

VIDEO - Diet Doctor Podcast with Eric Westman (Episode 36)

Dr. Bret Scher: Welcome back to the Diet Doctor podcast with Dr. Bret Scher. Today I'm joined by Dr. Eric Westman. Dr. Westman is a true pioneer in the world of low-carb medicine. He's been involved for over 20 years having started basically by reaching out to Dr. Atkins himself and then taking a sort of an anecdotal approach and trying to apply the science and starting to really further the research in low-carb and this was over 20 years ago.

And now he has experience as an associate professor of medicine at Duke, he is board certified in internal medicine and obesity medicine and is the founder of the Duke Lifestyle and Medicine Clinic. Now he is trying to bring his approach all over the country rather than just being in one setting and he's doing that through the Heal clinics.

He's a true pioneer in the field of low-carb medicine so much so that he is even proposing that maybe we need a keto specialty in medicine. And that's part of what I really enjoy about this interview; just getting a little bit of, a little picture of his experience. Because he probably has more singular experience than any provider out there.

So to hear from his clinical perspective and also how he bridges the gap between his clinical perspective, clinical understanding and knowledge and experience and research and bringing that together to further this movement of low-carb. Who is good for, what it can do, maybe where you have to be careful, some of the roadblocks... he knows all of this.

And of course, we can't get all of his pearls in a one-hour interview, but I think we get quite a few out of this interview. So I hope you enjoy this interview with Dr. Eric Westman. For the full transcripts join us at DietDoctor.com where you can also see the wealth of other information we have on the website. So thank you for joining us and enjoy interview with Dr. Eric Westman. Dr. Eric Westman, thanks so much for joining me on the Diet Doctor podcast today.

Dr. Eric Westman: My pleasure.

Bret: When it comes to the world of low-carb and keto from a medical standpoint, you are truly one of the early pioneers. Although I've heard you say you're always

quick to point out that you were actually trained by the real pioneers, trained by the luminaries and you've been in this field for over 20 years having worked with Dr. Atkins and his staff. I want to start by hearing a little bit about your story.

Why you started into this 20 years ago after been a physician for so long? And how you've progressed in your world of low-carb and keto in that time?

Eric: Well, sure, you know, it wasn't that I was looking for this.

Bret: Right... Few are, right?

Eric: So imagine you are in a clinic and two people come through your office within a week having lost 50 pounds and you've never seen this before in any of your patients before. So first of all, you had to understand that this was like a lightning bolt striking twice within a certain period of time and I was curious. I thought... You know, going back then I was a young internist being trained in clinical trial research.

So I learned all about biostatistics and all that and realized that if something happens, you know, it's possible and if that happens twice, well it's more than possible; it might even happen more often. So I was curious about these two patients and looked into the books and all and at the time, I mean, Dr. Atkins was the only one in a clinic. So I kind of valued that when I read the book, it was all anecdotes, and not persuasive for me, but there was at least a book in a clinic that seemed to be in operation.

So one of the patients came back... I had read Dr. Atkins book. And he said, "What's your problem with it?" and I said, "What's your cholesterol?" "Your cholesterol is going to go up, because, you know, it's high-fat." And so I remember the gentleman kind of looked at me and just said, "Why don't you check it?"

And I said, "Okay, you're the one who is going to get the blood drawn, not me." It's a VA Hospital, there's no expense to anyone... Well, maybe the taxpayer... I mean it's a very low risk thing to do. It turned out the cholesterol levels were all better. Even if you sliced it the old way, the new way, it was all better. And that kind of got my attention, because everyone else said that it would be worse.

So I knew it couldn't be worse all the time. And then the second patient came through and I measured the cholesterol again kind of on purpose to see... would it happen twice? And again it was favorable, the change. So a lot of weight loss, good cholesterol. So what's the roadblock?

We did a review paper and there was no data really published in the medical literature. So it was like this vast wasteland and as a young researcher I thought, well

this might be a good place to be if there is no data and it clearly works. And if we're safe, how easy would this be; I didn't even tell these people what to do.

Like many people today, for me-- and this is 1998-- I was worried about the safety. I mean I knew it could work in two people because they were in front of me. I didn't have any idea how effective would be in just about anyone who tries it, which is my opinion today, but back then--

So I did what any reasonable young researcher would do. I wrote Dr. Atkins a letter and now I realize no one else would ever do that. Because people tell me that was kind of a bizarre thing. No, I was just trying to get more information. You know, my dad's a doctor and I realized that you can learn things over a clinical practice in a lifetime. So he called back in kind of an awkward phone conversation.

That was something like, "What do you want?" I was like, "Dr. Atkins, thanks for calling." And he said, "Well, what do you want?" I said, "Well, I read your book, it seems to work." -Kind of laughed.

Bret: -He said, "Yeah."

Eric: "Yeah, I've been doing it for 30 years." I said, "Yeah, but is it safe? You don't have any studies. How do I know that it's real?" That's the language of a young Duke clinical trialist... "Show me the data."

Bret: That's really so interesting. You approached this from sort of an academic standpoint.

Eric: That is all I knew.

Bret: And all there was anecdotal evidence. So just the fact that you're even interested in it, didn't just blow it off. It was great and you said, "Let's create the evidence and find out if this works."

Eric: I think an important part of my training is I teamed up right about that time, maybe a few years earlier with the inventor of the nicotine patch. His name is Jed Rose, he is still at Duke and so I brushed with, you know, a genius. He is brilliant, I still know him today, we are still friends, but he was pushing the envelope on the knowledge about nicotine.

And we did the study on that... What? You put a patch on your skin and you don't smoke? So we did one of the first studies on the nicotine patch. And so I think that opened-- unlike a lot of doctors who were just in their own little camp-- it opened my mind to what could be done and showed me that if you want to change the world or

find out something new, do a study. You know that was kind of the operating system I was working under.

So when faced with two patients... clearly worked. I was worried about safety... Why not contact the doctor? And Dr. Atkins quickly said, "It's all in my book" and I said, "It's not enough." And he had, I don't know... wisdom to say, "Why don't you come to my office?" I wouldn't have done that if I hadn't been asked. And so looking back I use that today and I tell other people that you're welcome to come to my office and see what I do.

Because I know that might be necessary to overcome all of these different barriers that go against everything I've been taught, I've heard that so many times. So you know, one thing led to another and we went to the office, it clearly worked, although when I went back to Duke some of my research colleagues said, "Well, they probably hired Broadway actors to sit in his office."

Bret: Really? They were that skeptical?

Eric: "He probably faked the charts."

Bret: Oh my goodness, that is some serious skepticism.

Eric: Of course, the same researchers 10 years later said, "God, it was like you were shooting fish in a bucket. You knew it would work." No, I didn't know. But that's just the way the people change their view of things are. At first I kind of knew it would work, but I was skeptical about the safety of it. And it's not like I worked for Dr. Atkins; I asked him for money to do research.

And then our first study was done. 50 people over six months... published in the American Journal of Medicine, which is a pretty reputable internal medicine journal. And that's kind of my litmus test for anything you hear today. Someone asked me what about the Dr. Smith diet and I said, "Well, show me the paper in a peer-reviewed journal. Just 50 people over six months and show me what happens."

And then that weeds out 99% of the stuff you hear today, because we want it to be evidence-based and based in solid science. And our study of the 50 people over six months was done and published in 2002. So even now that's so old that people can't put that in their PhD thesis. It's over... it's six years older--

Bret: Let's talk about the timeframe here because it seems like low-carb and keto, whether it's Atkins or modern-day low-carb has sort of had like this bimodal distribution. It was popular in the late 80s early 90s maybe and then started to fall off after that. About the time you were doing the research it kind of fell off in popularity.

And now we're seeing a resurgence. So tell us what you think about that history in that timeframe of why that bimodal distribution.

Eric: Well, looking back so I started being in this space if you will in the late 90s. But so when I look back there was always a surge of popularity when the Atkins book or a revision of an Atkins book was published. And so the first one was published in 1972 I think and then the next one was in the mid-90s, like 92. So each time there's a popular diet out there that clearly can work, it gets an uptick in people doing it.

When our research was published in 2002 there was an increase in active... we call that the low-carb craze of 2002 to 2003 in the Dr. Atkins diet in 2003. And that was what really stopped the uptick. And there was no science that came out and said it was bad. In fact all the science was looking positive and I've been told this by other people right at that moment, the South Beach diet with Dr. Agatston behind it was planned on being launched which made it a great-- there was no competition then.

I mean it was low-carb, a kind of a low-carb low-fat version, but it was clearly effective at least for a while and so that helped to have the Atkins craze fade away. But the continued research marched on. The first round of research other people were doing were kind like what we did; low-carb versus low-fat.

And now there have been so many studies on it. I mean there are meta analyses of the studies and even you can get a app that shows the score is something like 30 to nothing. Low-carb wins. Not that low-fat can't work. It's just low-carb is better. But in the early days it was I think the Dr. Atkins dying, and then the-- we call them evil forces in the low-carb keto world, but the other forces out there got ahold of Dr. Atkins death certificate under false pretenses and then the word got around the world in a press release that, you know, the diet doctor dies obese.

Which actually wasn't true and it didn't matter at that point. And so there was a worldwide, you know, anti-Atkins bashing which was really sad. But in those days, you know, you can talk about eating fat.

Bret: Right.

Eric: In fact we called it high-protein, because that was a safer way to say what it was, when really it's just low-carb. And then you eat less, so you're not eating any more protein than before. So there's a lot of confusion.

Bret: A lot of people like to differentiate sort of the modern-day low-carb high-fat compared to the Atkins with the big difference being lower protein on average in the modern-day low-carb. So would you say that's not necessarily a true assessment?

Eric: I think that is true but the variability so the type of practice that I have allows for people to really come up with their own macronutrient mix. I don't tell people exactly what to eat. So I don't think we know yet what the exact macronutrient mix is. I mean even the keto experts will argue whether you want to be higher in protein or higher in fat.

And I'm glad we're having that debate. But we're like, you know, siblings, we got to get along, don't get mad at each other; the rest of the world is looking at the sibling rivalry when we just need to have the message I think that lowering the carbs is a good thing.

And I'm glad we can do research now to answer some of these questions, but just going back to that era it was a taboo, meaning there was a social prohibition of studying a high-fat diet. And I was able to ask a couple of the world diet experts at that time and they kind of looked at me and said, "If you lower the carbs down that low, what are you going to do? Increase the fat? We couldn't.

And a taboo is kind of a social. There's no written rule that you can't study it. So the scientists who found things... the funding agencies could say, "We don't stop people from studying it." And yet nobody applies. Well, nobody applies because there was a taboo. So that was lifted about the year 2002 with Jeff Volek's group and our group at Duke publishing... like the same month the papers came out.

But when you look back from a news thing it's ancient history, but from a kind of science, you know how conservative and slow the change science in medicine especially is. It's really kind of recent when we can now go around with meta analyses and show studies of studies that actually show that it is safe and effective. But it is as strong as a drug. So once you get into a clinical situation you want to be... not cautious, but you want to be aware that this is a very powerful thing. Medicines can become too strong.

Bret: That's a great point to make, because people can just see all these anecdotal experiences and the data now that is coming out about how successful this is and just go ahead and try it. But sometimes people can get into trouble with it, can't they?

Eric: Yeah, it's like anyone can go and buy a motorcycle. I mean the dealer doesn't make sure you have a license. But if you don't know how to ride one, it can be unsafe or even dangerous. So when you are in a clinical setting, you're seeing doctors, you're on medications and all that, it's so powerful you want to just work with someone who understands how the medicines can be reduced.

Bret: So for someone who is not on any medication, for someone who just wants to lose weight and prevent diabetes, high blood pressure, cardiovascular disease,

Alzheimer's, they want the proposed benefits. Do you have any concerns for them just jumping in and trying it on their own?

Eric: Not really... you know so I'm trained as an internal medicine doctor, so my training in nutrition came from hospital practice. So someone couldn't eat, you figured out what the essential nutrients were to give someone and then reading and learning as much as I can from world experts. I would sit in the office of a fiber expert and say, "Do you really need fiber?" And sit in the office of the fat expert, so I was able to do that to learn from mainly researchers.

I mean I'm compelled by the hunter gatherer, the Paleo primal... It's called face validity, meaning it's kind of common sense that if humans didn't have sugar until 100 years ago, maybe we need to be a little careful with that. You know, if we didn't have grains until 10,000 years ago... I mean it seems like a long time, but from human history standpoint is not a long time... maybe we don't need to have grains, that kind of thing.

So I am also a history major... so in college... So I spent a lot of time learning how to be a detective when you read history and learn from that. And then, at least just knowing in the relatively recent history that doctors used this approach from 1860 to 1960, just about all the doctors knew about low-carb diet and they used it for diabetes and obesity and then it was forgotten. So, well... but the knowledge is still there.

Bret: Right, before the drugs were developed it was really the only treatment.

Eric: The only treatment for diabetes.

Bret: Yeah, but then why abandon it when the drugs came? And that's unfortunately our drug centric focus in medical practice.

Eric: Well, those issues weren't so important to me as I focused on the health or studying the approach. I mean this is a whole-- there's books written on this of how things got off track. I wanted to really focus on is this really going to be safe to study at first? I was convinced yes, you don't really need to eat carbs and then there was even a commonsense face validity that humans ate this way for a long time.

And then doing 15 years of research with people not eating many carbs at all I am left with the idea why should I have anyone eat carbs if I fixed their diabetes, hypertension, they feel great by not eating carbs. Why should I have them go back to eating carbs? That's kind of where I am. So I think this is healthy eating for anyone, as long as you're not in a medical situation, a medical problem on medications.

Bret: When people are looking to get healthier there is so much information out there that they can try and find and keto diet, very low-carb diet is obviously one of them. But do we muddy the waters if we sort of say, well the real message is just avoid the sugars in the process foods and eat a little bit clean and you don't necessarily have to go keto.

Do you think that muddies the waters a little bit and we should be focusing more on you should dive in and go keto? Like where do you see the balance of a more reasonable diet versus a very low-carb keto diet?

Eric: You know, from my standpoint in the clinical practice of seeing people who are across a wide range of socioeconomic status, wide range of educational status, I think it depends on the person. So that if you're going to be the guru on the mountain and say you must do this, this, this, count your macros, do your ketone levels, step on the scale and... oh yeah, that's the Virta health model.

If you're going to expect everyone to do that and you won't treat them if they can't, you'll only be able to help a certain segment of society. So I think the message needs to be tailored to the individual based on their knowledge of how deep they need to know about it. Can they just follow a certain set of foods without measuring macros and writing things out? Absolutely.

So there are a lot of different ways to do it, a lot of different ways to teach it. And in the talks I'm giving now, I'm trying to help tease out where the information comes from. So a lot of the current day keto comes from solid research and a lot of the current day keto it's just kind of glommed on like a Christmas tree ornament on the Christmas tree. I mean show me data where you save lives by having grass fed beef. It doesn't exist.

But it helps with the sustainability and the local farmers market support and all that. So what's happened is kind of a-- probably happened because of their needs to be a critical mass of people buying products, doing it for the awareness to go up and because it's so effective even if you do it in all these different ways, that's why people stay with it. So I don't know the right answer.

The research were presented to me or if I could even, you know, convince someone to fund me to do the research-- that might even happen one day-- then I think different questions along this line are really important. Should you really pay attention every day or every meal to what your macros are? I'm not convinced yet.

Should you really be measuring the ketones in the breath, blood, urine? I know a lot of people can do this without measuring anything at all. But if you show me the science, it says if your beta hydroxybutyrate is between one and two you have some better

outcome. Even if it's, you know, feeling better, I think that's a valid outcome. Then I'll start making a policy or general clinical recommendation.

But I try to hold out, you know, like the true beginnings where I started I want the level of evidence to be high enough so that it could be doctor to doctor, hey look... you do this, you get that kind of result. And we do expect that. We don't prescribe drugs unless we have a certain level of evidence behind it. We shouldn't change in a big way our lifestyle prescriptions, unless there is solid evidence behind it.

Bret: Yeah, it's an interesting point. At the same time, we have to recognize that evidence progresses slowly and anecdotes progress quickly. So it's an interesting balance, isn't it? Trying to see how to rectify that. Because when you're seeing hundreds if not thousands of patients that are improving in certain ways and the evidence might not support that, you still want to promote it, you still want to talk about it and encourage it. So it's an interesting balance to have to strike as a practitioner and a scientist.

Eric: You see, I believe clinical observation is evidence. In fact that's the history of clinical epidemiology starting with the evidence of what you see in your clinic. And I know there was a famous or a powerful nutritional epidemiologist recently who said, I don't even care if there thousands of anecdotes, I wouldn't listen. Okay, that person is just totally out of touch.

Yes, in fact, so it depends on the context. If someone's dying... we used to have this disease meningitis or pneumonia for that matter and everyone died because there were no antibiotics. So the first dose of penicillin for someone with meningitis and they lived, you don't need a randomized trial. So that is evidence.

So the way you use the term 'evidence' is you are using the common medical understanding, which means randomized trials, publications in journals... The clinical use of low-carb keto is decades before the academic studies. So in fact last year, 2018, we published a survey of Facebook users, TypeOneGrit.

Bret: Oh, TypeOneGrit, yeah.

Eric: And that was a collaboration between Duke and Harvard and it was in the journal pediatrics; it was the most influential article for the year surveying Facebook. And even then the powers that be in the type I diabetes world wrote a scathing letter to the editor afterwards saying, "How could you give such attention to this? It's so out of touch."

So I do value the evidence before me. In fact in the clinical epidemiology world and I trained-- I say loosely trained-- followed very carefully the McMaster group in

Hamilton Ontario, and the N of one trial using an individual as the outcome, can give a lot of information. So that's where we are in fine-tuning the keto diet now as you do it, N of one meaning there's sample size of one... just one person.

You try something for a while, see how you do and the problem is you can't really test long-term outcomes. Like one of the sticking points today is what happens with the cholesterol. And it's going to take a decade for something to appear so don't even do it now. Well, wait a second... I think the clinical observation is evidence and you can make decisions as a clinician based on the N of one or let's call them multiple period crossover study if you want the parlance from the research world.

Bret: So when we see the N of one experiences or the N of one anecdotes that people are doing in all the things that keto can benefit, a keto lifestyle can benefit, there comes a point where an outsider would say this is a bunch of snake oil. I mean it can't improve everything, you can't have weight loss and reverse your diabetes and help your COPD-- now there's some articles about that-- and your arthritis and make you think better and help your skin... it sounds like too much. How do you respond to that?

Eric: Yeah, I think even Diet Doctor pulled out a phrase I had... It's so unbelievable that people don't believe it, right? So actually that's kind of a judgment call when I'm talking to a group... do I really let them know everything that gets better? So based on the audience I'm in, if it's a group of people who have had that experience, I'll just off course call it out, because they've experienced it.

So that's when you're in a group of other doctors who are very skeptical. So I spoke to a chronic pain medicine group on this traveling trip I'm on now and many of them had used low-carb for chronic pain in their patients, but most had not. And so I just was very focused with what I knew, really carefully; you know, obesity, diabetes, that's the research that we've mainly done and the observations I've seen in my clinic about pain getting better especially arthritis and fibromyalgia, those things.

But actually I did a literature review and there were some pretty recent articles about the mechanisms of how keto could improve chronic pain at the neuron level. So yeah, you want to be careful to not seem like a total zealot, convert, quack, whatever, but it's true. So for me that just depends on what audience I'm speaking to.

Bret: That makes sense, that makes sense. Let's talk about some of the practical issues that due-- Well, not just they get better but also some of the concerns and the hurdles that you hear from patients. So people say, "I don't have a gallbladder, I can't do keto." That's something I'm sure you've seen time and time again.

Eric: Yeah, it doesn't seem to be a problem.

Bret: Did you find that they might have a harder time adjusting to the higher fat intake initially and it takes a little longer? Or you don't even see that?

Eric: I don't know, you know, these days I see people in follow-up usually 2 to 4 weeks after they start. So by then there's been an adjustment or I suppose if they had a really bad problem and didn't come back to tell me I wouldn't know. But I do get that question and I don't think having a gallbladder now matters and another aspect that I bring in is even after weight loss surgery where they reroute all of the intestine so that the gallbladder outflow doesn't even time with a meal at all.

This is the Roux-en-Y gastric bypass surgery. And the human body is so robust. The digestive juices, you know, now get together down below the stomach, below the duodenum in the jejunum. And so the timing is all messed up after a Roux-en-Y gastric bypass. And they still gain weight. So even in a much more extreme setting where the gallbladder juices and flow is all messed up there isn't any problem with absorbing.

And although they may have symptoms so-- I guess I would be open to the idea and I would love to see a series of the hundreds of people who had their gallbladders out and then follow each one carefully and then we'll know the rate of occurrence of problems after gallbladder, but from my vantage point what I know so far it's not a reason not to do it.

Bret: Yeah, very good. How about the concern of long-term bone health, that's too much protein and too low-carbs? That type of diet is going to disrupt your bone health and make you more likely to have osteoporosis.

Eric: I don't I don't see that in now in a cohort of patients that developed-- not everyone gets measurements like that over time, but my teaching, the low-carb teaching, is that what you really need to prevent osteoporosis is protein. And so many people who go from a traditional American diet to a keto diet actually improve the amount of protein that they eat. So that's another area that I think there's a lot of a hue and cry when there's very little supporting the bad to it.

Bret: Right.

Eric: I guess there's the old idea that you had to have calcium... How am I going to get my calcium when I'm not having milk? Well, I think that's how we get information about what to eat and where nutrients come from by companies that want you to buy their products. So actually you get calcium in foods and the protein is probably the most important thing.

But there are two studies I'm aware of which is not a whole lot of evidence but it's at least some and they didn't show any change in the bone mineral density over 6 to 12

months in those who did a keto diet. So there's some data on it. In the meantime you just want to measure any health issues including bone mineral density over time. And if you see a change, well, talk to your doctor about what therapy might need to be changed.

Bret: How about the long-term stability and sustainability of this diet? Because one of the biggest pushbacks is that sure, it will work short-term, but you're not going to be able stay with it long-term and to be fair a lot of the low-carb versus low-fat studies, you know, the curves separate at six months that low-carb is better for weight loss and at a 12 month they sort of start to come together a little bit and then the compliance drops off even in the studies.

So one of the big concerns is it's not a long-term sustainable diet. How do you respond to those criticisms?

Eric: As someone who provided several studies to the literature on this and I know a lot of the other authors of the other papers, most of them knew nothing about how to support a patient in a trial. So you don't want to look to the clinical research and publications, the old data anyway on how to help someone stay on it, because there was the blind leading the blind. I remember one investigator basically read the Atkins book.

I said, "Did you go talk to Dr. Atkins?" He said, "No, I can't do that. I have to be impartial." I said, "Well I actually talked to Dr. Atkins and what he did is he kept the carbs down 20 g or less for the whole time. "That wasn't in the book." "I know... I went and talked to the doctor." So the first round of studies you just got to realize that they weren't done by the people who know how to do it.

And so I kind of look at the-- again is the only evidence what's in the literature? Obviously not. So we can do better than those studies if we pull out all the bells and whistles. Imagine if we could shame and guilt... and of course I never do that... but if we could, you know, instill the fear of eating carbs in someone like the fear of eating fat is instilled in someone, that would help with long-term adherence. In fact there are so many people that can't get to eat fat, because they are so afraid of it.

So I think the idea of you can stay on it is doctors wanting a reason to just think they know more than they read the papers and they couldn't do it themselves, so how could they envision someone else doing it? And so this is another reason why it's a grassroots ground-up thing, because I know people who have done this for a long time, decades, like me. And, well, "Oh, you're not normal."

No, in fact I don't do a whole lot of obsessing about things and I think it has become easier and easier now that the environment has become more supportive. Just in the

last year in our area you can get riced cauliflower; the big stores are selling, and cheese crisps and all the stuff we used to have to teach people how to do. So there's definitely a change that helps with the long-term ability of people to stay on it, but there is also a role for helping people through the sticking points for a while too.

Bret: So in fairness it's not a straight line. People do have challenges, people do struggle at certain times. What are some of the main hurdles you see in your practice and some tips for our listeners on how they can get past some of those hurdles?

Eric: Yeah, it's the falling into the old habits which involve carbs. And that could range from, you know, holidays with families coming in and you can't have grandma's pie to do emotional eating, or I think it's really therapeutic eating, which means you hit some emotional problem and you eat carbs and it temporarily makes you feel better.

And the unintended consequence is that it raises your insulin level and it makes your body store fat and lock it up. That's where I think sugar-free things are a fairly simple coping tool even if you will because the ability to hit something with sweetness in it doesn't have the unintended consequence of the insulin rise and the weight gain.

And I know there's a lot of-- it's fine-tuning it for individuals. But why not let people still use therapeutic eating? And so the mindless munching of a pork rind that has no carbs... Who knew I'd be telling people it would be okay the pork rinds and bacon? But it doesn't elicit that insulin signal inside. So yeah you can still crunch on those things and they won't matter.

So understanding that I may not have to behaviorally work someone through that. Just give them other options that also have the hand to mouth, the munchies and that whole habit that's there. But, you know, the holidays are particularly tough where the sugar comes out of everywhere. And I learned there are ways to get chocolate without a whole lot of sugar. And that I have that in my first class... I can just see the eyes light up--

Bret: I can still eat chocolate?

Eric: Yeah, so it's complicated. It's even lead me to believe that we have an entire class or program or even medical specialty when you get into treating the diseases. Because we end up talking about cauliflower instead of metformin for example. So the practitioner and the coach have to know about food and then always supporting, never being negative is so important. And we're not taught that in medical school.

Bret: Yeah, even in the keto world we talk so much about the body's response to insulin, to glucagon, the macros... But a lot of it falls back on the emotional and the

behavioral changes. And like you said, that's something we're not taught at all, really. So you've brought up this concept of a keto specialist, a physician keto specialist.

You think that would greatly benefit to being able to implement keto safely and effectively. What do you see is some of the main teaching points of what that doctor would need that's different than what we're taught normally?

Eric: Well, you might say, "Do you need another specialty?" Well so I went through internal medicine and obesity medicine, that being the past president of the Obesity Medicine Association now. And there are a lot of things in that training that you don't need if you're not using medications, or not doing surgery that sort of thing. So to be more parsimonious in what to teach someone, you wouldn't need to learn all of that stuff.

You can actually sit for an exam for the obesity medicine, at the American Board of Obesity Medicine now, but you don't really need to do all that and then you really need to know about all the medications, the pharmacy stuff, because you use diet instead of medications. That is if you're preventing someone from going down this path, you know.

So the most fundamental thing that we don't get in medical school is the understanding of basic nutrition... it's just gone. I mean it's been gone since I was in medical school in the early 80s and even today we can't get to-- I haven't really tried all that hard, I have to admit, but you can't get a few hours on nutrition in medical school, so I teach medical students who are already in their clinicals, so are already out in the clinical rotations. The medical residents, I have them rotate through my clinic.

Bret: That's great that you you're doing teaching to the students and residents because it seems like the movement to bring back nutrition to medical schools is based on the vegetarian and the vegan paradigm right now. -Which can be a challenge.

Eric: The what?

Bret: I think it's Tufts and a couple of other medical schools are instituting nutritional teaching from a plant-based perspective.

Eric: Really?

Bret: Yeah.

Eric: What's the evidence for that?

Bret: Well, they say there's, you know... that cumulative evidence of mostly epidemiological studies show that the vegetarian movement is healthier. Of course you don't understand the quality of that... it's interpreting the quality of the evidence and putting that in context, which is completely lost in that argument.

Eric: So epidemiology in my training as a scientist... clinical scientist, clinical researcher in medicine... epidemiology is hypothesis generating and then you test it. Because so many things that you see in epidemiology don't become true when you actually try to tease out exactly.

So what we call 'biggie epidemiology', little E - clinical epidemiology... the science of experiments in clinical practice-- that's the McMaster, the Cochrane collaboration... it's as if these are different fields, are different religions. And the biggie epidemiologists, I remember Walter Willett saying on a podcast I was on with them, he said, "Well, Dr. Westman has a rather limited view of what research is."

I said, "Yeah, I wanted to really mean something." But basically he wrote the book Nutritional Epidemiology. And if you say, well, that's not enough, you are basically bashing the whole life that he had and ego and money wrapped around. So even Ancel Keys who we hold up as a terrible-- the one who started all of the low-fat stuff and fat's bad is revered at the University of Minnesota because they brought so much money into the institution.

So just because there's a field, it doesn't mean that it actually is scientific. So that's a little disturbing to me that a place like Tufts would-- and especially if they rolled out just one healthy way of eating. That's not scientific.

And that disturbs me about the whole vegetarian vegan idea in general that they don't allow for the idea that there may be another way to be healthy. Because I think I'm learning more with Belinda and Gary Fettke's work of unraveling where a lot of this came from was religious beginnings.

Bret: Right.

Eric: That it was a religious idea of not eat meat and to be vegetarian. Well, you know, that's fine but it doesn't mean everyone has to do that. It's not the only healthy way to do it. So it irks me a little bit when other people now kind of blindly follow these people who say that it's the only way to do it... that's not science.

Bret: In fairness I do need to go back and double check. I remember reading an article a while ago that Tufts was doing that. I don't know if it's been implemented--

Eric: I think it's not just them actually.

Bret: I am afraid not.

Eric: I was fainting that I didn't know.

Bret: But your point is very well taken that we cannot teach something as the way to do it unless the evidence is solid behind it and we have to understand what that means in terms of the evidence. So let's transition for a moment, because you talked about money and influence and one of the things that has really blossomed in the keto world is this world of keto products.

Where a lot of the initial teaching was real foods... Just eat real food. Because the keto products didn't exist. And now you've mentioned a number of these, whether it's pork rinds or Moon Cheese or some of them that keto products that are made, they've made things a lot easier.

But can they also complicate the picture in a way? Can they lead to a little bit of danger of people overdoing it? And I say this knowing you're involved in keto products. I'm curious to get your perspective on it.

Eric: Yeah, it took me a long time to sort of grapple with these issues as well and the idea of being involved in companies is that I'm an academic. In fact I am in part of an academia called the Society of General Internal Medicine where we don't even let pharmaceutical salesman's reps come into our offices.

We're so anti-corporate. So then I became president of the Obesity Medicine Association where we were dying for companies to start making drugs for to treat obesity, because there weren't any.

So I went full-circle to, "Novo Nordisk is making anti-obesity drugs... Hurray!" Oh rats. With my Society of General Internal Medicine hat I'm anti-Pharma. So there's a balance, I don't think you can be black-and-white about this and when these other products became available-- I guess I echo what you said first which is stick to real food for the most part and every now and then have a convenience thing.

But you know, you know patients, you know people, some people will go off and do the darndest things; that's why we generally recommend people come back to us or follow up to make sure they're still doing it right. But if the products-- I just want also mention that the keto products have raised the visibility. I think that's an important factor that people want to be able to purchase things, you get more companies involved, different companies now are putting on conferences based on some of the money they raised and so I think in general it's a good thing.

My philosophy of my teaching has always come from total carbs not net carbs. So when you're looking at a product I teach my patients to carefully evaluate... is it low in total carbs? And if it has net carb, it has more fiber, and now the sugar alcohols might interfere with the process. And so I don't recommend those things at first and then our product, the Adapt Your Life products are truly low in total carbs.

And if it is-- we have-- there's a protein bar that may have 12, 11 carbs per the whole bar and we're pretty transparent about that. It may not be keto friendly, but the little keto bars, keto minis are called, have been very popular not only because they are truly low in total carbs, but there's not a lot of extra fillers and, you know, it turns out now learning about food and products that a lot of the stuff that's added to the low-carb bar are just fillers to make it look larger.

Because people aren't going to buy something so small and so there's stuff that are not really needed and they just complicate things. So again that's getting to the clean eating. The keto not only products now-- there are that have food in them, but now there are keto supplements right so that was a big surprise.

So we always thought that you couldn't really drink ketones or eat them because the body would digest them and they would be so unpalatable and no one would want to do it. So what I've seen is that the exogenous ketone idea has come a long way in terms of palatability, so people are able to consume them and they do have a kind of an immediate effect that we would say is a subjective-- people feel better, but where's the data and evidence, where are the studies?

So I'm in that space of waiting for companies to pony up the studies so that I can make that old litmus test of show me 50 people over six months using the product doing the diet and publish it in a peer-reviewed journal and I'll comment on it. But I've seen there's a lot of promise there because the early research on exogenous ketones it kind of defies my prediction. I thought why not just not eat carbs?

And then you don't need to add ketones because ketones come from your own body fat. It's very preliminary but still provocative that giving exogenous ketones to someone who's naturally a carb either just eating carbs still not in ketosis might have some beneficial effects and that's pretty amazing if that's true.

Bret: It's amazing but also disturbing at the same time until more evidence comes - because that's a physiological state--

Eric: It's a drug.

Bret: --that has never existed... Well, it's a drug, right? Two have a high carb intake, high glucose and glycogen and high ketones. It has never existed in human history and that's a little unnerving for me.

Eric: I used to be involved in the FDA sort of thinking in the old days when nicotine was in a different place. So I kind of understand a little bit about when something is called a drug and when it's not a drug and all that. And the exogenous ketones if they do have these kinds of drug like effects, they probably need to be regulated like a drug which means that the studies needs to be done to show that not only that they work but that they are safe for however long period of time.

And the only time I've seen something, it wasn't an exogenous ketone, it was actually probably a homemade version of apple cider vinegar or shake or something and the gentleman didn't understand that he needed to eat real food. He thought the keto diet was just having this keto product or shake that he made.

And he said, "But my hunger is gone. I don't want to eat." That's where you get into-- if a company is selling their product, then they-- oh, they forgot to tell them that they should eat food as well. And of course I'm sure the companies tell people that you really need to eat food too. But as you know, people will do what people do and we want to make it as safe as possible even when people do kind of stray from the general teaching.

Bret: I guess the point of exogenous ketones that I find most interesting is that your role as a therapeutic agent, whether it's traumatic brain injury, whether it's treating Alzheimer's disease, whether it's helping somebody mostly with a neurological condition or maybe even athletic performance or something where the ketone level actually matters.

But when it comes to health in general, there I'm not so sure about the benefits, because there is the lifestyle that allows you to get into ketosis I think that is the most beneficial intervention rather than chasing the ketone level.

Eric: That's where I am too. That's my general, you know, putting it all together at the moment. But until there are more data to convince me. Otherwise I agree with what you're thinking too.

Bret: All right, very good. I want to circle back to one thing you said when you're differentiating between net carbs and total carbs. So with the keto products, you say focusing on total carbs is what is your advice which I think is fantastic advice.

But when it comes to natural foods, you know, the vegetables and the nuts and seeds, then you revert to net carbs for your calculation? So you see a difference in how you calculate the carbs based on whether it's a natural food or a synthetic product?

Eric: No, I use total carbs whether it's natural food really, vegetables or even a product and I have to say that again I'll be convinced when more data are presented, but the teaching I received from 1863, Banting diet to Dr. Atkins and Eades and Rosedale and Bernstein and all through the late 1900s, so what I studied was in our research and what I continue to do clinically today is using total carbs across the board for anything you eat or drink.

So back in the early 2000's and I think Mike Eades would probably have the best-- Mike and Mary Dan have the best knowledge about where net carbs came from. But it was kind of a new thing, a new kid on the block.

And I know in our book, *The New Atkins For A New You*, Westman, Phinney, Voloek were the authors on it, we used net carbs and I think that is fine, but it's kind of like using an over-the-counter medicine, meaning that it can work for a lot of people including those who don't have insulin resistance. They could probably eat a lot more carbs anyway. They're just lucky. So I think of the net carb calculation, 20 net as sort of the over-the-counter version and that's why I felt comfortable writing a book that had net carbs as the calculation in it.

And it wasn't wrong; It's just not quite as effective. So if someone comes to my clinic they make, you know, the trek and I sit down with them and teach them, I use total carbs, whether it's real food or fake food. And I've seen, you know, dozens I think who use net carbs and it stopped working for them and all I did was change them to total carbs which meant they ate fewer vegetables and it started working.

So I would love to do a clinical trial, randomize people to total carbs or net carbs in a flexibility arm maybe. So that's where I am, where I teach people to figure out their own threshold, although most people after six months of not eating carbs, they don't really want to anymore. So I don't make people go back to eating carbs either.

Bret: Do you find that if they are increasing their net carbs and remain in ketosis, which is obviously easy to measure just by checking your blood levels, that there's still a difference in efficacy? Or as long as you're in ketosis the total amount of carbs does not matter as much?

Eric: That's a great question.

Bret: That's part of your study.

Eric: I don't know... so I think the ketosis would be the outcome that's more important. So if you can eat more carbs, using net or total in general, that means the younger you are the more carbs you can have, the more active you are the more carbs you can have. And ketones would be the guide and I think most people will say that blood or urine are fine. Yes, one is probably a little more precise than the other but I still use urine ketones as a guide for people.

I would think ketosis is where you'd want to stop. So add back carbs, you know, slowly, not 20 to 100... it's more 20-25 for a week, measure your ketones, your weight, your general hunger, things like that, and then if you can add back five again, so now you are up to 30 after two weeks, 35 three weeks, four weeks... most people won't be able to eat over 50 total carbs. But that's 80 to 100 net depending how you do it.

And even then I tried to come up with a table that showed the exact calculation between total and net. I mean you really can't do it, because the subtraction isn't perfect. So a lot of general principles - keep it low, follow the ketone level in some way as a guide.

Bret: Okay, very good. Now I remember a discussion we had a while ago where you were telling me how people send you the sickest of the sick to get them ready for surgery. So whether is the bariatric surgeon to shrink the livers, the fatty livers, they can do bariatric surgery, whether it's the orthopedic surgeons to get them to lose weight so they can operate on their hips.

Or what fascinated me was the cardiac surgeon sending you their severe heart failure patients to have them lose weight so they can implant an LVAD, a mechanical pump in their heart; you see a number of these patients to get them healthier for their surgeries and they are the sickest of the sick.

So I guess two questions here: one is just to hear a little bit more about that experience, because it's amazing, but two, was there anybody too sick for a keto diet or in the past six months have you taken anybody off a keto diet and why? So it's two sort of different questions there but I am curious to get your perspective on those.

Eric: Sure... just to remember I went through internal medicine training where we get a lot of hospital-based training of people in the intensive care unit who-- with organ failure, of all different organs that we took care of. So it didn't seem beyond out of my scope of practice because I had a history of taking care of people who are ill.

So when we opened the clinical practice using a keto diet in 2006 I just opened the door and then, you know, obesity comes in... after six months or a year, you're kind of like, "This really works." That's where I'm starting to say, "If you do this, it's going to

work." I can't make you do it and I can't go home with you, but like a prescription drug the evidence is that strong.

You know, it's going to work. So then other doctors got wind of... You know, there's at first, "Oh, that doesn't work." And then, "Oh, that works... Who did you see?", "Well, Dr. Westman." And then the other doctor will forget about it, time will pass, and then, "Who did you see?", "Dr. Westman", "Oh, Dr. Westman!" Maybe lightning does strike twice.

Bret: So it's a sort of word-of-mouth.

Eric: Influence of-- how do you influence other doctors? It's usually through the patients and not through the medical literature. So I think this happens in most communities. So you get known as the obesity guy and then word got out within the Duke community and then the surgeons are under sort of a change in financial remuneration so that they only get a certain amount of money. And if someone has a complication, they don't get any more money and so they really try to find the root causes of people having more complications than it was obesity.

Bret: Obesity, sure.

Eric: So I started getting more referrals from orthopedic surgeons, from other surgeons who wanted to operate. And I think there's kind of a unspoken rule that you shouldn't operate if the BMI is over a certain-- if the person weighs so much. So they come to me, I help them lose weight, they go back, get their knee replaced and so that started happening.

And then I got a few people sent from the cardiac surgery clinic and I remember the first gentleman, he didn't have a pulse. And the LVADs, the ventricular assist devices came out after my training. We didn't have them back in the 80s. So I wanted to outpatient medicine that really didn't know much about.

Bret: So they work as a continuous pump rather than a pulsatile heart.

Bret: So there's no pulse.

Eric: When you feel their pulse is not there. It's very unnerving the first time.

Eric: And then the gentleman said, "I need to change my battery... Excuse me." I was like, "What?" And he takes off the battery... you know, it's a very quick thing. So then I get comfortable and so I adopted the keto diet to also accommodate the restrictions for heart failure. So it's low-sodium and fluid restriction as well and then also the adaptation for the vitamin K restriction because they're on Warfarin.

Bret: On Warfarin, right.

Eric: Because if you clot, you clot off the pump and it's disastrous. So yes, the other funny thing is that it's the heart surgeons who want to put transplants in these patients. And I don't know how much transplant costs or brings in moneywise.

Bret: A lot, for sure.

Eric: Probably a lot. So that the transplant service started sending me all their pre-transplants who were too heavy to operate on. And these are probably the sickest people who are still ambulatory. and many of them though are walking in cardiac rehab and it's amazing how that can be a bridge-- The VADs, the ventricle assist devices were thought to be a bridge and now Duke is one of the biggest VAD programs in the world.

And they're keeping them in longer and longer because they can't get hearts or because people are too heavy. And so we've been able at Duke to keep lots of people on-- I'm not part of that program; they just send me the patients and I send them back. But now it turns out come to find out one of the cardiothoracic surgeons had become a keto doctor... keto personally. And that's the general theme is that the doctor tries at first... "Oh, what's good for me must be good for everyone." No, don't make that mistake.

Bret: So your experience paints the spectrum from, you know, no medical problems, just wanting to lose some weight, to the people with diabetes, to the sickest of the sick. And you've intervened on all of them with a keto diet. So in the past few months in your experience who have you had to take off a keto diet? Who has it not worked for and what are your concerns?

Eric: So the bread-and-butter patient I see is someone with type 2 diabetes, hypertension, obesity, arthritis, and like we talked about at the beginning yes, it is unbelievable, all these things get better. And it's using lifestyle, not medications. I can't think of any case where for a medical reason I took someone off a keto diet.

One of the areas that we're looking at and I think needs more science wrapped around it is early renal insufficiency, so kidney issues, I don't know for sure. In my area the kidney specialists just expect the kidney failure to happen. It progresses. So they're not upset if someone's on keto and they are on dialysis or pre-dialysis.

They just put the fistula in as a precaution. I think whether someone can lose weight, I think there is a subset of folks who for whatever reason they are exercising a lot at the gym. They are doing, you know, every day an hour or more of intense exercise and

the ad lib. way of I just have people eat until they are full and all that, it doesn't work.

So there you just have to work with people on the calorie issue and, you know, God forbid that you wouldn't exercise... although it's interesting to watch when someone gets sick and then they can exercise; sometimes that's when the weight loss happens.

But there's something about exercise and it's in the literature, Steve Phinney gave a great talk some years ago at an obesity meetings on how some people gain weight when you restrict calories and make them exercise. And so that's just the little niche in the obesity world we know and that spills over to the keto world as well.

Bret: It's a fascinating interaction between exercise and weight loss and health, because we know exercise is good for health, but may not always be good for exercise. And sometimes gives people an excuse to eat more as well. So there's also that psychological component.

All right, Dr. Westman it's been a great discussion and just to get a little sliver of your experience in the 20+ years that you've been doing this has been wonderful, so thank you for sharing all that with us. If people want to learn more about you, where would you direct them to go?

Eric: Well, my pleasure to talk to you. I want to try to share everything I know, so other people don't have to repeat this 20 years and wait for. But so I'm at Duke still, full-time and do clinical practice there.

Sadly the wait period is about eight months to come see me at Duke, so I'm working with two new companies, one of them is called Heal Clinics, H-E-A-L clinics.com and we're seeing people through there, not always me personally, but we're basically training people and Jackie Eberstein who worked with Dr. Atkins is on my team there, she is the director of education.

So Heal Clinics is a way to get access to the information now and then the Adapt products, adaptyourlife.com, is a lot of free information there. In fact Glenn Finkel my co-owner there has taught me a lot about using the YouTube as a quick and easy way.

So I have a lot of YouTube videos there with Adapt Your Life. And yeah of course Diet Doctor is a great resource and I'm glad a lot of the information that I've been able to generate is used at Diet Doctor.com too.

Bret: Wonderful, thank you for your work, we're looking forwards to seeing so much more from you in the future.