



# THE FAT SUMMIT

*Separating Fat From Fiction*

**Transcript:**

**Interview with Joe Cross and Dr. Carrie  
Diulus**

[www.rebootwithjoe.com](http://www.rebootwithjoe.com)

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**Interview by Mark Hyman, MD**

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**Dr. Hyman:** Hey, everybody. This is Dr. Mark Hyman. Welcome to the Fat Summit where we separate fat from fiction. And I'm here with two of my favorite health revolutionaries, Joe Cross and Dr. Carrie Diulus.

Now, Joe you might have heard about from the movie “Fat, Sick, and Nearly Dead”, which journalled his story from being a very overweight finance guy who never took care of himself, lived high on the hog, to really radically transforming his health through food and juicing, which he documented in his first movie. He just came out with his second sequel, Fat, Sick, and Nearly Dead 2. He's pioneered a whole model called Reboot, which is a great idea to reset your system using juicing and food. I love it, and I've given him a quote for the book. It's really a fantastic approach, and he's really out there getting this to millions of people, and how we can connect food and health.

Dr. Carrie Diulus is a close friend. I've known her for a year, but it feels like we've known each other for a lifetime. She's one of the only board certified female orthopedic spine surgeons in the country, and actually uses a functional medicine approach to help people prevent complications of surgery, and also heal without surgery. She's one of the few surgeons who doesn't actually encourage people to have surgery most of the time, which is pretty amazing. She also is running an amazing spine center in Cleveland, the Crystal Clinic. She's the medical director there.

She was at Cleveland Clinic for over a decade as a spine surgeon. She is also someone who has suffered from an autoimmune disease called type 1 diabetes and has had to learn a lot about fat and diet and carbs as a result. We've worked together in this, which is sort of interesting. So I want to have her share a story about how we have used fat to help her control her diabetes. With that said, I would love to talk to you both about your journeys. We'll start with Joe, and how you kind of got inspired to get off the train that was making you fat, sick and nearly dead and get on the train that was bringing you back to life. So what was that ah-ha moment, and how did you decide to do what you do, and what happened when you took that journey?

**Joe:** Oh, thanks Mark. Great to be with you today, mate. Look, I'll tell you what happened to me, Mark, was pretty much what happens to lots, and lots, and lots of people. I turned 40.

**Dr. Hyman:** Oh.

**Joe:** On my 40th birthday, I woke up, I was 330 pounds, and I was loaded up on medication. I had been on pills for eight long years. I had been taking those pills every morning and every night. No matter how good my day was, Mark,

I'd still have to go to the medicine cabinet, knock open the steroids and all sorts of things for a debilitating autoimmune disease called chronic Urticaria angioedema, which obviously you would know a lot about. But for the lay people out there, it's a disease where the body effectively attacks itself. There's a lot of confusion going on.

Whenever I would get any pressure on my body, if someone shook my hand too much, if I carried groceries, holding a baby, lifting up luggage, wherever the pressure point on my body was, it was as though my body was confused that a thousand mosquitoes were stinging me in that actual spot. So my body would release huge amounts of histamine, and I would swell up. I would be in all sorts of pain, and many days I would wake up looking like the elephant man. It was a really debilitating illness.

**Dr. Hyman:** It was like you had bee stings all the time. You just couldn't...

**Joe:** Yeah, it was really not something you would wish on your worst enemy. I was taking 60 milligrams of prednisone every day, and you know what sort of effects that can have. It terms of side effects, right? So weight gain, hunchback, moon face, bone degradation, osteoporosis, and all sorts of things. So the bottom line was that I was going well financially and business-wise.

**Dr. Hyman:** You were fat, sick, and nearly dead.

**Joe:** I was fat. I was sick, and then because I was 40 on that day, I said, "By crickey, if I keep going this way, I will be nearly dead." That was, as Oprah would say, the ah-ha moment, Mark. Was that day on my 40th birthday. I got into a time machine. I actually believe that we all have time machines. First of all, that time machine went back, and I remembered what life was like when I was 10, 15, and 20 years of age, and how I could look down and see my feet.

On this particular morning, on my 40th birthday, all I could see was huge belly, and I was getting sick and tired of people asking when the twins were going to be due. So in going back 10 years and 15 and 20, when I was 15 years of age, when I was 20 years of age, I remember how vibrant life was and how much I could do.

So then I used the time machine to go forward, Mark, 20 years, and see where I would be when I was 60. The bottom line was I wasn't even quite sure if I was going to make 60, if I was on the trajectory that I was going. So that was a huge moment where I said, "Whoa." You know? "If I don't do something about it, if I just continue what I'm doing, there's not going to be some genie or fairy at the bottom of the garden that's going to appear and wave a magic wand and knock

100 pounds off me. I have to be involved in the process here. I have to be included. Not just going to the doctors and getting pills, and then going away and doing that while ordering pizza. So it was a bit of a moment, and I realized that I needed to...

**Dr. Hyman:** So you were going to take the pills with the pizza then? Is that it?

**Joe:** Exactly. So that was what happened. Then a buddy of mine said, "You know, Joe, you've never been..." you know, because I was a finance guy, and he said, "Why don't you put a camera on yourself and record this, because if it works...you're not Robinson Crusoe. There are lots of people that are like this. If it works, and if what you do changes you and fixes you, then other people will follow." So I didn't know what to do, Mark, but my story was 60 days of just drinking juice.

I came up with the juice idea, because, originally, I was just going to live on plants for three years. I sort of decided I was going to eat fruits, vegetables, nuts, beans, and seeds for two years only. Go back to Mother Nature. I sort of said good bye to Mother Nature when I was 20 years of age and sort of said I'll be fine. I'm going down with the processed crew, and that didn't work out too well for me. So I went and knocked on her door, and she was not quite like any other woman. She actually let me back in, and she said, "Welcome home, Joe." And she said, "Well, you have got to do the hard yards."

So I decided to do two years of eating plants, Mark, and if I was still going to be sick at the end of two years, I was going to just say, "Well, you know what? This is just genetics. This is bad luck. This is the luck of the draw." Now, what actually happened was, because I was 100 pounds or 120 pounds more than I should be, I went back to the old days of feast and fasting. I didn't think drinking water for 60 days was a smart idea. So I extracted the water out of the plants, and drank the water from the plants. So I did 60 days of the juice.

Then I was going to do another year and 10 months of eating plants, but what actually happened was after three months only of eating plants...that's 60 days of juice, two months of juice, three months of plants, I was 100 pounds down and I was off all medication. That was March of 2008, and the only pill I've take since then is when I had to take antibiotics for seven days because of a tooth infection. I pleaded it with the dentist, "Do I really need this?" And they really said I should take it because of the infection. Apart from that, not an Advil, not an aspirin, nothing. From going from 20 pills a day for ten years to nothing, except that one little thing I told you about, in eight years.

**Dr. Hyman:** So that's amazing. Your autoimmune disease kind of got better, and your blood, pressure, your weight...you were probably pre-diabetic, your cholesterol, all that stuff got better by simply using the power of real food, and mostly plants, right?

**Joe:** One hundred percent. And since then, I slowly started to introduce other forms of food. Like once I got well, I was very frightened, Mark, to go back to certain things. I thought, "Wow, what if I eat steak? I might get sick again." So I spent the better part of four years only eating fruits, vegetables, nuts, beans, and seeds, and seafood, and some grains. Then slowly, over time, I added things. I never had alcohol. I've never had soda. There are certain things that I haven't had in that period of time.

**Dr. Hyman:** Yep.

**Joe:** No one's perfect, and what people know from my movies, I'm sort of not the expert. I'm sort of on the journey. I'm the journeyman here trying to work things out, and I rely on experts like yourself and Carrie to help me stay on track.

**Dr. Hyman:** Well, one of the things, Joe, that you show, which is pretty remarkable, is that chronic disease is not a one-way street. That, actually, you can have a whole host of issues, you can have lots of medications, have lots of diagnoses and diseases. But using the power of food as medicine, you can literally reverse so much of what we think is inevitable or chronic or irreversible. That's a powerful message. You've seen this, not just with yourself, through your work and your books and your movies. You've seen this happen to probably hundreds, if not thousands of others...

**Joe:** Many, many thousands. Just yesterday, on my Facebook page, I put a post out giving thanks for all the community. And I got over 500 people sharing their personal story, just yesterday, of their own success from chronic disease. Because people get very much focused on the weight loss and it's all about being and looking good for your Instagram pic. I'm sort of the person who's that person who says, "Hey, listen." Yes, and you and Carrie can go a long way to talk about what's the risks associated with carrying too much weight, but to me, I'm much more focused on "Let's get healthy." We can do that by living on plants. Then, we can focus on getting toned and trimmed after we've got our mojo back.

I think the quickest way to get your mojo back is switch to a plant-based diet only, for a period of time, to get strong, and then slowly introduce in meats, more as like little sides. Not as the main fare.

**Dr. Hyman:** I call that a pegan diet. It's mostly plant based with animal protein as a condiment. Or I call it condimeat, which is...

**Joe:** Okay, all right. I like that one.

**Dr. Hyman:** It's interesting. What you're talking about is really eating whole foods, right? A lot of nutrition research has been so kind of confusing because we focus on ingredients, and not whole foods. So when you eat, for example, olives, you're getting olive oil, but that's also got monounsaturated, saturated fats, polyunsaturated fats, a complex of polyphenols, and all sorts of things that are powerful food nutrients that are in medicines. But they are all in one complex whole food. So we start to extract stuff, and separate out ingredients, and do all these different things, you're going to get into trouble. So it really isn't that hard.

How do you look at food? Well, how many steps does it take in from the field to your fork? If there's a whole series of steps or processes, then it potentially could be hurtful. What you showed was just by switching from processed food and junk food and prepared foods to just real food, and to mostly plant foods, you were literally able to change your health dramatically.

**Joe:** I think one of the big factors, Mark, is...and this where, I guess, what is more in my domain with what we're doing, is there's one thing, which is the knowing, then there's the doing. Bridging this gap from the knowledge and education, which you do a fine job of, as does Carrie and many other functional medical doctors. And some of the normal doctors are really coming down to singing your tune, as you know. So the shift's starting to happen.

**Dr. Hyman:** It is.

**Joe:** There's a lot of education out there, and there's a lot of knowledge, and there's a lot of books, and there's a lot of leaders in this space. But then it all comes down to the individual. It comes down to each and every one of us making that choice to put that foot forward in the right direction, and actually doing it. This is the part that I have focused on the most. Because not being a doctor or a scientist, I'm more about what makes it tick.

Where is the community? How important are other people? What are the hurdles we need to overcome? This is a mindset issue, and this is something that...I just try to talk to people about the fact that once you have the information, don't be frightened. Don't even try and...Scratch. I'll tell you a story, Mark, just to cut this. When you go down to the local swimming pool, and you

see people getting out of the swimming pool, what are they? They're wet. The question is, Mark, how did they get wet? Did they walk in, or did they dive in? You don't know, because they're wet. I look at people who are on the mission that we're on as being healthy. They're the wet. How did they get there? Did they dive in, or did they go in slow?

You have to work out which person you are. Are you someone that needs to do an all or nothing, like I did? Scrap everything and say, "Right, I'm going to do the next three months. I'm going to follow Mark's plan or follow Joe's plan, or Carrie's plan. I've got some guidelines." That doesn't work for everybody. That works for lots of people, but not everybody. There's a whole other group of people that need to make small changes, little changes. So the first thing is to identify which one are you, and don't set yourself up to fail.

**Dr. Hyman:** Are you the sort of one who wades in tippy toe, or are you just kind of dive into the deep end?

**Joe:** I'm the diving guy. There's no question. In the old days, I used to empty the pool.

**Dr. Hyman:** I know. I saw those pictures of you walking around the pool. That was scary.

**Joe:** Yeah, it was scarier for me.

**Dr. Hyman:** That was very scary, yeah. So I think what you touched on is really important, because a lot of people listening are thinking, "Wow, this sounds amazing. I want to have all these chronic symptoms." I've seen this happen over and over as you have, and it's possible. How do you actually do it? How do you create the change? What do you need to do to actually get motivated, or get supported, or what are the shifts that have to happen in your thinking that allow you to change your doing? What have you found, Joe, that's been most successful for people on that space?

**Joe:** I would put it down to four things, okay? I think that anyone who's broken...and that's how I look at it, Mark. I think people are broken or not broken. I'm kind of a binary guy. I kind of like to look at things very much black and white. I know there's plenty of grey, but I think that for planning and getting people into a program, I think black and white works pretty well, because people like order.

If you show me someone who's broken, someone who has got a chronic disease, someone who is overweight, someone who's unhappy, I reckon there's two

things in their life where two relationships in their life are broken. That's the relationship with Mother Nature and plants, and their relationship with themselves. I think we need to start with those two bookends. We need to fall back in love with plants and our self. We need to be kind to our self, and we need to be kind to plants. I would bookend those two, and then I would throw in middle the two things that I would say that we need support.

We need a community around us. We need to provide people that are on the wavelength with us, that are going to be there when the going gets tough. Maybe they're further along the mission. Maybe they're behind, and by helping them, it will make you stronger to stay on it. You don't have to find someone who's got the washboard stomach or someone who can stand on their head for 10 minutes or plank for 20 minutes. You don't need that. You just need someone who's got the same goal in mind.

The next thing I would say is mindfulness, Mark. I think this ability to actually be very conscious of our surroundings and realize that the world we've created, how phenomenal it is that we're able to sit here, me in New York, you in the middle of the country, Carrie in the middle of the country, and talk to millions of people around the world. We have done some amazing things as humans, but we've also done some things which make it very, very difficult for us to go and love our plants. I can walk two blocks in a radius around me here, and there are enough doughnuts, enough cookies, enough chocolate, enough burgers and fries to sink the USS Missouri. It is just everywhere.

We have to very mindful that we are walking outside of our environment, and there is going to be signals, and messages, and issues, and it's going to come at us. So we need to be guarded. We need to be ready, and these are the four pillars. Love yourself, love your plants, get good community and friends around you, and be mindful.

**Dr. Hyman:** Yeah, mindfulness is key, because it's easy to go unconscious and go to sleep, which allows us to make choices that aren't good for us.

**Joe:** Absolutely, Absolutely.

**Dr. Hyman:** I think we've all been guilty of that, but the more you can get tuned in to actually how your body feels...most people don't connect how they eat to how they feel. I'm sure when you were sick, and fat, and nearly dead, you didn't actually really connect what you were eating to how bad you were feeling or to all your other...

**Joe:** I didn't, and you see, Mark; this is one of the things which I think is the power of the reboot. What we're doing at Reboot with Joe is we provide a guided reboot, a plan, for 10 or 15 days of drinking or eating plants. What it does is it sort of...the analogy I use...you're old enough to remember Spandau Ballet? They came to Sydney in 1985, and they did a concert at the Sydney Entertainment Center.

Back then, Mark, I didn't know anyone. So I was in the second to last back row. I was sitting up there in the stadium, and I'm having a good time. There are girls behind me that were all dancing, and guess what? One of them, she dropped her glasses, and it fell on my seat. I picked her glasses up, and just for a laugh, I put her glasses on. Well bowl me over; I could now see that there was a drum set, that there was a guitarist, and that there was a singer. See, I didn't know that my eye sight was poor. I'd lived until 20 years of age, 19 years of age, without knowing I needed glasses. So I look at that as ah-ha moment of realizing that because I put those glasses on, I could see the world differently.

When you do a reboot for 10 or 15 days, it's enough of a time period of just consuming plants and putting that other stuff out, to go, "Whoa, I'm supposed to wake up without any knee joint. I'm supposed to be able to hear better, smell better. I'm supposed to be able to have energy, and when I go to sleep at night, actually put my head on the pillow and go to sleep." These are the things that I look at as the huge awareness things. It's like hook, line, and sinker out of the gate.

**Dr. Hyman:** Yeah, and that's what's so beautiful, because it's so simple. It doesn't take long. It takes you maybe 20 years to get sick, but it takes you maybe 20 days to get better, and that is so powerful. It doesn't take forever, and all it takes is just trying something. Whether it's what you do, or what I do. We're all talking about the same thing, which is eating real food, eating more plants, getting healthy. I talk about fat, because it's really an area that people are often very confused about. They switch to the carbs and forget the fat and think it's good. But, actually, it's quite harmful. But I think it's really powerful.

Now I'm going check in with Carrie, because she's been patiently and quietly sitting there, listening to all this. Carrie has in her own practice used food with her patients to help them deal with chronic pain and inflammation. I would love you to share how that's changed your thinking about your practice, and then we will get into a little bit of your story after.

**Dr. Diulus:** From a clinical standpoint, I came to this with...it's easy when somebody comes into my office, and they've got a disc herniation, and they have pain down their leg, and all of the symptoms clearly fit. Even in those

cases, about 85% of patients with a disc herniation, if we give them enough time, they'll get better on their own. In fact, the Spanish did a study, and they looked at, and 85% of disc herniations in a year are gone. The reality of it is people don't have a year to wait, and we don't know who gets better and who doesn't. So there are times when we need to operate soon, but a lot of times, we have time. We have a joke in orthopedics, "Hurry up and let me operate, before you get better on your own."

**Dr. Hyman:** That's terrible. That's like the secret code. You shouldn't be sharing that with everybody.

**Dr. Diulus:** But the reality of it is, when we take people in, they come to our office, and they're miserable. So if we can do some things where we can reduce inflammation...and at the end of the day, all pain is really related to inflammation. If its acute inflammation, there are some things that we do to turn it down, but then when there's chronic inflammation, and people develop chronic pain...and that's one of ways that I came to it, is I was seeing a group of people who had seen four or five other spine surgeons. They had been through pain management, now they're on pain medications. A lot of times their imaging studies were really fairly normal, or they had some minor changes. It was really hard for me to say, "I'm sorry there's nothing I can do for you. Go find another doctor." When I maybe was the 15th doctor that they had seen.

**Dr. Hyman:** Right.

**Dr. Diulus:** So with that group of people, we started really looking. A lot of the things that I had done in the past with meditation and mindfulness, we did that. I sort of had my own food journey over the years, and it was really clear that the foods that you eat really impact your health. So there are simple things, like celiac disease, where we know that there's the reaction to it, but a lot of people do much better when we get foods out of their systems that cause them problems.

**Dr. Hyman:** You're the orthopedic surgeon who puts people on elimination diets, getting rid of inflammatory foods to help them with their chronic pain. That's pretty unusual. What kind of results do you see?

**Dr. Diulus:** Dramatic results. I have a patient who came to me, he was 400 pounds and was basically wheelchair bound, was on 17 different medications for his hypertension, his diabetes, his cholesterol. He was on chronic pain medications, long acting and short acting pain medications, nerve membrane stabilizers, and came to me to see if there was any additional surgery that he could have prior to getting a spinal cord simulator.

When I talked to him, I mean, the biggest problem was he was really severely depressed, and basically, didn't want to live another day. Certainly didn't want to live the way he was living. We did some really simple things. We put him on an elimination diet, basically, a low carbohydrate diet and a plant-rich diet, and we got him a health coach, added some supplements.

**Dr. Hyman:** A high-fat diet?

**Dr. Diulus:** We did. We increased his fat significantly. He had been eating a lot of simple carbohydrates and a lot of processed foods. We got rid of all of the processed stuff, increased him having healthy fats, a lot of healthy omega-3s, both in foods and in supplements. He wasn't a big fish eater, so we did more supplement of omega-3. At the end of it, got him some physical therapy.

At the end of it, at six months out, he had lost over 80 pounds, was off all of his pain medication, was no longer considered diabetic, he was off his cholesterol medication, off of his anti-hypertensive, and he walked into my office. He was walking progressively more each day. He no longer wanted a spinal cord simulator. He still had some pain, but he was much happier with life. He was functioning at a much higher level.

**Dr. Hyman:** You said he was 400 pounds, and he lost 80 pounds. So he's still 320 pounds, but you still reversed his diabetes, which is a paradox. You see somebody who is still very overweight, but their biology can revert to normal, even without all the weight loss. Because it's not just about the weight. It's about the information, the food that's driving all these signals that cause disease. When you strip that out, you actually get better very quickly, even before you lose all the weight.

**Dr. Diulus:** Right, and he's about a year and a half out now, and he's down to 280 pounds.

**Dr. Hyman:** Amazing, amazing. Now, Carrie, I want to ask you about the fish oil story, because there's an orthopedic surgeon who works for the Steelers, a football team. He's a neurosurgeon, an orthopedic surgeon. He worked a lot on spine injuries and disc issues. He recommends a very high dose of fish oil as a treatment for some disc problems. What do you think of that, and how does that work?

**Dr. Diulus:** Omega-3 is an anti-inflammatory type fat in our bodies. One of the issues that we've seen is that our diets have pushed us into this over-abundance of omega-6. When omega-3 and omega-6 are out of balance...omega-6 is a more inflammatory type fat. We know that omega-3; in significant doses...we

see it in the cardiac literature. We see it when we are looking at many other autoimmune type conditions. Omega-3 can be a powerful anti-inflammatory. I do use it. That's one of the things I do when my patients first come in. We talk about their sleep. We talk about what they eat, and we increase their omega-3s for almost every single person who comes in.

**Dr. Hyman:** Amazing. True confessions here. You're an orthopedic surgeon, but you seem to have this crazy knowledge base around food and fat in a way that even exceeds a lot of my understanding, which is pretty cool. So I actually asked you to help me read through and think through my book on "Eat Fat, Get Thin," because you have such an interesting handle on it. Then in the middle of it all, this kind of weird thing happened to you where you had to learn yourself, on your own body, what happened with sugar and carbs and fats, and how that related to your blood sugar as your pancreas started to get affected by this autoimmune disease called type 1 diabetes.

So I'd love you to share what you learned. Initially, we talked about you were on a very high-fat ketogenic diet, how that impacted you, what you noticed, what it was like, and share with people how you dealt with all this.

**Dr. Diulus:** I've kind of done the gamut of eating throughout my life. My family is pretty overweight, and I struggled with being overweight for a while. In fact, that's how Joe and I came to connect. I saw his movie and I juiced, just used green juice that was really low glycemic, actually, for 42 days, and I lost a bunch of weight, and I felt amazing. Then, I shifted from that to mainly a plant-based diet, and I had been vegan for a long time. What I ended up finding was that I wasn't as healthy, from an optimal stand point, as I could be. I found that adding more animal products in actually made me feel better and adding more fat.

So then in the middle of all this, where I thought I was doing really well, I went to go get one of those executive physicals. They said, "Oh, by the way, this is shocking, your A1C is really high." And I'm like, "That can't be possible, because this is what I do. I reverse this in people." They initially thought I was type 2 diabetic, common things being common. I really, really tightened up what I ate, and I really paid attention to carbohydrates. For a short period of time, which is what we call the honeymoon phase of type 1 diabetes, I was able to keep my blood sugar under control eating low carbohydrate.

**Dr. Hyman:** Without insulin.

**Dr. Diulus:** What's that?

**Dr. Hyman:** Without insulin?

**Dr. Diulus:** Without insulin, for a short period of time. That's not too uncommon for people who go through a honeymoon phase with type 1 diabetes. I was still producing some small amounts of insulin on my own, and I was eating fewer and fewer carbohydrates. I honestly got to the point where I went really high fat, because that was the only thing that I could eat. So protein converts to sugar in the body when it's not utilized. So it has a glycemic index to it effectively, but fat is able to be just burned as fat if it's not stored. What I was able to do was balance the protein and I was able to maintain it and keep my blood sugar within reasonable control.

Then slowly it got harder and harder as my body produced less and less insulin. Eventually it became where I was on less than 10 total grams of carbohydrate a day, which is really hard. Not net grams, which is minus the fiber. It was really hard to sort of maintain that, because it meant me limiting even vegetables. When you and I were talking, I was like, "I just want to eat more vegetables."

**Dr. Hyman:** Yeah, I know. Vegetables are key.

**Dr. Diulus:** Yeah, that was the point where I said, "This is ridiculous," and it became clear.

**Dr. Hyman:** Wasn't it Dr. Joslin who was the father of treatment of type 1 diabetes back in the '20s? He actually harbored a center for diabetes called the Joslin Diabetes Center. He was using diets of 70% fat and 25% to 20% protein and like 5% to 10% carbs. He was able to keep people from dying on very, very low carbs, very high-fat diets for type 1 diabetes. Now that clearly all went out the window when they started discovering insulin.

**Dr. Diulus:** An orthopedic surgeon discovered insulin by the way.

**Dr. Hyman:** Sorry, an orthopedic surgeon discovered insulin?

**Dr. Diulus:** No, bragging it was an orthopedic specialist.

**Dr. Hyman:** There you go. Little known fact, medical trivia. That's good. So what is fascinating...I began to review the literature on diabetes for my book, and kind of compare it with my clinical experience. I found it interesting type 1 diabetics, and I met one the other day, can often be what I call double diabetes. They can have type 1 and type 2. So how many units of insulin do you use every day?

**Dr. Diulus:** It varies a little bit, being a woman, because we have some cyclic variations. Typically, I take 6 to 8 units of long-acting insulin, sometimes upwards of 10. Then, approximately 3 units of fast-acting, divided out through the day, depending on how many carbohydrates I eat.

**Dr. Hyman:** But, basically, you're taking less than 20 units of insulin a day.

**Dr. Diulus:** for sure.

**Dr. Hyman:** So when you see type 1 diabetics on 30 or 40 or 50 units of insulin, what it means is that they are eating a ton of carbs, and they are actually insulin resistant, which means they need more insulin. That's type 2 diabetes, essentially. What I've come across in the literature is that diets that are very high in fat and very low in refined carbs, or even low in carbs, actually can help regulate this, and even reverse type 2 diabetes, and help control type 1 diabetes with far less insulin. I think that's an important take-home here, that when you look at diabetes, it's one of those conditions where fat can play a huge role.

Now if you're eating the typical American processed diet, and you go on a purely plant-based diet, it's going to help, because you're cutting out all the crap and it will switch quickly. But over time your body needs more fat. And I think we're looking at vegans who are actually eating very low fat or high fat, and the higher-fat vegans seem to do better. Their health is better, their numbers are better, their weight is better. They're eating avocados, nuts, and seeds, and eating coconut oil. These all things can really be helpful to regulate the metabolism when you're on...you say you were a vegan, and then you switched over, because you noticed you did better. Can you talk more about that?

**Dr. Diulus:** Yeah, I did low-fat vegan for a long time, and I noticed my hair looked dull. My skin looked dull, and I didn't have the energy. Ultimately, I varied back and forth, but I found that when I added fat, for sure, I felt better. Then adding the glucose control to it was where I ended up finding that I...adding more meat, and I ended up feeling a whole lot better, and adding more fat.

I even use fat now, medium chain triglycerides, to help, because it can help with some of the...avoid some of the cognitive problems that can happen if you have too much insulin on board from injected insulin. Also, because medium chain triglycerides can actually be used as a fuel directly by the brain and the muscles can use it, and the body become sort of keto adapted.

**Dr. Hyman:** Like an extract of coconut oil, essentially.

**Dr. Diulus:** An extract of coconut. So the different number of carbons in the fat makes a difference as far as whether it's long chain, or whether it's medium chain, or whether it's short chain, and how the body can utilize it. So that's where adding those different types of fat...so plants have certain types of fat, animals have certain types of fats, and even amongst plants, coconut oil has more saturated fat, but it also has some medium chain triglycerides in it, which the body can utilize in a different way. In fact, there's a whole group...Dr. Richard Bernstein has been managing type 1 and type 2 diabetics on low carbohydrate diets for a long time. He's an endocrinologist who's a type 1 diabetic himself. He's in his 80s now.

**Dr. Hyman:** He's an old one right now.

**Dr. Diulus:** Yeah, have no complications from diabetes. So there's a whole group of type 1 diabetics, and then other type 2 diabetics who are maintaining their...using these tiny dose of insulin and eating a low carbohydrate diet. And fat doesn't have an impact on the blood sugar. So here they are doing exactly the opposite of what the ADA recommends, which is eating a higher-fat, low carbohydrate diet, and they're thriving.

**Dr. Hyman:** Right. That's kind of shocking. So the American Diabetic Association, if you followed their advice, you'd be doing a lot worse, is what you're saying.

**Dr. Diulus:** Oh, I was. So I followed their advice for a couple months when I got insulin. I was like, "Hey, I can eat some more foods," and it was horrible. I was eating a lot more carbohydrate, and they were healthy carbohydrates in the sense that they were fruits and beans and things like that, and my blood sugar would shoot up really high. Then I would have to try and dose insulin for it. Then I dropped really low. It was this horrible roller coaster, and I felt bad all the time. Just by dropping my carbohydrate to a low controlled amount, if you look at it, I wear a continuous glucose monitor, it's a little wave pattern, as opposed to the big roller coaster spikes that it was before.

**Dr. Hyman:** Right, and those roller coaster spikes actually make you feel badly. That's why people get sluggish. They get brain fogged. They feel tired, and then they get super hungry they crave more carbs. Evening that out is so critical. That's really the role of fat. It kind of evens it out. People don't realize that if you have your cereal in the morning, or pancakes, or the muffin, what will happen is you'll get a big spike in sugar, and then you'll crash. Then you'll be hungry. But if you have fat in the morning...I was talking to Joe about making a shake with coconut oil or different kinds of ideas. He can put MCT oil in it. That actually...avocado...really helps to even out your blood sugar.

So I never get those crashes and spikes. It's just so much better to go through life without having that constant variation in your energy and blood sugar, which is really possible when you actually eat a mostly plant-based diet, but with the right fats.

**Dr. Diulus:** It's those spikes that are actually the ones that do the most damage to the body. That's where we see...so it's not if your overall blood sugar is elevated, but those high spikes that can happen are what do the microvascular and the macrovascular complications...to get "sciencey" on you, where the advanced glycation end products really start to stick to the different tissues in the body.

**Dr. Hyman:** It's like what I call crème brulee in the body or fried chicken skin. It's that crispy stuff that happens inside of you. It's not very good.

**Dr. Diulus:** Right, that's how I describe it to patients whenever I'm trying to tell them. I say, "Hey, have you ever given a toddler a sucker? What happens is sugar gets stuck everywhere. The same thing happens in your body. It sticks to tendons. It sticks to ligaments. It sticks to nerves. It sticks to blood vessels, and that's what makes diabetics sick."

**Dr. Hyman:** Great. So Joe, how have you sort of shifted over the years? Are you adding more fats? Plant fats? What are you doing in your diet, and what are you recommending?

**Joe:** I guess, Mark, the way I look at it in a big picture was that when I was 330 pounds and sort of ignorant of everything, I had this moment where I realized that actually being 330 pounds isn't the problem. It's what I did to get there was the problem. Going in with a mindset of "Right, let's take it down now, and let's get down." I got down to 220, and I'm now sitting around 250. I've been as high as 270 in the 8 years, and I'm sitting at around 250 now. My journey is a journey where sugar is a big part of my life. It's a relationship that when I was young, and I was in the schoolyard, I was getting picked on, and we moved...I did five schools before I was 12, and moving around. I was sort of, yeah, bullied. You use the word "Bullied" over here.

So my best friend, Mark, at little lunch, and at big lunch, and after school, was sugar, because sugar never let me down. Sugar made me feel good. Sugar gave me comfort. In my life now, whenever stress comes in, sugar is my...if I feel like I'm falling, the thing I can hang on to, which is in my mindset, at least, stop the fall, is sugar.

**Dr. Hyman:** For a minute.

**Joe:** Pardon?

**Dr. Hyman:** For a minute.

**Joe:** Yeah, well it is only for a minute, but it's better than the free fall, right?

**Dr. Hyman:** Yeah.

**Joe:** Because at least during that minute, you can at least feel like there's something normal. It's not normal, but it's a psychology. I think that what I talked about earlier with the mindfulness is a really important thing for me now. Which is now, when I do have the stress moments, whether it's family, whether it's relationship, whether it's financial, whether it's friends, whether it's personal, whatever it is that we all have. Sometimes it can even be like missing our flight or being in heavy traffic. Whatever it is that causes stress, these things. These things that can provide that in our life.

I'm pretty good now at preventing myself from going on these sugar binges. Carrie is my physician as well, because of the relationship we have. Carrie looks at my numbers every 6 to 12 months. I get the blood test, and she goes through it all. What was interesting was I was going really well for like three or four years. No problems, no problems. Then about 18 months ago, we noticed that my cholesterol went right up through the roof. Carrie asked me, she said, "What have you changed? What have you been doing?" I said, "Well, you know what? I've been eating a lot more animal product than I've ever eaten before."

I was eating a lot more red meat. I was trying to sort of load up lots and lots of protein to try and steer me away from the sugar, okay? Carrie said, "Let's cut that out. Let's bring it back to where it was." It was six months later we did the numbers, and we were back in the normal range again. I have at least that knowledge in myself, Mark, that if I go too much on the animal product, then that really does have a significant effect.

**Dr. Hyman:** But often, what did you include, plant fats or not? Like avocados, nuts and seeds?

**Joe:** No, no. I was just talking about animal product is what I was loaded up on. Now my diet today is pretty much...I would say that the majority of what I eat is plants. My animal protein is not very high, but my sugar is still the one that...you know, I do like my green juices, and sometimes they can have a little

bit too much grams of sugar in it. I think the one I'm having this morning is 27g of sugar.

**Dr. Diulus:** When we had your numbers the best, when we looked at your inflammatory numbers, they were really high. And then when you were doing a lot of plants and the healthy fats with moderate amounts of animal protein in there that was when we actually saw your numbers dramatically improve.

**Dr. Hyman:** And the animal protein, people don't realize this, when you eat a lot of it, it turns to sugar. Once you use whatever you need for your protein needs, then the rest of it get converted in the body.

**Joe:** Yeah, well, I learned that.

**Dr. Hyman:** Whereas fat doesn't turn into sugar.

**Dr. Diulus:** They go on these really super high protein diets, and they wonder why it is that their blood sugar is not getting under control. They're eating giant plates of meat, and they have something green once a month. It converts right to sugar.

**Dr. Hyman:** There you go. So is there any bit of wisdom you guys want to share? Anything you want to share about your work? That you're excited about? What's happening, and what you want people to learn about from you?

**Joe:** I guess the thing that I've done, Mark, and you were an integral part of "Fed Up", and that was a great film. I've now taken that first step that "Fed Up" did, which really identified such a huge problem we have. My new film, which is coming out in early 2016, I've spent the last 18 months focused on all the amazing things that are happening in this country when it comes to kids turning their lives around, when it comes to their diet and that connection back to Mother Nature. So my new movie, which Carrie has had a chance to have a sneak peek at... and I think you even had your children watch it, Carrie, right?

**Dr. Diulus:** Yep. Megan loved it.

**Joe:** So I really made this film for schools, for parents, for communities, and I'm super excited about this full length feature new documentary coming out. I haven't released the name yet. So, I won't tell you the name yet, Mark, because we're still in our dark zone, quiet zone. In early 2016, we're going to release it. Netflix have already bought it. So it will be on Netflix in the middle of the year. That will be exciting, because I have three movies on Netflix in the health and wellness category. I'm not too sure if anyone else has achieved that level yet.

Our next film that we're working on after this is something that we're all excited about. No word on that yet. So, we are going to just continue to try and create content that can really inspire and educate, but above all, entertain. Because if it's not interesting, if it's not watchable...dreams are free, is what I like to say, Mark. You've got to just put the action in. You've got to do the hard yards. We've got to make it interesting and fun.

**Dr. Hyman:** That's great.

**Dr. Diulus:** This film is going to be great for schools and community centers and parents to watch, because it's got amazing examples of what different communities are doing to help really change the way kids think about food. As a result, it's changing the way their parents think about food.

**Dr. Hyman:** You've both done so much to help change the landscape of how we think about foods, to inspire people, and to bring the message of food is medicine to everybody. I just want to thank you both for joining us on the Fat Summit and being part of the health revolution we're all engaged in. So thank you very much. Check out Joe's work at [reboot.com](http://reboot.com). Is that right Joe?

**Joe:** No, [rebootwithjoe.com](http://rebootwithjoe.com).

**Dr. Hyman:** [Rebootwithjoe.com](http://Rebootwithjoe.com).

**Joe:** I think if you go to [reboot.com](http://reboot.com), you'll get some computer virus in China. Go to [rebootwithjoe.com](http://rebootwithjoe.com).

**Dr. Hyman:** Reboot with Joe. I love it. Okay, reboot is always a good thing to do. I encourage you to try it, and Carrie, thank you for your work and our collaboration at the Cleveland Clinic, it's going great, and it's exciting to be able to do this work with you. We're just going to keep sharing the message. Thank you.

**Joe:** Thanks, Mark. You keep up the great work as well, and I'll see you soon brother.

**Dr. Hyman:** See you soon. Bye, Carrie.

**Dr. Diulus:** Thank you. Bye, Bye.