An Interview with Gary Taubes
By Dr. Mercola

DM: Dr. Joseph Mercola
GT: Gary Taubes

Introduction:

DM: Welcome everyone. This is Dr. Mercola. We are honored today to be able to speak to Gary Taubes who is a prominent journalist. He has written a number of books. He has been featured in the New York Times. It’s interesting that we both share very similar passions and have come to the same approach which is essentially we’re both journalists in the health field. We’re about the same age.

Gary went to Harvard and Stanford which institutions I have enormous respect for and studied disciplines dear to my heart which is applied physics and aerospace engineering but you wound up getting a journalism degree and then shifted over to health and medicine and nutrition. We actually featured one of your articles nearly 10 years ago on our new site – “What If It’s All Been a Big Fat Lie?” That was a phenomenally successful article when we had it. That’s when I first became aware of your information.

Welcome and maybe if you can expand on your journey in health education and understanding and how you came to do what you’re doing.

GT: Thank you Joe. Thank you for having me. I started off as a science writer. In fact, right out of journalism school obviously because of my background. That’s what I was most suited to do. I found myself in the 80s writing a lot about – my first book, I lived at the big physics lab outside of Geneva (indiscernible 3:26). I watched some very, very smart physicists discover non-existent elementary particles. They in effect screwed up while I was watching, writing a book about them.

I got obsessed with this question of how hard it is to do science right, to get the right answer and how easy it is to be misled by your evidence. I wrote another book along the same lines about this scientific fiasco in the late 80s called Cold Fusion. I originally taken that book hoping to be able to whip it out in nine months and I became obsessed with this mess of a science. Afterwards, some of my friends in the physics community said, if you are interested in bad science you should look at public health.

So I started doing that and I realized that a lot of the lessons I had learned from good experimental scientists in my other research about how carefully you have to control for variables and how meticulous you have to be with your experimental apparatus and how much attention you have to pay to negative results – the results that don’t confirm your beliefs. I found were sort of just thrown out the window in a lot of public health research particularly this whole field of what’s called observational epidemiology we hear a lot. It’s constantly in the news.
Recently, there was just a study out of Harvard claiming that they can tell what foods make you fat by looking at, in this case, I think it was 70,000 nurses in the Nurse’s Health Study and saying, the ones who got fat tended to eat these foods and the ones who stayed lean tended to eat these foods. That’s a causal relationship. A lot of my writing in public health nutrition started off writing about this field of epidemiology.

And then towards the late 90s, I kind of stumbled into first this controversy over whether salt is really the cause of high blood pressure and hypertension. That led me into the science of dietary fat and heart disease and whether a low fat diet is really a healthy diet. I would spend, for both the salt and hypertension story and then the fat heart disease story – both of them were from the Journal of Science – I spent a year on each of those stories.

**DM:** If I could just interject there because some of our readers are not literate with the scientific literature. The Journal of Science from which you have assimilated your publication is probably considered one of the most prestigious scientific journals in the world along with Nature.

**GT:** Right. Science and Nature, the two in the harder sciences. That’s where scientists ideally want to publish their work. Both these journals have news sections. Journalists who work for them and just get to cover science. I actually love writing for science because I could write a level that interests the scientists. I don’t have to bring it down to a level that the lay public can understand. I have often been accused to failing to do that in my other writing anyway.

One story just led to another. I was fascinated back in 2001 when our knowledge of the obesity epidemic was still relatively fresh. I pitched the story to the New York Times magazine about let’s see if we can come to some conclusions about what caused the obesity epidemic and that’s what grew into the story, “What If It’s Been a Big Fat Lie”.

I had two ideas about what might cause it both from my former research. One was the introduction of high fructose corn syrup in 1977 which pretty much more or less coincides with the beginning of the obesity epidemic.

The other was this institutionalization of the idea that a low fat diet is a healthy diet because when you lower the fat content of the diet, as you know, you’re going to replace the fat with carbohydrates. And until the 1960s, the conventional wisdom was that carbohydrates were inherently fattening.

One of the articles I quote in my books was from the British Journal of Nutrition article in 1963 written by one of the two leading British dietitians. The first sentence was every woman knows that carbohydrates are fattening.

What happened is we decided that dietary fat caused heart disease and started pushing carbohydrates as sort of heart healthy diet foods and this was institutionalized between
1977 and 1984 so that same time period. In that article, as you know, I kind of concluded that this indeed was the most likely explanation for the obesity epidemic that we took all these foods that everyone inherently believe were fattening and told everyone to eat as much of them as you could.

Foods like yoghurt; we would remove the fat from the yoghurt and replace it with high fructose corn syrup in this case. So you take a little bit of fat out and you put a lot of sugar back. One thing led to another.

That article, as you put it, was very controversial. It got me a big book advance and that allowed me to spend five years of my life working on my first book in this field Good Calories, Bad Calories.

The most recent book “Why We Get Fat” is a kind of airplane reading version of Good Calories, Bad Calories. (indiscernible 9:22) produces 500 or 600 page book with notes and bibliography that was a history of the field in nutrition and chronic disease research and then a revision of science of the field saying this is why we came to believe what we believe today but here is this alternative hypothesis that the carbohydrates were to blame not the fats. Here is what the evidence showed.

But what I didn’t take into account is that the researchers and the physicians who I wanted to get this book to didn’t have time or the interest to read a 600-page book suggesting that everything they believed was wrong.

So I boiled it down and then made a more argumentative much more readable version which is the new book.

DM: Excellent. One of the reasons actually that I contacted you is I read your magnificent article earlier this year in the New York Times which was quite honestly the best comprehensive review of the fructose argument. It was just phenomenal. We, of course, featured in our site. I would like you to say a few words on that.

But before you do, I wanted to also comment on the statement you made about the transition from the understanding that carbohydrates were generally recognized by most experts and even lay people that they were fattening. This transition occurred in the 70s. Because you studied this really carefully and looked at the literature for years and this has been your full time job.

It was my understanding that Ancel Keys was kind of like the culprit here. He did some research in the 50s which sort of started that process of getting the scientific community to believe that fats were harmful. It’s really a pernicious belief as we both I’m sure are in agreement on.

I’m wondering if you could really comment on that. Because that is really central to this whole point is to how that happened to make that transition to this low fat nonsense which you eloquently debunked. And then after you addressed that, to give your
impression as to where we are within the scientific community as to not believing that nonsense anymore. Have we really made the transition or is there still the bulk of experts so to speak and scientists believing this craziness?

GT: Let me start with the second one because that’s the shortest story. If you look at the new My Plate that just came out, the USDA’s replacement for the food guide pyramid, despite everything it is still a low fat high carbohydrate plate. It maybe better that half the plate is fruits and vegetables but however you interpret it, the Food Guide Pyramid.

I told you earlier, I was in Aspen earlier this week at the Aspen Ideas Festival where I was talking about the sugar issue. There were a lot of bigwigs. I would like to say I was hobnobbing with the upper wizards of the stratosphere.

So I was talking to among others Zeke Emmanuel who is the brother of Rahm Emmanuel. President Obama’s former – I don’t know what position he had – technically, he is now mayor of Chicago. Zeke Emmanuel is a very well respected bioethicist at the NIH. He was telling me like how much this My Plate was going to be this great success. It was going fight back obesity because fruits and vegetables were half the plate and this was a big change.

I feel like…how do I say it, but it’s still mostly carbohydrates and isn’t the potato a vegetable in America. And it is. It is a starchy vegetable. You could still end up with high glycemic index carbs as the bulk of your diet and you’re still going to make people fatter and not thinner.

So in general even though there was much more nuances now discussed about omega-3 and omega-6 fats and about the different types of fats and monounsaturated, the general message is still a low-fat message. That’s what most researchers I would say in this field, most practitioners still believe is the key thing.

I think most patients, if they go into the doctor and they’re overweight obese so they have high cholesterol or even metabolic syndrome which we both know is a disorder for the most part of carbohydrate metabolism. The doctors are going to say cut your fat intake because they think that’s how to make people thinner because fat has denser calories.

How did we get here? It’s fascinating Ancel Keys, you’re absolutely right, was the culprit. He was a very determined, very zealous University of Minnesota nutritionist who just from the moment he decided that it was cholesterol in the blood that caused heart disease – he was thinking then of total cholesterol, so he got that wrong. And that dietary fat was the cause of the high cholesterol and he probably got that wrong too. He just knew he was right.

So he started pushing this agenda, this hypothesis. Even when he said, I have done no studies to confirm it but still it’s why we should all low-fat diets. That was the early 1950s. In the late 1950s, the American Heart Association put together a team of experts
to analyze the data and they said you just can't make these claims. There are no experiments to support it. You can't talk about putting Americans on a low fat diet. This was a major article published in the American Heart Association Journal.

Keys’ way of getting around that was to get himself on to the American Heart Association along with a Chicago-based cardiologist names Jeremiah Stamler who was equally as zealous about this hypothesis.

DM: Is Stamler still alive?

GT: Stamler is still alive.

DM: I didn’t know he was that old. He started in the 50s. I know he’s at Northwestern.

GT: When I was doing the salt story – Stamler is the leading proponent of salt. If it wasn’t for Stamler, the idea that salt causes hypertension never would have happened. There was a guy at Brookhaven. There was a terrible scientist named Louis Dahl. He passed away in the 70s. He had done the only meaningful work on the subject and his science is terrible. Stamler just took it up and embraced and did experiment after experiment or study after study that failed to confirm the effect. He’s just a terrible scientist.

When I was doing the salt story I got Stamler on the line and I spoke to him for about an hour. Remember, I had done a book on cold fusion and I had talked to some of the worst scientists in the world. I know what a bad scientist sounds like. I put the phone down and I called my editor at Science. I said, I just talked to easily one of the five worst scientists I have ever interviewed in my lengthy career.

Not only did he take credit for getting the American people to eat less salt. He took credit for getting Americans to eat less fat and less eggs also. So when I’m done with the salt story, I’m going to do a fat story. I don’t know what the story is but I know if Stamler was really involved in any substantive way there is a story there.

That was one of the lessons I had learned from my previous research. Bad scientists don’t get the right answer. Nature isn’t that kind.

DM: Let’s go back to where we got interrupted.

GT: 1960s, Ancel Keys, along with Jeremiah Stamler was the early adapter of this hypothesis, got themselves in an ad hoc American Heart Association Committee and came out in effect with their own report which if I remember correctly was maybe three pages long. It said in effect that there was enough evidence to tell Americans at least men at high risk of heart disease that they should eat less salt.

This got a lot of press. It got Ancel Keys on the cover of Time Magazine as a voice of nutritional wisdom in the United States. On that cover, Keys was saying in effect in that
cover story – we don’t really have any evidence but still all American men should cut their salt intake to some exceedingly low number. Again, I forget what it was exactly.

So the American Heart Association embraced this idea before there were any meaningful experiments done. And through the 1960 and into 1970s researchers started doing experiments where they take all these men in different populations. There was a famous one, Veteran Administration Hospital in Los Angeles. There was a study of men in high risk of heart disease in New York. There was one at a Finnish mental hospital.

They would put one group on a low fat or cholesterol-lowering diet which is actually a different thing. If you actually want to lower cholesterol you just don’t lower the fat content. If you lower the fat content and you increase the carbohydrate content and that will raise triglycerides in the blood stream which shows up as part of the cholesterol number.

**DM:** If we could just stop there. That maybe a bit confusing for some people listening, you could expand on this – but the concept is there is only three nutrient categories; carbs, proteins, and fats.

If you’re cutting down fat, you almost have to cut down protein because protein is really almost always associated with fats. It’s common for it not to be. There is only one other nutrient you can increase and that’s carbs and most people aren’t going to eat up a boat load of vegetables.

**GT:** Right. And even in the 1960s, beginning as early as the late 1950s, researchers who are studying this knew that carbohydrates raised the blood fats called triglycerides which were also linked to heart disease risk. If you really you want to lower cholesterol, you change the proportion of the fats in the diet. You lower the saturated fats and you increase the unsaturated fats.

When they did these studies, on occasion, they could show that people had slightly less heart disease in the group eating this cholesterol-lowering diet but they tended to die just as their – they died at the same age or even they even died a little earlier than the people who weren’t eating the cholesterol-lowering diets.

When they did epidemiological studies just looking at what people are eating in populations, they found the same mismatching results. Like sometimes lower fat would be associated with longer life but other times, higher fat would be associated with longer life. So what they did which is sort of the mainstay of bad scientists everywhere they only paid attention to the data that agreed with their theory and they ignored the data that didn’t.

I documented this very carefully in the book in *Good Calories, Bad Calories*. How they would select that one result and say this confirms our hypothesis even if they had to jump through hoops to do it.
For instance, in one study in Puerto Rico, there was no association between fat consumption in their population and heart disease or mortality. In fact, the people who seem to eat a little more fats, seem to have a little lower mortality. They seem to live a little longer. But carbohydrate content was linked. The more carbs some people ate, the lower the heart disease so therefore this confirmed their theory. So everything was seen as confirming what they called the diet heart theory.

This just kept going through the 70s and they talked about doing the kind of definitive study that you would need to prove it. That study would really give you compelling evidence but that study would cost around a billion dollars even then. So they just decided they weren’t going to do it and it might get the wrong answer. That’s what they were afraid of because they might screw up the study. That’s actually always a legitimate possibility in the clinical trials.

And then it even gets to the point, for instance, the biggest such study ever done was known as the Minnesota coronary survey. That showed that people on the cholesterol-lowering diet had significantly greater mortality than people who were just eating the normal diet that we all eat. So they just never published the study. Or rather, the study was completed around 1972 and they published it, the principal investigator published it I think in 1989 – 17 years later. When I interviewed this fellow later in around 2004 and I asked them why did you wait 17 years to publish the study? He said, we didn’t like the results.

By selecting out the evidence you like and ignoring the rest and I compared it in my book, you could prove that a coin has one side. If every time you flip it and it lands on tails, you say, that doesn’t count. Let me flip it again. That’s in effect what they were doing.

This congressional sub-committee or congressional committee run by George McGovern gets involved and they decide that they’re going to get involved in the subject of what they call over nutrition and killer diseases which are heart disease and diabetes and cancer. They decided that the people who really know what the truth is are the ones who have been zealously behind the fat hypothesis all along even though there is huge controversy in the scientific community. It’s completely polarized about whether or not this theory is right.

They decide that they’re going to tell the entire country to decrease fat content. This was 1977. By they, I don’t even mean the congressmen, I mean the young staffers who work for the congressman, who are sort of lawyers and journalists.

There was one journalist who wrote the report single handedly who had been a labor reporter for the Providence Rhode Island journal. He got fired from there. He went to work in Washington for a consumer advocacy group. He decided that he wanted to help change the world after seeing documentaries on salmon in Africa. He got a job as the
writer for this committee and single handedly in effect assimilated the data as he believed it to be.

I met this fellow several times. He’s a wonderful guy. His heart was completely in the right place. He really wanted to do a good deed. He had no real understanding of science. No real understanding of nutrition and came out with this report that was backed by the committee, big press conference, a huge deal at the time saying that we should all be eating more carbohydrates and less fat. They also said we also should be eating less sugar and more complex carbs but the general message was more carbohydrates less fat.

This was then picked up by the USDA and again, one well meaning administrator there with a background in consumer advocacy. She thought that any scientist who disagreed with this message was basically a waffler. You know these scientists they’ll never say anything definitively. They want to get more money for their – they’re always going to tell you more money for research and we have to go with our best guess.

The only way you could get a best guess was by ignoring the fact – there was a best guess which was that dietary fat has no real meaningful influence on heart disease. But if you just ignore the scientists and look at the kind of zealous people like Keys who are making these declarative statements, we know what the truth is. It’s all about fat then you can come to a consensus and that’s what they did. And it just built from there.

They funded a couple of huge studies to try and – it’s not as good as the billion dollar study they wanted to do but some of them thought they would get them close on one study which cost which I think was 125 million dollars or 115 million. The multiple risk factor intervention trial where they took again men at very high risk of heart disease with very high cholesterol like over 290 I think it was. They randomized them into two groups. One got this multiple risk factor intervention. They get counseled to quit smoking and they get a blood pressure lowering medication and they get cholesterol changing diet.

The other group just goes on and lives their life and they run the study for half a dozen years. At the end of it, it turns out that the group with the intervention, with the smoking cessation advice and the cholesterol-lowering diet advice and the blood pressure medication actually had more deaths than the control group. They said, we must have done that study wrong. Remember the key with bad scientists to ignore data that refutes your beliefs.

And they had another big study which was a drug trial. The first major – well, it want the first but the biggest study ever done at the time looking at a cholesterol lowering drug and there they saw some small improvement on mortality. The people on the drug lived longer than the people on the placebo. They just took this leap of faith.

They said that if cholesterol lowering drug can reduce heart disease and make people live longer then a cholesterol-lowering diet must do the same. So they took this drug
trial and they said this speaks to diet too and American over the age of two should be on a low fat diet. This became this iconic famous cover of Time Magazine.

You probably remember it with a plate with a couple of fried eggs for the eyes and the downturned piece of bacon for the frowning mouth. It was heads covered headlined with cholesterol, and now the bad news. And boom, by the mid-1980s we’re all eating low fat, high carbohydrate diets and hoping desperately to prevent heart disease. By the mid-1980s the Americans start getting fatter and fatter and fatter and everyone was saying it’s a mystery we don’t understand why don’t these fat people listen to us.

DM: Thank for you that detailed history. I certainly got caught up in that in my education training. I finished my family residency training in the mid-80s and bought that whole argument hook, line and sinker because that was really the conventional thinking back then. I personally complied to that. I got my cholesterol level down to 70 I think without drugs. It is by diet. I was crazy. I was killing myself.

GT: We all did. I moved out to Los Angeles in 1988. I never calculated what the fat content of my diet is because I didn’t think that way but I can’t tell you how many egg whites, how many hardboiled eggs I peeled and then threw out the yolks. I mean it must be in the many, many thousands. I would eat oatmeal, no butter, no milk and then apple juice on the oatmeal. That was my breakfast with these egg whites. Lunch was fresh pasta with fresh salsa. So there is no fat there. How many skinless chicken breasts I ate and pasta dinners I ate. You’re hungry all the time when you eat like that. Snacking all the time on brown rice or some other fat free nutrient and the carb content is enormous. You just keep getting sort of heavier and heavier every year.

I lived in LA. I lived near the beach. I was working out about an hour a day because that’s what you do in Los Angeles. You don’t go to cafes or go shopping; you go to the gym or go for a run. You’re getting heavier.

DM: Thank you for expanding on that. I don’t feel as bad that we were both fooled following this craziness but eventually if you’re really a seeker of the truth, the truth is going to come out. Science, at its foundation, does figure it out but the problem is as you very eloquently defined is that there are this conflict of interest and these self interest that cause people to ignore negative findings that really can bias these results.

GT: I also think what happens here is there is a sort of mentality – I often call it the Jurassic Park mentality. I don’t know if you remember the first Jurassic Park movie but about every 10 minutes they would go, “But people are dying out there.” People are dying out there. As we’re talking, I don’t know, another 100 Americans have dropped dead from a heart attack. So you got to move fast. You can’t wait for the definitive evidence to come through.

I would look in the literature and I was always told this by the research. We can’t dot every I and cross every T. We’re not like the physicist who studied who wanted to have the time and the patience to reproduce the experiment and make sure they controlled
for all the variables. I said, basically, what you’re saying is you don’t have the time to figure out whether you’re really right or not. Because if you don’t dot every I and cross every T, you don’t know. That’s how cruel science is.

But because people are dying out there, we have to move fast. We have to take leaps of faith. We have to jump to conclusions and we have to hope that we’re right. Unfortunately, all too often, some huge proportion of time when people do that they’re not right. We’ve been living with that ever since.

And then what happens is nutritionists embrace it, dieticians embrace it, personal trainers embrace it, people standing on the checkout line next to you have embraced it. It becomes this huge sort of all pervasive dogma. Now it’s not like – it’s hard enough if you read the history of science for say 200 physicists to change their mind. But now you’ve got enormous institutions that have been pushing this dogma.

The American Heart Association, imagine if the American Heart Association, imagine when they decide they were wrong, what do they do? You can’t just put out a press release saying we apologize for the last 40 years of advice we’ve been giving you. We apologize if we got a lot of stuff wrong and we killed a lot of your loved ones. We haven’t killed you yet obviously because you’re reading the press release but we will. Now, we’re going to tell you what the real answer is and we have confidence in this one and trust us, we’re a good source of advice. It just can’t be done. All that stuff is institutional self interest as well too.

The people in those institutions presented with what psychiatrist would call cognitive dissidence, you know, I’ve been paying this, I’ve been believing this for 30 years and now you’re telling me not only that I was wrong but it’s the exact opposite and I may have done more harm than good. Most of us when confronted with that situation just say, you know, our brains figure out a way to convince ourselves that we were right all along. So there are all these perfectly human well meaning beliefs that worked in this situation to keep the truth isolated and walled off in this little corner of the world where you and I live. It may be a little more than you. It’s a tricky business.

**DM:** Yeah, I couldn’t agree more and I really thank you for that explanation because it’s not only true for nutrition with the issues that you’re describing but also in other areas of health or public health especially ones that we’re specifically interested in like fluoridation and mercury amalgams and the vaccine issues. These are all areas that really have the same variables you just addressed that contribute to a shift in the consciousness and the thinking that really perpetuates this myth.

**GT:** Yeah, and then you have the funding mechanisms perpetuate. They tend to fund people who agree with the conventional wisdom. If I was running the universe I would throw out the whole system and start again from scratch with a method of funding and addressing controversies that really work to do just that. That’s another hour conversation.
We should talk a bit about the fundamental argument that I’ve been making in my last book, “Why We Get Fat” and that pervades a second half of my first book is this idea of why do we get fat. Do we get fat because we eat too many calories and we’re just gluttons and because we’re sedentary?

DM: I definitely wanted you insights on that and that’s one of the questions I wanted to ask you because my understanding of reviewing the literature is it seems to be – I’m very curious as to what your thoughts on this is that one of the primary issues is this fructose. It’s just basic common sense it’s the number one of source of calories in the United States so it has to be an issue.

GT: It certainly is. The argument I’ve been making is that we’re making a fundamental mistake even thinking in terms of the calories. This is one of the places where the obesity…well, it’s the place for the obesity research community went off the rails. Heart disease research did it with dietary fat and then that spread and affected everything else.

Prior to the Second World War, the European medical researchers had a different conception of what caused obesity. They said, the human body in essence is very well regulated. Every system in the body is very well regulated. Cells will not take up excess energy unless they’re signaled to do so.

If you think about it, that’s what insulin does. Insulin says, hey there is too much blood sugar. We have to tell the cells to take up more than they wanted to take up. So that’s what insulin does. It tells your cells to take up nutrients in effect because there is too much in the blood stream and we’ll burn some of it off in the lean tissue and we’ll store some of it in the fat tissue. But you need singling molecules.

Hormones are out there to say take up this, take up that because there is too much of it. So if there is too much fat accumulating in the fat tissue that’s because the various factors in the body, the hormones, the enzymes, the central nervous system that regulate the uptake of fat by the fat tissue and the release of fat are telling the fat to be taken up and we got to figure what that is. Unfortunately, this European school vanished with the Second World War.

Unlike in physics where we embraced German-Austrian researchers because we had a – there was an arms race going on with the Russians. We had to build nuclear weapons and we had to build rocket ships. So we don’t really care what language someone spoke or what accent they had, in some cases even whether or not they were Nazis. We embraced them and we learned from them how to do science.

In medical research and public health research, in nutrition, these people were not embraced. They got jobs wherever they could and doing menial jobs in hospitals. So this theory kind of vanished. It was replaced by this idea that it’s just all about how much you eat and exercise.
And then beginning in the late 1950s, early 1960s, researchers finally had the tools they needed to figure out what regulated fat tissue and they realized it was fundamentally the hormone insulin. When insulin level goes up you store calories as fat and when insulin levels come down you release those calories and tell the lean muscle, the muscle tissues, the organs, to burn back fat.

We secrete insulin in response to the – for all intents and purposes – in response to the carbohydrate content of the diet. You could say the type of carbohydrates and the quantity of carbohydrates more or less regulate our insulin levels. So this led to the concept of carbohydrate restricted diet. But as we talked earlier, if you’re going to cut fat, you got to add carbohydrates. If you’re going to cut carbohydrates you got to add fat.

**DM:** Really no other way around it.

**GT:** Yeah. Beginning actually the late 1940s and before they unraveled this regulation, they elucidated what regulates our fat accumulation. Physicians started looking at what happened when they put their patients on very carbohydrate restricted high fat diets and they lost weight effortlessly. And then some very successful books were written on this. The most famous was in 1960-61 was *Calories Don’t Count* by a European-born OB-GYN working in Brooklyn named Herman Taller. And then 11 years later, the Atkins Diet revolution.

They’re pushing high-fat diets when we’re beginning to think that dietary fat cause heart disease and the nutrition and heart disease community comes down on them like a ton of bricks saying you guys are killing people. Actually, there was a quote in 1965 New York Times article in which (indiscernible 9:48) the most influential nutritionist of that era in the 1970s says that to recommend a carb restricted diet to patients is equivalent to committing mass murder. That’s a direct quote.

This was the exact same time actually that researchers had realized that insulin causes fat accumulation. If you want to lower insulin level the way you do it is cut the carbs out of the diet.

We got in this conflict where one of the two hypothesis had to go and like I said, the interesting thing is up until the 1960s for the 150 years previously, the conventional wisdom was that carbohydrates made you fat. One of the things I did in the book – because I read all of them. I probably read 95% of the (indiscernible 10:35) literature from the 1980s back to the 1890s.

You could find articles published in the major medical literature in 1940s and early 50s from doctors at Harvard, Stanford, and Cornell talking about the diet for obesity they used in their hospitals. The first thing you get rid of starches and anything made from flour and sweets and anything made from sugar. And they said you could eat as much as you want of the animal products, you know, meat, fish, fowl, eggs, cheese.
Basically, what they were saying is get rid – they didn’t realize it in the 40s and 50s but get rid of the foods that stimulate insulin secretion because those were the foods that make you fat and keep the foods that don’t stimulate insulin secretion, not a lot, considerably less and at a slower rate because those aren’t fattening. It’s like if you want to prevent lung cancer you get rid of the cigarettes because they cause lung cancer but you could do anything else you want because it doesn’t except work around asbestos I guess.

Anyway, this is the alternative hypothesis. It’s not about how much we eat or exercise. If you’re getting fat or you have to take in more calories and you expand that. It’s what the laws of thermodynamics tell us. That’s always true but certain nutrients affect the hormone insulin that fundamentally regulates fat accumulation and that’s the carbs.

Getting back to fructose. This is the issue I talked about and that sugar story is the worst that people have been allowed more or less to say about sugar is maybe is it’s empty calories. White sugar (sucrose) is half glucose, half fructose. And high fructose corn syrup is 55% fructose, 45% glucose. It might actually be a little more. It’s supposed to be 55-45.

Most human studies have shown, all human studies have shown that the biological effects of these two seem to be identical. So when I talk about sugar I’m talking right now about both the sort of sugars we use it in, you know, we put it in our tea and our coffee and also high fructose corn syrup.

The glucose molecule goes into our blood steam, simulates insulin secretion and is oxidized and used for fuel by virtually every cell in the body. The fructose is mostly about 90-95 percent metabolized in the liver. It’s fundamentally different. The pathway by which it’s metabolized is fundamentally different. The place at which it’s metabolized is different. It makes the liver do more work than just eating a starch which will break down to glucose only.

The idea and I quote Dr. Robert Lustig who was at the University of California, San Francisco in this lecture he gave at Sugar: The Bitter Truth which was viewed at the time I wrote the article about 900,000 times and the year and a half since it came out. I think now that number has probably close to doubled. The phrase that Lustig uses is isocaloric but not isometabolic which means you can have the same amount of calories from fructose or glucose, or fructose and protein, or fructose and fat but you’re going to have an entirely different metabolic fate. And that metabolic fate is going to determine the hormonal response and that hormonal response is going to determine among other things how much fat you accumulate.

So this idea that it’s only about calories that it’s just all calories are created equal. Well, yeah, in terms of the energy in the calories, yes. That has to be. But in terms of the fate of the nutrient downstream entirely apart from the caloric content, the same amount of calories of different nutrients will have a dramatically different effect.
Fructose, in its way, seems to be the worst carbohydrate because of what it makes the liver do which is convert it into fat. And then you get fat accumulation in the liver. The latest data suggest – I believe it but you really need far more definitive tests than we’ve seen so far that the fructose content in sugar and then the sugars because of that are the fundamental cause of this condition called insulin resistance.

That’s where you become resistant to the insulin you secrete so you have to secrete more and more insulin. Insulin resistance is at the heart of this metabolic syndrome and that could be called sort of a paradigmatic disease of Western civilization. It’s the pathway home.

The metabolic syndrome can be perceived as sort of the step on the way to obesity, the diabetes, the heart disease, and probably even to cancer and likely even to Alzheimer’s disease. All of these diseases are associated with metabolic syndrome. You’re at a higher risk if you have metabolic syndrome or you’re obese or you’re diabetic.

It looks like sugar could be in effect the fundamental problem with Western diets. I’m not going to absolve the other refined carbohydrates because I think they can play a role too but it’s possible that if we never had sugar in our diet – you could go back in history and remove refined sugar. I’m not talking the small amounts you find in fruit. I don’t know what the reality is with things like honey and maple syrup because it’s complicated but just refined sugars where you take the starches in sugarcane or beets or corn and refine and distill them down to all kinds of wonderful chemical processes until you have this sort of refined little piece of sweeteners so those refined sugars are the cause of all the chronic disease, the major chronic diseases that kill us in the United States today. And it’s possible.

**DM:** It sounds like you’re in agreement that fructose maybe the single biggest culprit which is Dr. Lustig’s contention.

**GT:** Yeah. Although the place where I disagree with Rob and we’ve talked about it is we never really get fructose alone.

**DM:** Sure.

**GT:** We always get it with glucose attached. That’s the system you’re looking at. The glucose stimulates insulin secretion. The presence of the glucose also affects the way we metabolize the fructose in the liver.

What differentiates the whitest flour from sugar is the fructose molecule and it’s the fructose that makes it worse but then you have to ask the question – and this is where these scientists get complicated – what about fructose alone? What if we just use fructose as a sweetener?

There is a line of products in Australia now pushed by Jennie Brand Miller who is one of the leading proponents of this idea, the glycemic index. They use fructose as a
sweetener. Because fructose doesn’t stimulate insulin secretion it has virtually no glycemic index. So it’s the lowest glycemic index carb you can find.

But the only way you would ever get it where you didn’t have other carbohydrates attached is if you used it to sweeten butter or the meat products, something that didn’t have other carbs in it. If the product has other carbs even using fructose as a sweetener you’re still going to get it with glucose that stimulates insulin secretion. It’s complicated. But one way or the other, it’s the sugars that are the problem and the fructose that makes those sugars different from other refined carbohydrates.

DM: Sure. You just touched on it. It is a confusing part of the equation is that there is – I think Jenkins is the guy that popularized in the 70s is the glycemic index. He’s out of Canada. I think there is probably some value to it. I believe you’re not in favor of that for just the reasons you mentioned. Even though it doesn’t cause insulin to be secreted, it increases insulin resistance maybe not immediately but certainly down the road with prolonged use.

GT: With the fructose, yeah. That’s the issue. I talked about this in Good Calories, Bad Calories because this glycemic index which – just to define it briefly is a measure of the blood sugar rise and effect after consuming a set amount of a food, a hundred grams of usually a carbohydrate rich food.

That’s the reason you don’t want your blood sugar to rise is you don’t want the insulin secreted afterwards. Fructose doesn’t count in blood. It doesn’t go into the bloodstream. It goes directly to the portal vein into the liver. It doesn’t raise blood sugar. It doesn’t stimulate insulin. It’s got this very – in the short term, as you pointed out. It’s got very low glycemic index.

When this concept came down in the 1980s it was popularized, the American Diabetes Association immediately said, then fructose is good and sugar is good for diabetics because of the relatively low glycemic index since half the carbohydrates in sugar are fructose. The corn refiners producing high fructose corn syrup sort of pounced on this and used it – they talked about high fructose corn syrup as though it was only fructose to give the impression that it was something entirely different than sugar (sucrose).

To portray it, they would talk about fructose as fruit sugar. Fructose is found naturally in fruits and vegetables in small amounts. So they made high fructose corn syrup look like this healthy product that was entirely different from sugar.

I believe the reason we started consuming more and more of what the USDA calls caloric sweeteners which is sugar and high fructose syrup total in the 1980s was because the corn refiners did a very good job of never having us realize that they were marketing another kind of sugar so we just ate more and more of it. Like I said, foods in which fat was removed and high fructose corn syrup put in to replace it like the low fat fruity yoghurts were portrayed as health foods. They still are today.
You can take a little out of a food, put in some sugar and you have what the U.S. government considers a health food because it’s low fat. So we ate more and more sugars total. We got fatter and fatter. We got more and more diabetic.

What I pointed out in this New York Times magazine story and in my book is one of the disorders that’s associated with being obese or diabetic having what’s called insulin resistance, high levels of insulin is cancer. It’s clear that the hormone insulin actually promotes cancer growth as does insulin-like growth factor.

I interviewed some very prestigious researchers including the president of Memorial Sloan-Kettering Cancer Research Hospital in New York. It’s probably the most prestigious cancer research hospital in the U.S. if not the world and these people don’t eat sugar because they don’t want to get cancer.

The idea if it’s a sugar that causes insulin resistance and that’s what causes your insulin levels to go up. It doesn’t matter if the fructose doesn’t stimulate insulin in the short term it causes the elevation of insulin in the long term. The more insulin you have in your blood stream, the more an incipient tumor cell is going to be driven to becoming a full blown malignant mess.

DM: Thank you for explaining that. Let me just comment on that. I really appreciate your insights on the medical scenario that the researchers are saying that people are dropping very rapidly and we really don’t have time to look at this really carefully. I think when you commented on it you mentioned that it really wasn’t justification to not do the research and I agree but at some point you can rely on earlier research. Some of which you quoted like that was done in the 40s and before that really purport to what appears to be the truth and worked on some evidence.

As you also mentioned a lot of the studies haven’t really been done definitively to prove this fructose hypothesis. One of the researchers on this area is Richard Johnson. I’m sure you’ve interviewed him in the past. He’s out of Colorado. His hypothesis is that it’s the total grams of fructose.

The reason I’m mentioning this is that I’m kind of buying this hypothesis hook, line and sinker and I think it makes a lot of sense and we’ve got a lot of historical evidence to go forward with it and really promote and educate people on it and that to really limit our fructose because if you go back a hundred years the average person was rarely consuming more than 25 grams of fructose and probably closer to 15 and now the average person is consuming 75 grams.

So all this lead into the comment which and I get a lot of opposition on it on my site from people who think that fruits are healthy because they’re natural and you can have as much as you want. My conclusion is and I agree with Johnson on this is that fruits are okay but it’s only in a person who is eating a healthy diet.
So if you're a typical American, you're consuming 75 grams of fructose or a teenager who is consuming 150 grams, the last thing you want to do from my perspective is add more fructose in the form of fruit even though it's healthy and the absorption is slowed somewhat by the pectin and fibers in there. It's still going to contribute to the total fructose load. I'm wondering from your review of the literature and your perspective on it what your thoughts are on that.

**GT:** People are horrified, as you know, if you go against fruit in this climate. I try not to – what I want to say would you just show me one randomized control trial where people are randomized to more fruits and vegetables versus X whatever they're replacing it with. And they actually lose significant weight or any weight.

It's a belief almost like a religious belief. We think that if Adam and Eve ate fruits and vegetables, they have to be good for us. I eat a lot of green vegetables more than anything because my mother told us back then, told me to eat my green vegetables in the 1960s so I'm going to do it.

The fruit, you compare an apple and I do this *Why We Get Fat*, you compare an apple to a potato of roughly the same weight and the potato has a little more glucose, the apple has more water, but the apple has more fructose. If I'm going to say the potato is fattening it's quite likely that apple is just as fattening. It's not a little more.

The difference between I think what you guys are saying and what I believe – I know Rick well. I've had dinner with him in Denver. He's a very smart erudite guy. He's really been doing some good research. Once you're hyperkalemic, once your insulin levels are elevated and you've got insulin resistance, you've got metabolic syndrome, you're overweight or obese and now we're talking about two-thirds of Americans.

I think you're better off if you get rid of, you know, you're probably better off eating the apples, oranges, etc than white bread but the question is are you better off – will you lose significant weight if you're still eating for instance low fat relatively high carb diet even if the fruit is coming from – you're not drinking the Cokes and any other sources of fructose.

Is a fruit smoothie - let's say the only thing you do all day long is have a fruit smoothie in the morning. Are you going to be able to lose weight? Even if you're trying to cut calories because you're still getting – it's a fairly dense source of carbohydrates and as you put it, there is fructose in it. It's going to increase your fructose load.

The question, I don't know. I have reason to believe from my research tells me especially for obese individuals they're probably better off getting rid of most fruit. You know the Paleo people and the carb restriction people, we end up with berries because they have a low fructose content. They have a lot of fiber so they have a low GI. These fruits are good. One of the arguments, yeah, we evolved eating fruits but the fruit we evolved to eat is entirely different than the kind of fruit we eat today.
I talked to Nassim Taleb, a financier who wrote the great book *The Black Swan* who is a big believer now in carb restricted diet. Nassim grew up in Lebanon. The fruit he had in Lebanon growing up was sour. Even the oranges were kind of sour. What we’ve done is we have bred them to be sweeter and juicier and that means increase their fructose content. We make them available all year round instead of seasonally when they would have been available in the Paleolithic era.

We don’t have to compete with birds and other animals for the fruits so we can get it when it’s at its ripest and not worry about somebody else having to eat most of it, some other species having consumed a lot of it first. So we get the much greater amount of fruit than we used to. We get it juicier and sweeter with more fructose.

Again, I think, on some level it’s going to stimulate insulin secretion and that’s going to make it more difficult – that’s going to push you towards storing far rather than burning it for fuel. I’ve been pilloried for saying this as well. No matter how carefully I try to couch it.

**DM:** I routinely get significant numbers of individuals who strongly and vehemently disagree with me and post their comments on the board of my site.

I don’t feel too bad if they’re also (indiscernible 30:01).

**GT:** The problem is that people are disagreeing. This is another phenomenon. The world is full of these lean, healthy, muscular, marathon running, bike riding, century riding athletes or exercise physiologists who think, first of all, that fat people are fat because they just don’t have the willpower to workout as much as these people as I do. That’s what they’re saying. They think whatever I can do, overweight and obese people can do.

Whenever I’m out – again, I was in Aspen at this Aspen Ideas festival. There are all these (indiscernible 30:37). I was talking about sugar. I have been invited because of the Times Magazine cover but it’s full of all these – I tell my friends I’m hobnobbing with the upper wizards of the stratosphere.

Sandra Day O’Connor is there and columnists from the New York Times, Obama’s chief strategist. I thought I was approaching different policy people trying to get them – and luckily some of them had come to hear my sugar talk and then I was approached and I was trying to get them to understand the arguments I have been making because I think they’re crucially important to getting a handle on both personal obesity and the obesity epidemic.

Whenever one of them was like lean and fit – I knew that they were going for a hike later in the day or a run or a bike ride. I’m going to have more trouble because these people are inherently going to believe that what they do is what everyone should be doing and if everyone did it nobody else would be fat either. It’s just the human
perspective. So the people I bet who are commenting, they’re probably the same people who attack me for saying this and they’re not people with weight problems.

One of the arguments that I’ve been trying to make is that people are predisposed to store excess fat on their bodies, are different than people who aren’t. And that lean people have to understand that. Because until they do, they’re going to be giving the obese people the wrong advice and nobody wants to take advice from obese people.

It’s sort of I get this on — there is a photo on the internet if you search me where this blogger from New Jersey who works for — I forget the fellows name but he’s a vegetarian diet doctor. I was lecturing in New Jersey and there was a photo on the web where he circled my waist and written ‘doughy!’ because he believes I’m doughy which I wasn’t. Therefore that means I don’t even have the right to talk about this stuff.

I could have weighed 400 lbs and reduced down to 220 and still been heavy in which case I would have more right to talk about this than any human being alive. So it didn’t even matter. The question isn’t whether I’m doughy then, it’s how much doughier I would have been had I not changed the foods that I eat so that I’m not eating the fattening ones anymore. Those of us who store calories as fat are different than those of us who can remain lean effortlessly.

**DM:** It really is great to have individuals like you who are so committed and sincerely finding out the truth and taking the time, effort, and energy to review the research and talk to the people who are doing the research and really come up with some solid advice to guide us with reasonable and rationale recommendations. It’s a useful component.

I think we’ve hit the fructose and the sugar one well. It’s sort of an extension when you were previously talking about fat, is the saturated fat. I’m sure you’ve looked at that. Actually, before we go into the saturated fat, I’m wondering if you believe the total fat myth is actually starting to wane.

Obviously, it still persists as best exemplified by the recent food dietary guidelines but do you think we’re making improvement? Is it more and more of the experts or the researchers or the media is starting to hold credence that it may not be this low fat approach that’s the most helpful.

**GT:** Yeah I do. I’ll give you an example first that delighted me this past week. Again, there I am in Aspen at this Aspen Ideas Festival. It’s held at this glorious think-tank called the Aspen Institute. They have this place where you check in. They have coffee laid out in the morning and tea. They had cream and milk. No low fat milk, no reduced fat milk and they didn’t even have half and half. I thought, My God this is the best…I took a photo and I put it on my blog.

If we’ve gotten to the point that we’re getting away from reduced fat milk then the idea that a low fat diet is a healthy diet is beginning to wane. I do think that’s the truth. Like I
said the problem is that the government is still stuck in this position where they don’t believe that, you know, it gets too complicated to tell people you can eat more saturated – less saturated, they still think saturated fats are killers so we want to get saturated fat down and monounsaturated fats and polyunsaturated fats up. We don’t want to tell people to eat less of any food because that alienates constituencies of whoever produced that food. So we can’t say eat less butter.

As I have pointed out, most animal products, the primary fat in animal products is actually oleic acid. The same monounsaturated fat in olive oil that we’re telling people to eat so that gets complicated. So instead, we just say eat less fat. If we eat less fat and there is a sort of general kind of anti-meat-egg message then people will cut their saturated fat because of it.

Michael Pollan, I disagree with him on much of what he says but he’s got a long way to getting the intelligentsia to accept that the lipid hypothesis is simply wrong and he gives me credit for that which is nice. So yeah, I think the low fat message in general is spreading but that’s also different than believing that a high fat diet is a healthy diet.

DM: Sure. Well, it’s a step in the right direction.

GT: It is a step yeah.

DM: Along those lines is the saturated fat component because there is – I really appreciate your comments on this because you’ve looked so carefully at the literature that there seems to be some fairly compelling scientific support for the assertion that saturated fat will increase your risk for all sorts of diseases including heart disease. So there is a strong – even stronger than it appears to be that people should lower their fat intake in general is that saturated is just vilified.

GT: That’s the latest dietary guidelines is lower your saturated fat. We’ve told you 10%, now make it 7% of all calories.

DM: It’s even getting worse. I’m wondering if you disagree with that concept and if you do, what your explanation for it and how this scientific finding could be off. My take on it was that they had never separated the reasons that when they looked at saturated fat analysis or dietary analysis they never separated the trans fat and some of the other damaged fats that occur when you heat these oils.

GT: That’s possible but I think – first thing, it’s the thing that the establishment, the American Heart Association, the USDA can hold on to. Particularly if they don’t do any good studies to establish whether or not it’s true or not then you can always hold on to this belief. So they could always say it’s saturated fat.

I don’t know, if you remember the Women’s Health Initiative. This huge 49,000 women randomized to low fat diets versus conventional diet. It runs for seven years. It cost
about half a billion dollars. No effect – the low fat diet had no beneficial effect on weight, on heart disease, on diabetes, on cancer, on anything.

So the response was well, we just told them to eat less fat. We didn’t tell them as we now would to eat less saturated fat and more monounsaturated fat to get more omega-3. So it was a very nuance study and we don’t have to pay attention to the findings. So this is one way they could hang on to it and they are.

The other thing is if you do an observational study, remember this is what got me into this, you follow some huge population of people and one of the biggest ones now being done is a joint study between the American Association of Retired Persons, The National Cancer Institute, 500,000 retired Americans. They probably have been followed going on 20 years now and you look at what these people are eating and then you look at their mortality and their disease rates later. What you find is that the people who eat – the more vegetables and the less meat you eat, the longer they lived and the less disease they get, the less heart disease, diabetes and cancer. If the protein sources come from vegetable sources instead of animal sources, you’ll find the same result.

This is used to support the belief that for heart disease, the least of the problem is these saturated fats in the animal products as opposed to the mostly unsaturated fats in the vegetables. This is what we do these days. These studies make the front pages of newspapers. They’re out there. They’re coming out every week. And we do these studies because they’re relatively easy to do.

And they’re relatively inexpensive. They don’t cost half a billion dollars like the Women’s Health Initiative diet trial did. They only cost a few tens of millions.

The problem is they tell you nothing about what’s cause and what’s effect. In effect, the more vegetables and less meat you eat associating with lower mortality less disease – as one friend of mine put it, it is as though they are comparing – I live now in the Berkeley area in Northern California. It says, as though they’re comparing vegetarians at Berkeley who eat at (indiscernible 40:40) everyday and go for a hike, you know, every other day in the mountains to rural truck drivers from West Virginia whose idea of a gourmet let’s go out to eat tonight meal is Denny’s because that’s all they’ve got.

Over the last 30 years, people who tend to eat more vegetables products – let’s say, people tend towards vegetarianism are more health conscious. They’re better educated. They are a higher socio-economic status. They’re probably healthier to begin with. They have a whole slew of healthy behavior. So not only do they eat more vegetables and less meat. They basically do what they have been told to do since the late 1970s but they do that in a lot of ways.

So they eat less sugar and they eat less refined carbs. They’ll eat whole wheat bread instead of white bread. They’ll brown rice. And all these little effects. Some of them could be big effects like the sugar, are going to add up so that by the time you look at
the end result these people are healthier. They started out healthier. They have better doctors along the way too and they end up healthier. And then what the researchers do is they say, well it’s the meat and the vegetables that are causing the effect we see.

The other thing you could do is do an experiment. This is an observation. Again, I think of myself as a kind of big fan of good science. So I like experiments. Actually, one of my favorite books on science was a book written in 1865 by the great French physiologist Claude Bernard. He says look you have these observations, if you want to find out – and you form hypotheses based on the observations.

So I see this in nature and then I want to come up with an experiment that will confirm whether what I think is happening is really happening and establish what the causes of what I see. You could say here and what do observational studies do? They’re observations so they allow you to form hypothesis. The better researchers in the field refer to these studies as producing hypothesis generating evidence.

So my hypothesis is that if you eat more vegetables and less meat and less animal fat and less saturated fat, you’ll have a low rate of heart disease, a low rate of diabetes. So now we could do an experiment. An experiment is a randomized controlled trial.

So I’m going to take some group of overweight and obese subjects and I’m going to randomize them into two groups. One group is going to get a very healthy high carbohydrate diet with fruits and vegetables and whole grains and skinless chicken breasts. It’s going to be low in fat and low in saturated fats.

The other group is going to get a high saturated fat diet with very low carbohydrates. When we do that and those experiments have been done and they have been done for as long as two years. My hypothesis is that the group getting the high saturated fat, high animal product diet is going to drop dead right?

When you do that study what you find is not only do they lose weight even though they are told to eat as much as they want. Their heart disease risk factors improve. Their diabetes risk factors improve and they improve far more than the people eating what we think of as a healthy diet which is rich in carbohydrates and starches and low in fat and low in saturated fat.

This is what got me into this crusade which is if you just look at the experiments which we can have some faith in. I mean they could be done wrong too and I would do them differently if I did them but if you look at the experiments, a high saturated fat diet is a healthy diet. That’s the best evidence we have. It doesn’t matter if it contradicts what you have been saying for the past 40 years. If you don’t like it, do a better experiment. Don’t ignore the results.

**DM:** How do you account for the decades of previous studies which seem to provide fairly clear substantiation for the saturated fat as harmful hypothesis?
GT: Remember, there actually weren’t. Those previous studies never actually confirmed the hypothesis.

DM: Okay so there is a confusion. So it just continues to be held as this belief that’s referenced in these journals but there is really no good support for the whole hypothesis to begin with.

GT: What happened is, again, I lectured at the NIH a couple of years ago and afterwards I had - just talking to a guy who ran a childhood obesity program at – NIA funded childhood obesity research and program. He said their primary concern with obese kids is to keep their saturated fat content down because these kids are going to be at high risk of heart disease as they get older. He said there are thousands of studies showing that this is the thing to do confirming the evils of saturated fat.

I said to him, the difference between you and I is I actually spent a significant portion of my life reading those studies and getting them all. In 1984 when there was a consensus conference by the NIH saying every American over the age two should eat a low fat diet. There were actually about eight or nine studies and we discussed six or seven of them earlier in our interview. They could never show that eating a reduced saturated fat diet would make you live longer. It might reduce heart disease rates. It did in some studies but it increased cancer rates.

And then since 1984 there have been about another dozen that are relevant on – I mean often they’re done – people are put on low fat diets not because they’re looking at heart disease risk factors because even the researchers who did the studies assume that these people are going to be healthy. But they might be looking at something else like cancer.

When you look at the meta analysis that have been done looking at these issues and a couple of them came out in the last two years, the results is always the same. There is not enough evidence to say that saturated fat is bad for you and there has never been that evidence.

DM: That’s a very powerful statement. Most of us don’t have the scientific training and education and the time which is probably the most crucial variable to really sit down there, read and digest it and come to that conclusion. I mean there are very few people who really have that opportunity. You’re clearly one of them. To hear your analysis of all those thousands of hours you’ve put in to doing this evaluation is greatly appreciated.

GT: Thank you. You know, I hate writing, research I enjoy. Research is a great procrastination tool. As long as you keep reading papers and interviewing people, you don’t actually have to sit down and write.

DM: There you go. I really thank you for all you’ve been able to share with us. Are there any other items that you would like to expand on or mention? Actually, there is one before you answer that one that I just kind of expanded because you alluded to it with
your comments on Stamler from Northwestern in Chicago in addition to being a proponent of this low fat hypothesis.

He also proposed this low salt approach which I believe preceded your work on the low fat. I’m wondering if you could comment on that and also the current state of low salt being healthy. Is it a similar state that we are with low fat? In other words, there is a progression towards realizing this was a myth and a mistake and that we actually need salt. I’m wondering if we can dialog about that.

GT: It’s funny because – again, I was in Aspen. I was talking about sugar and my session was Sugar: The New Killer Nutrient. There was a session that I wasn’t speaking at. Salt: The Deadliest Nutrient or the deadliest dietary factor?

What I was trying to explain to the fellow who was actually moderating the salt session is Ezekiel Emmanuel, this bioethicist, is that the data on salt has always been terrible. Basically one study has managed to show that a salt restricted diet will lower blood pressure by any significant amount. It’s called DASH sodium and a DASH diet which they used which everyone pushes now will say is that I think maybe it was U.S. News and World Report that recently pushed DASH as a sort of the healthiest weight loss diet according to nutritionists even though it’s not a weight loss diet.

The DASH diet is very low in fructose. This is something I pointed out to Rick Johnson because Rick is a nephrologist. His interest has always been hypertension.

I pointed out to him about four years ago, I said, you should look at the DASH results because DASH is a low sugar diet. It’s a low fructose diet. That’s what it fundamentally is. So after 40 years have come to this, basically one study in which they refused to release by the way all of the data on the study. They were challenged. They were even sued to release it. One study suggesting that salt is the problem.

One of the things people talk about it enough such as (indiscernible 50:33) like this fellow Stamler, failed in study after study after study to link salt to heart disease but eventually it becomes the conventional wisdom. The NIH, the USDA gets on board. Other government agencies get on board so it becomes sort of the deadliest nutrient with no evidence, no meaningful evidence to support it. It directs attention away. Something causes high blood pressure and hypertension.

The point I point out in my book is that hypertension is associated – obesity, if you look in the textbooks, they refer to it as a hypertensive state. Gout is a hypertensive state, heart disease. So that’s why we want to avoid hypertension because of heart disease and stroke. They’re associated with hypertension – diabetes, high blood pressure, hypertension.

The simplest possible hypothesis is whatever causes all these diseases causes hypertension too. The way we think about it now is you get fat because you eat too much. You get heart disease because of saturated fat. You get diabetes because you’re
sedentary. You get hypertension because of salt and you get gout because of meat and alcohol. Yet hypertension is a common condition on all of them so maybe it’s something else.

Rick Johnson has been pointing that uric acid that he thinks is the fundamental sort of defect in this system which I won’t get into on that. Gout is an accumulation of too much uric acid in the bloodstream but insulin, the hormone insulin regulates all of these things including having a fundamental effect on blood pressure. So you raise insulin levels, you raise blood pressure.

So your simplest possible hypothesis is once again it’s the carbohydrates from the diet and the sugar and the refined carbohydrates that raise insulin and in turn raises blood pressure, causes hypertension, causes obesity, causes diabetes, causes heart disease.

The funny thing is the research community doesn’t like these sort of unified theories because it makes you sound like a quack. And yet, if you put — remember these clinical trials where you put somebody on a high fat, high saturated fat but low carbohydrate diet without sugars and not only all their heart disease risk factors improve and their diabetes risk factors improve but their blood pressure drops. It drops just as much on those studies as it does in this DASH-sodium study.

It’s kind of a crazy situation like my job — what I’m trying to do is to get the medical research community and these public health authorities is look at this evidence and look at it in this unbiased perspective. If you do that everything implicates the carbohydrates.

DM: Yeah. So do you think you’re making progress on that and you’re being invited to more and more influential committees and researchers and they’re listening to what you’re saying and your analysis of the literature?

GT: Weirdly enough yes. I mean does this mean I’m going to succeed? I’m still pessimistic. It’s funny, they are the biggest online publisher of scientific journals has been putting together a conference based on my research, on my ideas. I don’t even know how many of the people involved in the conference now know what stimulated it.

But they read my book and said this is amazing. We’d like to have a conference. What can we do? We’ve discussed the executive committee was, you know, a couple of Nobel Prize winners on the executive committee. These people are people who think it’s important and they want to be able to link — go for it, have a conference that goes everywhere from the diet through insulin and insulin resistance through all these diseases that are associated with heart disease, cancer, Alzheimer’s. So you get the whole link instead of just the disease or just the mechanisms of insulin resistance.

People, slowly but surely, I hear from researchers who have read my books. Who say, I think you’re right. I have changed the way I eat. Even in Aspen, I had people come up to me and say, I just want to say you changed the way I eat. I believe you’re right more
than I believe my doctor. But that’s still a long way from getting these huge institutions to shift.

**DM:** Well they have so much control over the social consciousness because that’s what they’re being bombarded with on the news or any magazine they pick up. It’s the same messages that are being repeated continuously and reinforced.

**GT:** That’s the things with my plate. They have fruits and vegetables. I think is maybe a quarter, you know, whole grains and then a quarter protein they call it. It’s a low fat, high carb plate, USDA dietary guidelines. These people have much greater effect.

The sugar message, the fructose message will probably get across more. The sugar industry will do everything they can to try and keep it from ever being an official government message. But people don’t mind when you go after sugar. They mind if you start telling people that fat is good or animal products are good.

**DM:** Yeah.

**GT:** They can believe that sugar is bad regardless. People can get behind that regardless of their beliefs on these other issues.

**DM:** Terrific. Do you have any other comments you would like to make on that or you provided a very comprehensive analysis of your work and I really appreciate that.

**GT:** This has been great. Probably an hour from now I’ll go, I wish we had talked about this.

**DM:** We can always do it again. I’m going thank you very much for this interview. I really appreciate and want to thank you personally not only for myself but for the impact you’re making and influence on the culture and really pushing us in the right direction. You know, I have been passionate about health for over three decades. I went to medical school to try to understand it better. There is no doubt in my mind that one of the most profound physical impacts you can have on your health is the food you eat, far more than exercise. I mean not that you shouldn’t exercise but clearly it’s the diet that’s the chief criteria. You’re really doing a lot to help really eradicate some of the destructive myths that have been permeated for the reasons you mentioned in the interview so thank you for that.

**GT:** Thanks. And yeah, I agree with your by the way, that’s the one point we didn’t talk about. But you put it beautifully which diet has such a huge effect. I think the basic thing, my beliefs about the real benefit, you know, it makes you feel better. I do it religiously. It makes you look better to some extent but I think really the real benefit of exercise is if there is one in terms of chronic disease and mortality is protecting us from the damage, ameliorating the damage we’re doing with the diet.

**DM:** Yes, absolutely.
**GT:** So if we get the diet right, the benefits of exercise are much much smaller because you don’t have to ameliorate all these damage. It’s just not being done to begin with.

**DM:** Absolutely. Thank you for that.

[END]