:** Absolutely, autoimmunity is the number one place where I've seen anecdotes and it's not just that the carnivore diet has had a lot of good results in those diseases, but those diseases have no other place to go.

**Bret:** That's a great point yeah.

**Amber:** So why not try it?

**Bret:** So whether it's Mikhaila Peterson with her horrible autoimmune arthritis that got better, whether it's people where their thyroid disease improves, or whether is Hashimoto's thyroiditis or other inflammatory bowel conditions... I mean what's the examples that you've seen of people who have had dramatic improvements?

**Amber:** Asthma, Lyme disease, allergies even for autoimmune and obviously Crohn's. Then mood disorders is the second one that I would bring up and I don't know if that's because mood disorders actually have an underlying autoimmune component that we don't know about. There is a theory, I don't remember what it's called, but it has to do with permeability of the blood brain barrier.

So if you imagine that there's intestinal permeability that's affecting your immune system and you've got that compromised, so you have now agents that shouldn't be in your bloodstream and if you also have a permeability problem in your brain barrier then that could also have a similar kind of consequence.

But regardless of mechanism we have found, at least anecdotally, that there are people like me who have either bipolar disorder, anxiety disorder, depressive disorder. I haven't heard anecdotes about schizophrenia, but I have a high level suspicion that it could be helpful for those people as well.

**Bret:** And like you said is what other options exist and schizophrenia is one that not a lot of great options exist for them to be functional and feeling better off medications with side effects. And that's a very big challenge. So if this could serve that role why not try it?

**Amber:** I don't know if you're familiar with the paper... it was Dr. Westman and somebody else... they had a case study with someone with schizophrenia on a ketogenic diet and they speculated that the improvement that they saw, which was drastic by the way...

This was an elderly person who had been schizophrenic with severe psychosis her entire life went on a ketogenic diet and had complete like no more hallucinations. They suspected that there might've been a role for gluten and the absence of gluten in that particular case. And so if gluten is a problem then maybe intestinal permeability is a problem and maybe a completely carnivorous diet would help people.

**Bret:** One of the things about ketosis is I generally like people to get into ketosis and try it for at least 30 days because there is this concept, "You don't know what you don't know". You don't know how much better you could feel. You may think you're fine, but maybe you could feel better. Would you take it one step further and say everybody straight carnivore for 30 days? Because you don't know, maybe you'll feel better? Is that a statement you'd make or am I putting words in your mouth?

**Amber:** No, I absolutely would. it's really funny because people think that they can reason from everything they know about nutrition or biological science and say, "I know what the effect of that diet would be and it's not going to help me."

But if you've been through this process of trying a ketogenic diet and being really amazed at the, you know, half-dozen things that happened to you that you didn't expect and that nobody told you that you could expect, positive side effects if you will. The same kind of thing happens on a carnivorous diet and it sounds silly saying it, but it really has to be experienced to be believed.

**Bret:** Very interesting. Let's transition a bit away from the carnivorous diet, because one of your other topics that you've written a lot about and spoken about is evolution.

And I've seen a number of papers recently saying that agriculture and grains happened far earlier than we thought they did, so maybe we evolved with grains and not without grains and then others saying our ancestors were mostly plant-based and we've got it all wrong and again it's hard to understand the science, because we're talking about something that happened thousands of years ago and it is hard to separate science from propaganda, from people just powering opinion.

So what have you learned in this process of studying evolution and trying to figure out the contributions of meat versus plants versus grains?

**Amber:** Well, I think that we probably always had some contribution of plants in our diet, but I think that a lot of the time it was very low. If we narrow down what we're talking about in terms of the period, I like to think about the period from when the Homo Genesis started, a couple of million years ago, and when our brain started really expanding.

The thing about the ability to get the energy that we required in order to feed not just our bodies but our brains, which actually require a whole lot of energy; the more brain tissue you have, the more energy you need, because it's a very expensive tissue. In order to have been able to get that from grains and tubers we would've had to have a consistent supply of them and we would've had to have had cooking.

And there really isn't any evidence that we had the widespread controlled use of fire until maybe a hundred thousand years ago which is much later than when all this brain expansion took place. And so you know I think a lot of people get really excited when they find some grains at a site and say, "See? We had grains back then."

But just because we had a few-- I mean obviously we had to have come to it gradually. We didn't just suddenly one day start farming grains. We had to have discovered grains and been using them a little bit and then using them more. There's a great theory that the reason that we wanted to use grains was actually because of the opioid effects and because or because of beer-- That's a different story.

But whatever led us to be motivated to do grain agriculture was a gradual process. And so it shouldn't be surprising if we find some evidence of some use of grains going farther back than the onset of agriculture.

**Bret:** The other thing about evolution is the concept of intermittent fasting, because we didn't always have fresh meat available. The kills would be sort of intermittent theoretically and so we would have to be fasting for some part of that. Do you think that should play in--? I'm going back to the carnivore diet. Now do you think because of just saying that was part of evolution that that should also be part of the carnivore diet?

**Amber:** It's another one of those things that's hard to say without actually being there because there's some reason to believe that the abundance of animals was actually quite a bit more at that time if you compare for example-- you can look at bone evidence and see how much famine periods that societies went through by looking at-- there's a marker in the bone that shows fasting periods.

And there's actually evidence that agricultural societies had much worse and more frequent famines and I think that's because they were reliant on this supply that could be killed for an entire year.

**Bret:** One bad hailstorm away from famine basically.

**Amber:** Exactly, but the other thing to take into account is that the animals that we had access to before agriculture we had megafauna, they were much larger and there were probably a lot more of them, so you could have one kill that could perhaps last months if you knew how to store it.

**Bret:** Right, that's a good point. So without freezers that would be tricky but not impossible.

**Amber:** Yeah there's evidence that we would put them underwater or that we could dry them. I think we really don't know a lot and there's a lot of debate on what really happened.

**Bret:** Yeah, but people surely like to talk about it like the new what happened.

**Amber:** Yes.

**Bret:** I find myself falling in the same trap, like this is what I've heard, it makes sense, so therefore must be true but you bring up a nice perspective that way; "We need to think about this differently".

**Amber:** Well I'm certainly susceptible to it myself.

**Bret:** Now another quick transition into fiber, because we hear a lot about healthy fiber, that we all need our fiber. And the gut microbiome, we need to feed the microbiome with fibers so that they get their short chain fatty acids. And the diverse microbiome is a healthy microbiome. So I guess that's a lot right there to digest.

**Amber:** It is a lot right there to digest.

**Bret:** So let's start with fiber. Why don't you need your fiber? What makes you so special?

**Amber:** Well, I don't think I'm special in that regard actually. So fiber first came into people's awareness I think with Burkett where he was comparing some modern hunter-gatherers to Westerners and trying to figure out what was it about their diet that would make them so much healthier.

And he noticed that they had more fiber, the one the particular people he was looking at had more fiber in their diets and so he proposed that as the reason. And I don't think it's really held up to scrutiny. So for example one reason that people have latched onto is that, "Oh, it lowers your blood glucose."

Well that may be true if you're eating a lot of digestible carbohydrates, but it absolutely has no bearing on someone on a low-carb diet. Another reason that I have heard it can actually fill your gut and thereby cause you to not over eat. And I think that you need to give your body a little bit more credit. If it's not getting the calories it needs, the signal will get there.

**Bret:** Right, if you're eating a lot of processed foods and high carb foods you're not going to get the nutrients and you're going to continue to be hungry and maybe adding fiber can help in that situation. But if you're already eating satiating foods then the fibers are not going to serve the same kind of role.

**Amber:** Yeah, but let's talk a little bit about the short chain fatty acid idea. So one thing that I have learned is that you can get short chain fatty acids whether or not you're eating plant fiber. So for example I have seen a study in dogs where they gave them a completely meat-based diet and one that included some plant fibers in it. And the short chain fatty acids that came out as a result were exactly the same.

**Bret:** Really?

**Amber:** So the gut bacteria will adapt to what you feed it. You don't have to plant gut bacteria in there. You feed them and they will come. So if you change what you're eating the gut biome will change very quickly. There will always be those that are producing short chain fatty acids. But then how important are those short chain fatty acids?

A lot of people point to butyrate in particular and say, "This is really important for the health of the colon." I've looked at a lot of the studies on the putative health benefits of butyrate in the colon and a lot of them seemed to come back to this idea of feeding with colonocyte. What happens when you give the butyrate to the colonocyte is that it breaks it down into the metabolite beta hydroxybutyrate.

**Bret:** Isn't that interesting!? Where have we heard that before?

**Amber:** Another piece of data that might be interesting is if you look at the literature in germ-free animals-- so a mouse for example that's been brought up without any source of bacteria to fill up their guts, it turns out that they live longer and that they have less fat on their bodies and for the most part they're more active and they certainly don't seem to be compromised by it.

**Bret:** Interesting.

**Amber:** So there are a lot of reasons to think that what we think we know about the gut biome isn't necessarily so.

**Bret:** So one of the arguments is that breastmilk has precursors that help your gut biome mature and turning into short chain fatty acids and make it more diverse which is a healthier microbiome.

**Amber:** Well, hold on now. The only place that I've seen that's a source of the idea that a more diverse gut biome is healthier was a comparison with the Hadza.

**Bret:** Right, so maybe I'm confusing my evidence here. Because the Hadza definitely said that they were more diverse compared to the industrial societies with completely different diets. So scratch that one from the record, scratch the more diverse, but that is important for the development of the microbiome... With the breast milk.

So would you say that that's a short-term need and once it's developed in longer-term you don't need the same precursors more?

**Amber:** I just don't think that we know. I think that the gut is extremely important and I wouldn't want to be understood as saying that I didn't think that the gut health is important, but I just think that manipulating it from the outside might not be the best way to do that.

Another reason that we might think we need gut bacteria is because some people who have taken prebiotics have said that it's helped them with digestive problems. And my answer to that is if you're trying to digest something that you need certain bacteria to be able to digest it, then feeding prebiotics that help that strain grow might be useful.

But if you're not eating cabbage then why do you need the bacteria in sauerkraut? I guess this is the point. You don't need those particular bacteria because you're not trying to digest those particular foods.

**Bret:** Yeah, very good point. Now do you follow yourself with labs? Are you an N of one tester or do you want to make sure that there aren't any signs of deleterious effects down the road?



**Amber:** I'm terribly behind in this project. It's not that I don't think it's important but the last labs that I got were five years ago...

**Bret:** Oh, interesting.

**Amber:** So I actually have some labs lined up. I had ordered some this summer and they fell through... actually they were all lost by the company that took them so I need to do them again. But I'm really interested in that kind of data, it just hasn't been a priority.

**Bret:** Yeah, because when it comes to sort of the general population understanding what a carnivore diet is and what it can represent and how can change things a big example is Dr. Sean Baker and as amazing as he is that's what makes him such a terrible example because he such a high-end athlete setting world records and his energy demands are off the charts.

So I think to try and use his labs and say, "This is what can happen on a carnivore diet." It's not such a great example. And that's where people like you and a more less extreme person on a carnivore diet would be very helpful. Are there communities where people are sharing their labs or sharing especially their hemoglobin A1c and their CRP's and the lipids and so forth about what happens?

**Amber:** In carnivores?

**Bret:** Yeah.

**Amber:** Not that I know of. It could be happening.

**Bret:** I think that would be very interesting. If you get your labs and share them that would be wonderful. I mean there's so much that we don't know but I think it's clear what we do know is that this can be helpful for a number of people and I like your perspective when there's not many other alternatives, the potential risks seem a lot smaller. I think that's a very good way to look at it.

**Amber:** Yeah and you know the risks as far as I know at this point are theoretical.

**Bret:** Very theoretical... Interesting. Well, Amber, thank you so much for coming on today to have this discussion. Any last words and where can people learn more about you? I know you have a lot of material online that can be very helpful for some people?

**Amber:** Thank you for asking. I can be followed on Twitter, my handle is @KetoCarnivore and I'm very open to answering questions as best as I can. I have two blogs. One of them it's a kind of a funny historical story.

I made two blogs because I was so averse to talking about this carnivore idea that I didn't want to put it on my main blog which was about the science of ketogenic diets. So I have written some articles about ketogenic diets and that's on ketotic.org. And then I started writing more personal experiences about the carnivore diet on empiri.ca.

**Bret:** Why were you averse to talking about it?

**Amber:** Because it felt so unscientific. I couldn't bring to bear a clinical trial. All I could say was this is what I'm doing and this is what's happening and I was very uncomfortable with mixing that up with the other site which I really wanted to present as this is what the literature shows. In retrospect I think that was maybe a bit more fractured than I needed to be.

**Bret:** Well but I think that says a lot for your integrity. Both your scientific integrity and just as a person that you don't want to represent something as being something that is not, certainly with a level of evidence. So I appreciate that and I think that's important for everything, for people to understand where it's N of one, where it's N of many and where it's scientific trials. They are all valuable but we need to interpret those differently. So I think it's great that you did that.

**Amber:** Thank you.

**Bret:** Thank you so much for coming on today, I really appreciate it.