

The Case for Keto: Rethinking Weight Control and the Science and Practice of Low-Carb/High-Fat Eating

A Special Interview With Gary Taubes

By Dr. Joseph Mercola

Dr. Joseph Mercola:

Welcome everyone. This is Dr. Mercola helping you take control of your health. And today we are joined by Gary Taubes, who has written his fourth book about diet. The first three being “Good Calories, Bad Calories,” a classic; “The Diet Delusion” in 2008; and “Why We Get Fat: And What to Do About It.” And this new book is called, “The Case for Keto.” So an interesting book for sure. And one that we’re going to have an interesting discussion on, because I have some insights that I didn’t have before that causes me to question some of the thesis, the validity of exclusively limiting carbohydrates. So welcome, and thank you for joining us today, Gary.

Gary Taubes:

Thank you Joe. It's great to be here. Yeah.

Dr. Joseph Mercola:

All right. So what was the motivation to write this book? You already wrote three books along similar lines. So what were you hoping to achieve with the publication of this book?

Gary Taubes:

Okay, well first of all, times have changed since-

Dr. Joseph Mercola:

Oh, come on.

Gary Taubes:

Ah, really?

Dr. Joseph Mercola:

You're just-

Gary Taubes:

So I don't know if the science has changed all that much, but when I wrote “Why We Get Fat” in 2011, published 2010, “Why We Get Fat,” I had to – I went back [to] the last chapter. So this is a discussion of the cause of obesity as much as it is how to fix it if you want to treat the problem then obviously what we want to do is understand the cause of it. So in the last chapter I was really – where I addressed the dietary therapy for it, which was a very low-carb, high-fat ketogenic diet. And I interviewed half a dozen physicians who I converted to our way of thinking and who prescribed these diets to their patients, and half of them had written diet books. Dr. Mike and Dr. Mary Dan Eades.

Gary Taubes:

And there weren't a lot of us out there. And now the estimate is there are a few tens of thousands. There's a Facebook group in Canada of women physicians who eat low-carb, high-fat diets and there's 4,000 of them. There are only about 40,000 women physicians in Canada. So that's 1 in 10. So what I wanted to do with this book was, first of all, I wanted myself to understand the challenges the patients and to physicians prescribing this diet. So when you're a physician yourself you've got your own clinical experiences. As a journalist, and I don't have that.

Gary Taubes:

So I interviewed about 120, over 120 physicians, plus some dieticians, a few chiropractors here and there, a dentist, about 140 medical practitioners in total, to understand their challenges. And because a lot of the people out there now, the physicians out there now prescribing these diets are very smart, very intelligent, perceptive individuals, finally, I could learn from them. A lot of them had gotten into this business because they had read my earlier books and now I got to learn from them. And it was fun.

Gary Taubes:

So half of it is an explanation for why, on some level reducing – well, it's a simple argument, why carbohydrates or fat? And regardless of what else might be going on. And why, if somebody wants to control their weight and their blood sugar they're going to probably have to restrict carbohydrates to do it. So that's the sort of “The Case for Keto,” ultimately, the ketogenic diet is just the diet that maximally restricts the carbohydrates and replaces them with fat.

Gary Taubes:

And then the second half of the book is the lessons that I learned, and I believe that everyone can learn to learn how to eat and how to control their weight and blood sugar by following this eating pattern.

Dr. Joseph Mercola:

Okay. So thank you for that. And, as you mentioned, the first part of the book goes into the causes of obesity, which has been sort of a quest to understand for many, many years, many centuries probably. So after your intensive investigation into the science of this and personal experience for nearly two decades, I'm wondering if you can concisely summarize your conclusions as to what you believe to be the cause of obesity.

Gary Taubes:

Okay, well there are several answers to that question also. So one question is, when you're talking about the cause of obesity, are we talking about the cause of the obesity epidemic? Which is worldwide. So every population that embraces a Western diet, regardless of what their traditional diet is, will eventually see epidemics of obesity and diabetes. So what is it about the diet? And the argument I made in all my books is that the primary trigger in the Western diet is not how much we eat and exercise, which is the conventional thinking on this, but the refined sugars and grains.

Gary Taubes:

So you add basically sugar and white flour to any population's diet, regardless of what their baseline is, and you'll end up eventually with an epidemic of obesity and diabetes, and probably sugar and sugary beverages are the worst. It might be enough just to add Coca-Cola, which has done its very best to get its Coke machines into every village and city and block and street and school in the world. And once you start drinking sodas between meals, that could do it.

Gary Taubes:

Then there's the question of what's the trigger of obesity in human beings? And again, one of my struggles for the past, well 13 years now, since publication of "Good Calories, Bad Calories," is to get people to understand that this idea that we get fat because we take in more calories and we consume is naïve. So that's not the cause of obesity. That's like saying we get rich because we make more money than we spend. And that obesity is a hormonal regulatory disorder, and there are a lot of hormones that play a role in fat accumulation, sex hormones primarily. But the hormones that link our diets to obesity is our insulin and glucagon. I pretty much left glucagon out of the story because I don't think we need to discuss it to know what the dietary treatment is.

Gary Taubes:

So when you're talking about the influence of diet on obesity, it's not because we eat too much, it's not because we eat too much energy-dense food. Again, it's the, to me, the glycemic index of the carbohydrates, how quickly we digest the carbohydrates in our diet, and then the fructose content of how sweet they are, the sugar content. So that would be the simple response. But again, two different responses for two different questions. Obesity epidemic versus obesity in an individual.

Dr. Joseph Mercola:

Yes, and that's a good summary I guess, of the conventional thinking on this. At least the advanced, nutritionally oriented thinking on it, because there are still some professionals who disagree with this concept.

Gary Taubes:

Oh, I'd say 98% of the professionals disagree with the concept. So that's-

Dr. Joseph Mercola:

Really? Okay so that's-

Gary Taubes:

-conventional unconventional thinking.

Dr. Joseph Mercola:

Okay, no, that's an interesting place to start before I go into the point I was seeking to address. But that is a shocking number. So 98% of the clinicians out there, in your experience, disagree with what you just said. Is that your perception?

Gary Taubes:

Well, again, it depends whether we're talking about clinicians or the research community.

Dr. Joseph Mercola:

Okay well-

Gary Taubes:

The research community-

Dr. Joseph Mercola:

Okay. Separate it out, separate it out.

Gary Taubes:

Yeah. The research community, and that means the nutrition research community and the obesity research community, the conventional thinking there, I mean I hope I'm being pessimistic by saying 98%. But the conventional thinking is, obesity is an energy balance disorder.

Dr. Joseph Mercola:

So that – you said – forget 98%, you think it's the vast majority of-

Gary Taubes:

The vast majority of individuals. Yeah. So they've been trained over their entire professional careers to think of obesity as caused by this imbalance in intake and expenditure. They believe it's a direct consequence of the laws of thermodynamics. When they do research on this study, if you look at the research, they are often actually not studying why people accumulate excess fat, they're studying appetite and satiety and eating behavior, because they think that the reason why they accumulate fat can be explained if you can explain why they eat so much.

Gary Taubes:

So that's the research community. The physicians themselves, at this point, and I say this in the new book, again, when I first started writing about this in 2001, an infamous cover story from The New York Times Magazine, the conventional wisdom was that you got fat because you eat too much. And the primary problem in the diet was the dietary fat, because it was so energy-dense. So you fooled your stomach, in effect, into taking in more calories than you required. And the idea that a low-carbohydrate, high-fat or ketogenic diet could be beneficial was laughable at the time. It was considered – I ended that article describing myself sitting at a diner in New York, my local diner, eating my usual breakfast of eggs and bacon and sausage, and waiting for the heart attack to happen.

Gary Taubes:

Twenty years later I'm still waiting for the heart attack, knock on wood. So that was the conventional wisdom. Twenty years later, we've accepted the idea that sugar and processed grains are a problem. I think that's become conventional. There was certainly an anti-sugar movement that has been pushed by, not mainstream nutritionists, people like us, Dr. Robert Lustig at UCSF (University of California San Francisco) was a major proponent. The community

has certainly accepted the problem that sugar is bad, and it's got nothing to do with the fat in the diet. They've – accepting the idea that processed foods are a problem, without thinking that processed foods are mainly processed carbohydrates, and that that's the reason they're problematic.

Gary Taubes:

So we've moved towards that. But I would still bet that the huge percentage of people seeing doctors and dieticians particularly, are being told that the way to lose weight is to create a caloric deficit.

Dr. Joseph Mercola:

Okay. And what do you think, what's your perception as to the primary reason or reasons that this community is unwilling to adopt this viewpoint, this wealth of new research and studies that validate this supposition?

Gary Taubes:

I don't know. It's an interesting issue because if you look at the U.S. Department of Agriculture Dietary Guidelines Advisory Committee Report this year, they claim they couldn't find a significant amount of low-carbohydrate, let alone ketogenic diet trials, to suggest that this could be beneficial for the American public at large, and yet there's – I was on a website called ClinicalTrials.gov yesterday, and they had over 100 trials in the works, and about 90 that had been completed, or vice versa. An enormous amount of studies have been done over the past 20 years. Name a disease state at the moment from Alzheimer's to traumatic brain injury, and you'll find somebody studying whether or not ketogenic or a low-carb, high-fat diet could be beneficial.

Gary Taubes:

So it's hard for us to understand how they – why when we look at those studies and say they're consistent, the American Diabetes Association nutrition committee two years ago published their latest consensus report and they said there was more evidence for a low-carb or very low-carb diet, and it was more consistent evidence in being beneficial for Type 2 diabetes than any other diet tested, particularly the ones that had been advocated by mainstream medical authorities, like the Mediterranean diet, and the DASH (Dietary Approaches to Stop Hypertension) diet.

Gary Taubes:

So clearly the studies are out there. I think what we're faced with is a sort of classic combination of cognitive dissonance and groupthink. When you spend your whole life believing something to be true and proselytizing about the truth of that supposed fact, it's very hard to think otherwise, no matter what the research shows. And the literature of cognitive behavioral psychology is full of studies and texts discussing this phenomena.

Gary Taubes:

And then when everyone else you know believes it. I cofounded this not-for-profit, the Nutrition Science Initiative. And we funded research studies, and we worked with some of the most influential obesity researchers in the world for the better part of four or five years. And we met with them quarterly. And I used to say to my colleagues, we accept when we meet – we meet in a

hotel in Bethesda. And we would have dinner together before our first meeting. And we would have wine at our dinner, and it was all very social. And everybody acknowledged that everybody else at the table was intelligent. And we would ask these researchers from Columbia University, and the Pennington Biomedical Research Institute about their research and what they were studying at the time. We would discuss what we were doing.

Gary Taubes:

And I would say to my colleagues afterwards, "We've been meeting with these guys for four years, and never once have they asked us a question about why we believe something different than what they believe." So they respect our intelligence, they respect our professional credentials, at least professional credentials of my colleagues who had Ph.D.s and medical degrees as opposed to myself, I'm just a journalist. And yet they showed almost zero interest in why we would believe – it was as though they were Catholics and we were atheists, or they were atheists and we were Catholics, and we never had a single discussion about why one group would believe in God and the other would not.

Gary Taubes:

And again, it's not unusual when you study the literature on cognitive dissonance, which is what happens when a brain is confronted with evidence that something that brain has believed indisputably is wrong.

Dr. Joseph Mercola:

Yeah, I think it results in a conformational bias that allows us to interpret the messages in a different light. And I know I have been guilty of that in the past. My first book, bestselling book, was the "The No-Grain Diet." So I've been into this for two decades now. That was in 2004. And have adopted it, and really didn't adopt keto until over, maybe six, seven years ago when I wrote the book "Fat for Fuel." But I've embraced keto.

Dr. Joseph Mercola:

But, and have this very similar viewpoints as you discussed in the book. But then, because of this conformational bias, I just chose to believe that I understood all these other issues about processed foods. And it was really the carbs that were the culprit. But I've been kind of – just this year, I've slowly encountered an overwhelming amount of evidence and support that suggests that's just not the case. And I want to have a pretty strong disagreement with you on your supposition that you said early that the vast amount of processed foods is processed carbs. I think processed carbs – again, I've embraced this philosophy. So it's not like I don't believe or haven't tried it. I've been there and done that.

Dr. Joseph Mercola:

But I believe, it's not the processed carbs that are the primary culprit. Are they a contributing factor? Unequivocally. No doubt in my mind. But they're relatively minor when you compare it to the processed oils, or even more generically, an excess of omega-6 oils, even unprocessed. Because we used to have about 1 to 2 grams of linoleic acid a day 150 years ago. One to 2 grams. We are taking 20 to 30 grams. And that may not seem like a big increase, 10-, 15-fold. But I think it's bigger than the sugar increase. And it has-

Gary Taubes:

Can I interrupt for one second?

Dr. Joseph Mercola:

Sure.

Gary Taubes:

So if we're going to get in a prolonged argument here, even though we mostly disagree, I mean, we mostly agree about – so we agree about the carbs, we agree about the question even when you-

Dr. Joseph Mercola:

It's not an argument, it's a dialogue, it's a discussion.

Gary Taubes:

Yeah. When we talk about it – and it's an interesting phenomenon in many ways. When we talk about the increases in linoleic acid being 20- or 30-fold, maybe being bigger than the relative increase in sugar consumption. And the way I think about it is just, how we're consuming it, how much we're consuming it, how it's influencing fat accumulation over the course of 24 hours. And can this explain all the populations in which you see obesity and diabetes epidemics rather than just the United States? And I've had these discussions with my colleagues as well.

Gary Taubes:

So when we review, just on the evidence, when I talked about the evidence for sugar and refined grains, we know that any population in the world, regardless of what they ate, you can find obesity and diabetes epidemics with the addition of sugar and refined grains to their diets, whether it's the Pima Indians in the late 19th century when they were going through famine but had shifted to getting their food from reservation sources rather than hunting and gathering, to Inuits, to Maasai eating mostly animal product diet-

Dr. Joseph Mercola:

But the variable left out of that's typically not integrated into the equation is that they, in addition to an increase in carbohydrates, they also had a radical increase in vegetable oils.

Gary Taubes:

Not, for instance, not with the Inuit. Ah, excuse me, not with the Pima. It would be interesting to know. And that's what I would like to see from proponents of this hypothesis. You could do it with, like I said, sugar and refined grain, you could go to Pacific atolls and study the foods, the Western foods they've been getting. And you'll see sugary beverages, alcohol and white bread. If you see a lot of vegetable oil, that's great, that means you haven't been able to refute your hypothesis with that population. With the Inuit, you see them – we know they were getting sugar and refined grains. People are not talking about vegetable oils with these populations.

Gary Taubes:

So it doesn't mean that vegetable oils aren't playing a role, or that omega-6s aren't playing a role. But-

Dr. Joseph Mercola:

Though that you can't decimation of health with either variable independently.

Gary Taubes:

And that's possible. But I don't think you ever get either variable independently, because you're always-

Dr. Joseph Mercola:

No.

Gary Taubes:

- going to get the sugar and refined grains. If we only have a population, which we don't, where we see an increase in vegetable oils, then I'm going to be impressed that hypothesis starts to become compelling to me. But we don't have those populations because the people selling sugar and white bread did such a good job of it.

Dr. Joseph Mercola:

Yeah, and I don't bring this point up lightly, because it does enter into the rest of the book. And some of the examples you cite, and I've seen personally and clinically, in which individuals have a spare amount of success limiting the carbohydrates, but then they reach a plateau and equilibrium, and they're not at their optimum metabolic stage or metabolic health. And they continue to limit the carbohydrates. And typically in that scenario, what I've always didn't really fully understand is that they may be eating high-fat, low-carbs and high protein, but it's a high amount of linoleic acid. So their selection of foods, the devil's in the details, is relatively high in linoleic acid. And the classic example would be an Atkins diet where many people eat bacon liberally. And bacon is notorious for having a high amount of linoleic acid in it.

Dr. Joseph Mercola:

So, when you address for that, then I don't think you need to be as assiduously diligent about restricting carbohydrates. Because-

Gary Taubes:

Well there's-

Dr. Joseph Mercola:

-there's some pretty, really profound molecular biological damage that occurs with excess linoleic acid that is far in excess of what occurs with carbohydrates.

Gary Taubes:

Yeah, and we can, again, I mean, if one of the messages in the second half of my book is basically that it comes down to experimentation. So we can recommend the large changes in the

diet that we know will work for everyone. So sugar and sugary beverages, avoid beer like it's the devil, is the first-

Dr. Joseph Mercola:

Who's saying that? Is that your-

Gary Taubes:

That's Jean Anthelme Brillat-Savarin who in 1825 wrote the most famous-

Dr. Joseph Mercola:

Oh that's right-

Gary Taubes:

[crosstalk 00:23:16] who-

Dr. Joseph Mercola:

-the first low carber. Right.

Gary Taubes:

Yeah. And Brillat-Savarin's book has been in print for 195 years. And I don't know a lot of books other than the Bible that can make that claim, non-fiction books. So anyway, we know the major issues that – again, that if you can get people off of liquid carbs, liquid sugars, added sugars, refined grains, processed grains, they will do better. And now the question is, “Do they do well enough?” And this is why I think this is a secondary issue, because without targeting vegetable oils or linoleic acid, you can make some large proportion of the people who try it, and we don't know what that proportion is, can make enormous benefits in their health.

Gary Taubes:

And we have clinical trials showing that. And we have accumulated more and more clinical experience with each passing day, then the question is, “How do they fix it from there?” So for instance, I'm one of these people who probably eats too much bacon by an excess amount of bacon by your hypothesis. If I get rid of the bacon and replace it with a source of calories, we have to control for the amount of food I'm eating, so we replace it with something that has a much lower linoleic acid content, will I get significantly healthier? And will I notice a difference in my health when I do it? Because if I don't notice a difference in my health, I might decide it's not worth giving up bacon.

Dr. Joseph Mercola:

Yeah, yeah, no I agree. And it's not necessarily have to give it up. It's just a matter of hitting the target range of our ancestors, which was about 1% to 2% of total calories. Like yesterday, I had fasted for a while, and I had almost 5,000 calories. So that gives me more leverage of having linoleic acid, because I have a larger calorie intake. But if, as long as you're in that range, you can have your bacon. It's just like you don't want to ever eliminate all carbohydrates. And that's another discussion we're going to go into.

Dr. Joseph Mercola:

But I've got a question for you that has always troubled me clinically, and I'm wondering what your answer is, or how you would resolve the paradox. The paradox being that clearly people who follow what you've been promoting for nearly two decades tend to do well. You can't deny it. Now does everyone do well? No. And I think that my best guess is that a big part of the reason why they don't is the linoleic acid. But then there's this other group who are the high-carb, low-fat diets, and there are a large number of clinicians who use this approach to successfully treat many diseases like coronary artery disease and diabetes and obesity. So how do you explain that they are so diametrically opposed? I mean, what is your explanation for why both seem to work?

Gary Taubes:

Okay, well first of all, I don't know how well these other diets work. When I read the documentation from Ornishes in the world, what we're looking at are short-term dietary studies or, again, clinical studies showing improvement in cardiovascular disease markers, particularly LDL cholesterol. You don't see studies showing significant improvements in weight or diabetes status, unless they're uncontrolled studies like the kind that Dr. Neal Barnard does with the Physicians Committee for Responsible Medicine. So you randomize subjects into a vegan diet or their usual diet. And the people eating the vegan diet get a lot of intervention to help them continue to eat the vegan diet. And the people eating their usual diet get effectively no intervention.

Gary Taubes:

And what you end up with is an uncontrolled trial in which you get the people eating the vegan diet not just giving up meat and eating a lower fat-diet, but you get them giving up the same carbohydrates that you and I think are bad. What would be interesting is to see what happens to linoleic acid consumption in those diets.

Gary Taubes:

So I don't actually see the evidence for the kind of dramatic increases in obesity and Type 2 diabetes, except in places like – Dr. McDougall promotes a diet of primarily starchy vegetables. And he, at least used to have on his website, what he called “super losers.” And these are individuals who claim they lost 50, 80, 100 pounds on eating his starch diet. And they inevitably said they'd tried Atkins, which is what keto used to be called. And I have no reason to disbelieve them. So I assume that by eating a very, very low-fat diet they managed to control their weight in a way that they couldn't do by eating a very high-fat diet.

Gary Taubes:

The problem is, when they say they did Atkins, we don't know what that means. So we don't know if they did it correctly. And we don't know what their lipid mark – we don't know how long any of us are going to live from the way we eat. So that's one of the points I make in my book. Is, in order to know if these diets are beneficial, if they're going to really reduce your morbidity and mortality, you need the kind of long-term studies that nobody has. We didn't have them for the low-fat movement when we put people on low-fat diets. We don't have them for vegan, vegetarian diets. And we don't have them for low carb high fat or ketogenic diets. What we have is studies over a year or two showing that when people go on diets of the kind that I

think that I promote, and these physicians, tens of thousands of physicians now prescribe to their patients, their patients will get healthier in the short-term.

Gary Taubes:

We do not know if that means they'll live longer. We have to assume that healthier in the short-term. With these very low-fat diets, again, there's just all kinds of confounders in the data. And I'll give you an example of this. One of these very low-fat diets is a famous Rice Diet at Duke University. Walter Kempner I think was the name of the physician. And I'm sorry, my memory isn't all that good at whatever it is, 7:30 in the morning here in California.

Gary Taubes:

So there have been arguments that on this very low-fat diet, this Rice Diet, people did remarkably well. Kempner published articles showing that they improved, diabetes often resolved on this diet, obesity diminished considerably. And when you actually look at the data, or read the articles about how this diet was communicated – so I heard recently, a couple years ago from a woman who had written a bestselling book on this diet in the mid-1980s, she had lost, I think she had gone down from 250 to 120 pounds on the Rice Diet. And she actually moved to North Carolina so she could eat at the Rice House, her three meals a day, because the diets were, it was about 700 calories, it was about half rice and half lean protein. So skinless chicken breast. And you were allowed to have some fruit with it, and a little fruit juice. But you had to split up your 700 calories a day into three meals a day. So people would go to the Rice House to eat it, because they couldn't trust themselves anywhere else.

Gary Taubes:

And this woman ended up losing – she said she maintained the weight loss for about five years, and then her mother came to visit her for a month in Raleigh, North Carolina. And she thought she was going to stay for a week, and she ended up staying for a month. And over the course of a month she gained back 30 pounds because she started binge eating, because she was hungry all of the time on this diet. And Kempner was famous for berating his patients. Well, if you talk to the physicians who worked with him, he would berate his patients because it was so hard to maintain 700 calories a day.

Gary Taubes:

So he might have been starving the body of fat. That's a possibility. And maybe even by getting rid of the linoleic acid he was starving the body of fat. But it's not a reasonable – you have no idea whether – and this is an argument against ketogenic diets too, whether it can be sustained long term. The argument I make in the book is, any diet that requires you to be hungry is going to be what people who suffer from obesity want, those of us who gain fat easily, we want to be able to eat like lean people do. To eat to satiety. And if we can do that, and be lean, remain relatively lean, then we'll be happy and healthy and stay on that diet.

Dr. Joseph Mercola:

Yeah. So I in no way, shape, or form was endorsing a low-fat diet, I never have. And I know you certainly don't. But I was always perplexed why people following that, and there is strong anecdotal support that it's successful. But I think, I believe the reason why is because they're

radically restricting linoleic acid. And in the Kempner diet you mentioned, the rice has virtually no linoleic acid. And chicken, which is a terrible meat to consume, I don't recommend it, but it's best if it's a breast, white meat and skinless, that's relatively lower in linoleic acid. So, it's interesting.

Gary Taubes:

I think one of the problems that we all have in this world, I grew up in the physics world, and in the physics community if you develop a hypothesis or an interpretation of what you're seeing in the data, and then you present it to your colleagues, or in the hallway, down your hall from you, and you discuss it with them and they tell you, "Well, did you think about this? Did you think about that? What about this? Have you considered that?" And if your hypothesis is still viable after you do all that, then you present a seminar in your department. And all the very smart people in your department, their job is to try and explain every way that you screwed up, every mistake you might have made, every detail you might have missed.

Gary Taubes:

And if it survives that trial by fire, then you give seminars around the country and around the world to people, and you still haven't published a paper yet. Because what you want to do, the odds of your hypothesis being wrong are so powerful, or so great, that you want to give every smart person you can imagine, the opportunity to explain to you how you screwed up before you ever go public in a way that commits you to believing that. Because once you're committed you're going to not – that's where all the cognitive dissonance sets in and where we're always talking about.

Gary Taubes:

And I think in our world, our problem, I know in our world, and it's true of me, and it's true of my allies and my friends, and when we argue we don't get enough feedback. So we don't do the arguing before we go public, we do the arguing after we go public. And by that time we've bought in. Whereas what we need, like I was reading your notes and the transcript with Tucker on linoleic acid, and I wanted to say, I wanted to be able to sit down with him before he's writing a book and say, "Look. Here's what we need. We need to know how much the vegetable – what in linoleic – how does the linoleic acid change in other populations, not just ours? Can we find populations who ate relatively large quantities of it but did not have obesity and diabetes and heart disease epidemics? Because if we do, that's a bad sign. Do we have clinical trials? We have a whole host of clinical trials poorly done, uncontrolled, but can we look at those and see what the levels are and how the-

Gary Taubes:

Because I know, I mean, it just is a lot, there's a – we're not smart enough to do this on our own. And one of our problems in our – I mean, none of us are, and we don't get enough feedback until after we write our books. And then it's like, like I said, then we're committed. Then it takes a brave man. If I say I was wrong about anything, I could be talking to you and I say, "I was wrong about that." And somebody on Twitter is going to say, "But Taubes admitted he's already been wrong. Why should we believe him?" So it's sort of this, it's just-

Dr. Joseph Mercola:

In my book, that's the sign of someone with integrity. And I've admitted and made mistakes. I mean, life's a journey. You're always learning, acquiring new information, science advances, and you integrate that into your models. So, and usually it's just a continuous refinement. It's not like a total disregard for everything you've ever known about sugars. "Oh yeah, actually, sugar's pretty healthy for you. You can have it in unlimited amounts."

Gary Taubes:

But that's what we're asking them to do, right? We're asking the establishment researchers to completely disregard everything they've ever believed. And then they can't do it any better than we could. I have these conversations with my colleagues. So one of my newsie colleagues is a Ph.D. behavioral psychologist who's, I think, did the best science in the nutrition field because he was studying hunger. And I talk about him at the end of "Good Calories, Bad Calories." And I often say to him, "The fact that we're so convinced we're right doesn't mean we're not totally wrong, right? Because the world is full of quacks who are completely convinced they're right." And my friend says, "Well, we are right."

Gary Taubes:

And, but that doesn't – there's this fundamental principle that Richard Feynman, a Nobel laureate, "Surely you're joking Mr. Feynman." And his book says, "The first principle is science is, you must not fool yourself, and you're the easiest person to fool." And that doesn't change for anyone doing this. And we always have to constantly consider the possibility that we've been fooled. Like I said, what we have, the two of us, we have a lot of clinical evidence that people who take our advice get healthier. The question is, are the people who take our advice and get less healthy, do we not hear from them? Which is possible. We might live in selection bias bubbles. So we always have to consider the possibility that I keep wondering.

Gary Taubes:

I mean, a good sign is that we don't hear from them. We're not barraged by emails from people who've gave up carbohydrates and turned green. But we always have to consider the possibility that we fooled ourselves. It never goes away. And as soon as it does go away, then we have to wonder if we're really deluded.

Dr. Joseph Mercola:

Just to summarize, I fully endorse the keto approach, with a few modifications, really refinements, which is, I really believe in, and clearly admit, that most of the evidence at this point is based on correlative epidemiological studies, which seem to be pretty strong. That is not a randomized placebo-controlled definitive proof, of course. And I think to clearly put the nails in the coffin you need to do that. But I mean, it doesn't mean you can't benefit from this knowledge beforehand. And I think that's what science [inaudible 00:39:37] would agree makes a mistake.

Dr. Joseph Mercola:

I mean you, you just don't have 100 years to figure this thing out. I mean, we only have a limited lifetime. So you have to make the best guess and go for it, assuming there's no long-term

downsides to it, and I can't see any long-term downsides of this. But anyway, I want – go ahead, you can respond to that, go ahead.

Gary Taubes:

No, I was just going to say, that again, we discuss – well, I discuss in the book the need for self experimentation on some point. So everybody – and my book really isn't about keto, despite the title. It's about carbohydrate restriction. More than, again, I quote from Brillat-Savarin, because he said it first, more or less rigid abstinence to the carbohydrate-rich foods in the diet. And then you can start to see what other problems you have. And one of my favorite chapters in the book-

Gary Taubes:

So at the end of the book I talked about the lessons I learned from these 120-plus physicians I interviewed. And so I have one section in which the opening quote is from a wonderful spine surgeon in Ohio, who's vegan. And she cannot tolerate animal products. She's just learned over the years, she's got a family history of obesity, she used to be obese, she said she should weigh 300 pounds, she's now a Type 1 diabetic. And yet she sustains her health on a vegan ketogenic diet. And she says, "It's not a religion, it's about how I feel."

Gary Taubes:

And what she learned over the years is that her body couldn't tolerate animal products. Whether it's the fat content, or the protein, or some other element of the animal products, animal-sourced foods, she can't do it. And then I compare her to Dr. Georgia Ede, who's a psychologist who's now working in western Massachusetts, she used to work at Harvard, and she has slowly progressed to a carnivore diet, because she found that her diet, she can't – her body doesn't seem to tolerate vegetable food, plant-based foods.

Gary Taubes:

And so again, it's not a religion, it's just about how she feels. And one of the things this book, my book originally was called "How to Think About How to Eat." We had to change the title when some conventional wisdom promoters were publishing a book called "How to Eat" a month and a half before mine. One of the problems in this field of course is knowing who to believe. But I really thought about it as it's a process of self-experimentation. You fix the big things, which we can all agree on, and even the low-fat proponents and the vegan proponents would define their diets as healthy if they don't include sugar and sugary beverages and white bread.

Gary Taubes:

And then you start manipulating the smaller things to find out what your body can tolerate and what it can't. And that's part of the process of learning how to think about how to eat. We learned over our youth what we liked and what we didn't like. And then when we became adults we refined our tastes, and we learned that some of our dislikes were the dislikes of a 5-year-old, not of a 25-year-old, and we changed how we ate again. And now rather than doing it based on taste, we're going to do it based on how it makes our bodies feel and perform. And when we do that, that's the one advice we can give everyone to help them get healthier.

Dr. Joseph Mercola:

Okay. So let's get into the carb restriction, which is the crux of what your teachings are at this point. So I don't believe that you're advocating cyclical ketosis, in other words, having low carbs on some days and relatively higher carbs, maybe 200%, 300% more. Is that a correct summary, or am I mistaken?

Gary Taubes:

No, I'm not – I don't see enough evidence for cyclical keto. Again, I have friends I respect who promote it and say that their patients do tremendous eating this way. I think what worries me about it is a lot of the physicians I interviewed said they think of their work as sort of – so let's set my book in context. When I'm talking to these physicians, I'm talking primarily to family medicine doctors and internal medicine doctors. And their patients have – their waiting rooms over the previous 30, 40 years have filled up with obese and diabetic patients. And they are confronted day in and day out by basically managing these diseases. Hypertension, obesity, diabetes, at best, prediabetes and overweight. And those are the patients they're trying, they want to reach.

Gary Taubes:

And when they want to reach those patients, and many of them said, this is a – so this is different than people trying to – the level at which you're trying to refine your health approach. They want those people to stop eating the way they've been taught to eat, or stop eating their default standard American diet and eat whole foods with carbohydrate restriction. And stop fearing the dietary fat, the healthy sources of fat. And what we're debating is, what's a healthy fat or not?

Gary Taubes:

And for those people, a lot of them said they think of it not so much as a weight loss clinic or a weight loss approach, but a carbohydrate addiction program. And if you're doing a carbohydrate addiction program, any addiction program, moderation is one of the worst messages you could give. Nobody tells smokers to smoke in moderation, or alcoholics to drink in moderation, because we know it's going to fail. And so what worries me about cyclical programs, things like that, is that ultimately, it's advocating consumption of a product that these individuals are going to want to always eat more of. And then sometimes rigid abstinence, for people like me for instance, rigid abstinence is easier.

Gary Taubes:

So that's the only issue. It may actually get them in a healthier metabolic state, and I'd love to see clinical trials testing, really well-done clinical trials. But I just don't know enough about it. And it would worry me if I were to prescribe it to – if I were a physician and were to prescribe it to an obese or diabetic patient, that they might be unable to sustain a cyclical carb diet. Others might argue that they might be more likely to sustain. And that's why it might be a personal thing. But I just don't know what to make of that.

Dr. Joseph Mercola:

Well, for myself personally, and virtually every one of my clinical associates and friends who are physicians and seeing patients, it's nearly universal, we're all recommending and strongly encouraging cyclical ketosis. And I will personally go 30 to 50 grams one day, and then 100, 150

grams the next day. It's pretty much alternating back and forth. And being consistent with the theme of your book, with respect to customizing it for yourself, I find that you can monitor it based on either breath – or measuring the ketones or breath acetone and/or blood sugars.

Dr. Joseph Mercola:

And confirming that this level of carbohydrate ingestion is optimum for your metabolism, and you're getting the results you want, which is of course, a relatively low blood sugar. But the problem that I've seen consistently, is that if you adopt a consistently low-carbohydrate [diet], I respect the issue that there's a psychological challenge of many that could be addicted to this, and obviously for smoking, which I think is probably a stronger addiction, I could be wrong, but I think it is, complete abstinence is the only thing that works. I mean, it is so well-proven. You can't have a puff, otherwise you're back to smoking. But I don't think it's the same for carbohydrates. And I believe there are many healthy carbohydrates, like fruits, certainly some vegetables, although I have most of mine, and grains like rice.

Dr. Joseph Mercola:

But I think if you consistently restrict it, and I've seen this in some of the stories described in your book, that it looks like, I don't know if they were measuring it, but the blood sugar tends to rise up because your body needs a certain amount of carbohydrate in the form of glucose to function. And if you're not giving it in the diet then you have to upregulate these systems and you actually become somewhat, physiological insulin resistance, I think is what it's called. Because if you get a sugar bolus in that you'll test diabetic, because you just haven't been used to digesting it. So you have to make it in your liver yourself.

Gary Taubes:

Yeah. And Joe I agree with you on some – I mean, what you're saying, I'm not disagreeing with it. I just don't know enough. So as you're talking, remember, I cofounded a not-for-profit to fund nutrition research. And unfortunately it's not viable anymore. I still haven't given up on it. I think about, well, it would really be interesting to know, and take this outside of the realm of clinical experience and test it. Because if you're right, then I want to be able to, I want to do a second edition of “The Case for Keto” and I want this in there. In fact, I'm a little disappointed now that I didn't talk to you for the first edition, because then you could've given me this information, I could've talked to your clinical colleagues, and then I'd have a chapter about, possibly I'd have more, I'd have something in there about cyclical keto.

Gary Taubes:

But what I want to do is test it. What I want to say is, “Let's get 100 subjects and randomize them, and 50 are cyclical.” Part of what I've been trying to do for the 20 years of my career, and on some level, and with people like – we've been getting people to pay attention, we, as a movement. So that the clinical research community could do their job and study these facts, because until 10 years ago or certainly 20 years ago, nobody was studying these diets. Because it was all about low-fat diets and eat less. That's all you needed to know about health.

Gary Taubes:

Now we're getting to the point where we can say, "Look, these are really important ideas. And let's study them. Let's find out if they're right." And meanwhile, absolutely, I'm taking what you're saying and I'm thinking in my own experience. So I find over the course of 20 years, I've been eating a very low carb diet, that there are fewer and fewer things that I can eat, because my body responds to them. Maybe had I been doing cyclical keto I'd not have that issue. Maybe I'd be at the same sort of general weight and health status but my body would be more tolerant of the foods I'm not eating. And I don't know what the answer is other than self-experimentation, ultimately.

Dr. Joseph Mercola:

Let me offer the suggestion of a relatively inexpensive technology that only existed within the last year or two. I mean, technically it existed for longer than that, but it was far more expensive. There are a number of companies out there, Nutrisense is the one that I've used, Nutrisense.io, and I suspect you've heard of it. Essentially it allows you to put a 24/7 continuous glucose monitor, otherwise known as a CGM, into your system, which will measure your blood glucose every five minutes. And then you know, I mean, I think it'd be perfect for you. And if you want, I'm happy to set you up with someone in the company and they'll let you try this and you can get your N-of-1.

Dr. Joseph Mercola:

And you'll find is there's this area under the curve. And you can try the cyclical keto and see what happens, and you can test it over two weeks and get personalized data to know definitely, for you, if it works. And this is only \$200. It's crazy inexpensive for a two-week analysis. And when I did my first CGM it was four years ago. And it was \$3,000 because you had to buy a year's supply. It was crazy. So that would be a resource to help you determine if it's good for you individually.

Gary Taubes:

Well I do think continuous glucose monitors are going to be, and I have one, and I was holding it up while we were speaking. I got a prescription a while back because I was curious. One of my issues is, I wake up at 3:30 in the morning and I have trouble falling back asleep. And I've been doing – my next book is about diabetes. I've been interviewing a lot of individuals who have Type 1 diabetes. And it seems that what happens to me at 3:30 in the morning is a low blood sugar phenomena. And so I was curious. And I haven't put it on yet.

Gary Taubes:

I think they'll change how people eat, because they can certainly help diabetic people with diabetes, because they'll see immediately the effects of various foods and mixed meals on their blood sugar. So I agree with you there. What I don't know is, let's say over two weeks I find that my blood sugar, I have better blood sugar control with cyclical keto. I don't actually know how much of a difference that makes long-term to my health status. And because I'm eating carbohydrates to get the cyclical keto, I almost, by definition, have to have a higher blood sugar, don't I during those two weeks?

Dr. Joseph Mercola:

Yeah, yeah, yeah. So one of the reasons why we're so concerned about lowering our blood sugar is to limit the production of AGEs, advanced glycation end products. But this is really interesting, they're not good for sure, but ALEs, advanced lipoxidation end products, are 2,000 times more oxidatively toxic than the AGEs, and no one's talking about those. And that goes all the way back to, again, linoleic acids. So I am so glad you're open to cyclical ketosis, because I think that's the tip in the door. And I want to share some information with you after our interview that I think will help you understand some of the reasons why I've just-

Dr. Joseph Mercola:

I mean, we all know, no one recommends processed vegetable oils. But I think it's far deeper than that. And limiting linoleic acid will help reduce these oxidative linoleic acid metabolizers, which are the most pernicious sources of oxidative stress in your body. Literally destroying a large portion of mitochondria prematurely, and limiting your ability to create ATP (adenosine triphosphate). And ultimately, even going into the cytochrome level, giving you this negative feedback into cytochrome one which disrupts the whole thing and makes the fat cells, the adipocytes, insulin sensitive, which is the last thing you want, you want them to be insulin-resistant, and your somatic cells to be insulin-sensitive, or it's – yeah, insulin-sensitive.

Gary Taubes:

You could be right. And we're going to have to test it. And listen, Joe, I have to run because I have to get my kids off to school.

Dr. Joseph Mercola:

Okay. All right. Well-

Gary Taubes:

They're actually going to school today, but it means I have to have them-

Dr. Joseph Mercola:

All right, well-

Gary Taubes:

[crosstalk 00:55:33].

Dr. Joseph Mercola:

The name of the book is “The Case for Keto.” And it's available at Amazon.

Gary Taubes:

It is. And your local bookstore, if your local bookstore is available.

Dr. Joseph Mercola:

Yeah, yeah, yeah. For sure. Okay.

Gary Taubes:

Okay.