

Reversing Diabetes - Ref 96RB - Draft Transcript

with Rajiv Bajekal

7th September 2020

TRANSCRIPT

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Steven Bruce

Today we're going to be talking about one of the other epidemics in societies life at the moment and I'm joined for I think the fifth time in the Zoom Room today by Mr. Rajeev by Jayco Rajiv is great to have you with us. Hope you are rejuvenated by the pause that you've had since last speaking to us. And

Rajiv Bajekal

yes, thank you, Steven here.

Steven Bruce

I haven't given you a full introduction. I'm hoping that most people have seen you on our show before. But of course, you are a consultant, orthopaedic surgeon, you practice spinal surgery, but you are one of the country's relatively few lifestyle medical practitioners as well. And today you're joining us to talk about reversing diabetes. Is that right?

Rajiv Bajekal

That is indeed the case. Yes. It's my passion, actually. So it's my side hobby, as I said to you.

Steven Bruce

Yeah, I mean, these two got hobbies you got last time your hobby was cooking.

Rajiv Bajekal

Yes, I've got a few things going.

Rajiv Bajekal

Okay, shall I start?

Steven Bruce

Yes, please.

Rajiv Bajekal

Okay, so I mean, if somebody years ago, you'd said to me that I'd be lecturing to a whole bunch of learning people about diabetes, I'd have said you were completely barking mad. But things change. And I have taken to lifestyle medicine. And I think, having learned quite a lot about it. And I think there should be really a paradigm shift in its management, we shouldn't just be controlling diabetes. But the aim certainly in type two diabetes should be to reverse it, to cure it and to not just manage it with tablets and insulin and various things like that.

Steven Bruce

how widespread is that approach in conventional medicine now I hear more and more about you know, diet and controlling obesity and so on.

Rajiv Bajekal

Yes. And I think, you know, like a lot of chronic degenerative conditions in our society. This is very easily treatable by life's But till now, lifestyle medicine, which is, as I said to you a relatively new specialty, although the conditions been well recognised for ages, absolutely ages. So in fact, I'll be talking about pages, papers that are close to 100 years old in the management of diabetes. But people have really not listened to things in the past. And I'm hoping to change that. And I'm hoping also that it is the best lecture you've ever heard on diabetes, so

Steven Bruce

you're no doubt about it. I'm sure it will be.

Rajiv Bajekal

Okay, so the aim is really not to tell everybody, every little nuance of diabetes, which is very complex, and I respect my endocrine illogical colleagues to deal with this. But really, I wanted to make you understand the concept of insulin resistance, which is the single most important factor that leads to type two diabetes. VPS. And really, when your patients ask you what is a healthy way to eat, it's not just enough to say, well eat a healthy diet. I mean, that's a very vague thing. And I want you to be giving them specifics about what to do. And, and you should be able to offer this advice to at least a third of the patients you treat because as you know, Britain, and the Western society in general is in the middle of an obesity epidemic. And besides the pandemic that we're going through, which is a big disaster in itself, these underlying disorders are leading to a majority of the deaths and diabetes is right up there. And at the end of this lecture, you should be able to point your patients in the right direction to reverse their type two diabetes. And so if you go on to the next one, I mean, you all know that I practice with total orthopaedics London and you know about them mission statement. And the reason I'm talking to you about diabetes is we as a group look at things quite holistically a bit like you do. And you don't want to just cure somebody's knee pain, you really want to make a difference to the patient in general. And that's what we do as a group in total orthopaedics. And now obesity is really quite an epidemic in the world. So if you go on to the next one, this gives you a scale of the problem. I mean, in Britain, actually 50 to 60% of the population is either overweight or obese or morbidly obese. The percentage is only marginally high in America. And it's approaching similar numbers in Australia and the rest of the world. So invest in society. Also, the truth is that if this trend persists, a third of the people will be obese by 2034. One in 10 will get Frank type two diabetes.

Rajiv Bajekal

There's a higher percentage actually

Steven Bruce

clarify that one. Rajeev, as it says on the slide one in three will have type two diabetes. Does that mean one in 10 of those people or one in 10 of the population as a whole will have diabetes?

Rajiv Bajekal

One in 10 will have frank diabetes, yes, one in three will be either overweight or obese. But, um, so, you know, besides, if you look at the number of undiagnosed pre diabetics, there's that curve, you know, is close to a third of the population and people say it's even higher. We just don't recognise it very well. Pre diabetes is kind of, you know, people think it's genetics and you let it pass and you ignore it. But it does turn into frank diabetes that then perfect so the scaling is massive and you you can imagine these kind of numbers. When you see the amount one has to spend in controlling diabetes, you're going to bankrupt society in general. So it's a massive number really.

Steven Bruce

suggested by other other of your medical colleagues that the concept of pre diabetes is a convenient way of pharmaceutical companies getting more drugs out into the population. Is that Is that how you?

Rajiv Bajekal

Absolutely correct and the lack of knowledge about this is largely due to propaganda by the pharmaceutical industry, we don't allow lifestyle medicine to come up because I mean, if people ate more vegetables, they wouldn't have much to sell really, you know, so I mean, a simple problem is resolved by just people eating a lot more vegetables and fruit. And so if you're going to, I mean, diabetes is not a harmless disorder, and this kind of lays it up from laser down rather from the eye downward so in the eye, you can get cataract, you can get retinal damage and go blind in the brain you can get a higher rate of stroke and cerebrovascular disease. The kidneys can fail as a result of overwork, and small vessel disease. And of course, the heart and the circulatory system can affect the Quran reversals themselves or the extremities. And neuropathy is a common problem which we encounter in your world as well as mine because you often get patients who have often awful lancinating pains, radicular pains and then you do an MRI scan and they've got nothing wrong with their back, but they have neuropathic pains that are really quite severe. And if you go on to the next one, the common causes of death if you look at it in diabetes, the commonest cause is ischemic heart disease. And if you look at the world overall, ischemic heart disease is the combination Cause of death all over the world. It's now been overtaken by cancer in Canada, but overall, it is still one of the highest and most diabetics die to their heart attacks rather than because of their diabetes.

Steven Bruce

What's their budget? What is the mechanism for diabetes causing ischemic heart disease,

Rajiv Bajekal

and it's just associated with the metabolic syndrome. So there's dyslipidemia and they get an elevated cholesterol, they get oxidised cholesterol, the stresses from the increased sugar levels and they get small vessel disease. So it does affect the coronary arteries also, in much the same manner that it affects the renal vessels or the retinal vessels. It's a pretty nasty disease and we kind of treat it as a minor ailment. And as you can see, the second expression is because that patient has had a stroke. So that's another method by which you People lose their lives and a stroke is probably a more expensive way to die for society because

obviously, you need a carer to care for somebody who's had a serious stroke. But one of the most disabling things is to get neuropathic conditions and you know, you get amputations as a result of not feeling anything in your 40s and getting an infection and I just touch upon the diagnostic criteria. Next in terms of diabetes, you have to have the clinical syndrome. So you have to have polyuria polydipsia, and unexplained weight loss to us urandom, venous plasma glucose of 11.1. So these are figures that I don't expect you to remember really, but suffice it to say that there are four diagnostic criteria one is a fasting blood sugar level of at least 6.1 in whole blood or fasting plasma. No costs are greater than seven, a random Venus of 11.1. But more importantly are the last two. So an HB one C or 48 in current measurement metrics, and the glucose tolerance tests where you give somebody 75 grammes of anhydrous glucose, and over a two hour period, their blood sugar rises to 11.1. And that gives you a true measure of the insulin resistance. In other words, insulin it's not it's not doing its job. So let's move

Steven Bruce

on to the next one. And if I'm if I may interrupt, obviously, the osteopath chiropractors we're not going to carry out those tests in our clinic unless we are also qualified to do that. What what would prompt a GP to carry out those tests? Is it simply body weight or would it be other conditions other symptoms?

Rajiv Bajekal

Yeah, I think body weight is the first one that alerts them. But often if patients say that they've had unexplained weight loss, or they are in the overweight category, and really, this is a pretty routine test, so most people above the age of 4550 will have a random blood sugar or a fasting blood sugar once in a way. I mean, in America, it's much more so because anybody who goes to a doctor gets a battery of blood tests, he has less commonly done, but I think everybody who's in this room right now should be aware of the some some blood markers, at least anybody above the age of 1445 should certainly have had some parameters done and it's usually picked up on those. But most patients will tell you that they are diabetic or pre diabetic themselves,

Steven Bruce

you know, a couple of questions from the audience as well, if I may. Before we go. Elizabeth was asked if you could just elaborate on what is meant by Frank diabetes.

Rajiv Bajekal

Fine diabetes means you have the clinical syndrome of polyuria polydipsia here and unexplained weight loss with one of these other criteria at least. So you have to have at least one of them, but usually all four are present. So it's not as if somebody will have a random blood sugar that's really high, but the HB one C, so they all go in tandem together. So that has Frank diabetes, pre diabetes is something just under those Mark numbers. So pre diabetes generally is 42 to 48, HB one C, for instance. That would give you a clinically picture three diabetes, and there are various markers that indicate pre diabetes to people.

Steven Bruce

But Vladimir has also asked a question about metabolic disease, which you mentioned earlier on and he says, Is there any evidence to some of the murmurings around metabolic disease including sugar regulation disorders, and the risk from this plague that is going around, presumably means whether the risk from COVID-19

Rajiv Bajekal

but I think also the being overweight and dyslipidemia, dysbiosis. Yes. All those are linked conditions. So it's very rare for somebody who's diabetic not to have blood pressure problems. Sorry, my dogs are going to take off because delivery is just arriving here. So, you know, there are a variety of things that go hand in hand, so dyslipidemia, dysbiosis. And being overweight, all these things are linked to the metabolic syndrome in general. So if we move on to the next one, I mean, you would have heard these terms. Everybody uses this. I can't eat carbs because I have diabetes. I mean, I mean, carbs is an irritating, short form for carbohydrates, and it's a garbage dump because carbohydrates can mean an APU to table Sugar or candies, biscuits, you know, or brown rice. I mean, even that is considered a carbohydrate. So it's a really bad way of expressing it. People often think fruit is bad for me because I'm diabetic. And you would have heard the thing, this is genetic, there's nothing I can do about it's in my genes, or I should eat less junk. And you've heard things like keto can reverse diabetes. So these are terms that you commonly hear. And I want to just clarify some of these myths that surround diabetes. So if we go on to the next one, one of the big shifts in diabetes is currently the fact that we all have access, especially in type one diabetes, you have access to continuous glucose monitoring. So you have this little thing that goes on to your arm and you have an app on your telephone and actually alerts you to every time you're blocking sugar's too high or particularly too low. Now the the this is a double edged sword. I mean, it is a good thing, obviously, but it kind of gives you the wrong impression at times. So if you eat a banana, your blood sugar will go up a little, and you automatically blame the banana. But if you remember, it's only one of the criteria is your blood sugar in itself, the other bits are related to overall carbohydrate glucose tolerance. Now, before I go on to the main body of the lecture, I just want to talk a little bit about two aspects of it, which is the first thing is something called confirmation bias. I mean, all of us have confirmation bias and it is the sort of intersection between objective facts and what confirms your beliefs. So what you see is just that intersectional Abia Between objective facts and what confirms your belief. Just for instance, I love red wine actually do I enjoy it? I know it's no good for me. But I'm always looking out for literature that tells me it's really good for me. And that is confirmation bias. So people like to hear good things about their bad habits. And that's what confirmation biases. And all of us are guilty of this. So I urge you to just bear this in mind while you listen to this. This lecture.

Steven Bruce

And, Roger, there's a famous example of that, I think, isn't there and that there was a paper published many years ago, proving that chocolate was beneficial. Yes, it's based on No, it was based on no real evidence whatsoever, but because people wanted to believe it. Nobody checked it and for a long time, it was accepted as being the truth.

Rajiv Bajekal

Yes, I mean, the truth about chocolate is, of course, it isn't bad for you. It's just what all go into it. So often you get table sugar that goes into chocolate and you get a lot of daily which is saturated fat that goes into chocolate. So if you have dark chocolate that is sweetened minimally, it's not a particularly tasty thing, but you can acquire a taste for it. And that is in fact Good for you. But just to to move on the other thing is something called cognitive dissonance. So it's it's really the, the fact is that people like to hear good things, as I said about their bad habits. They don't want to listen to unpleasant truths. And, and if you remember, doctors who smoke or who are very overweight, they often don't give advice about smoking to others who are not who are smokers. You know, they don't tell them to stop So, it took a long time for doctors to give up smoking or to recognise that it is harmful and start advising People. So I just urge people in general to bury their own cognitive dissonance is and move on with it. Now, the next slide about insulin resistance is absolutely the key to understanding what diabetes is all about.

Rajiv Bajekal

We want insulin resistance to tell you what it is. It's basically the inability of insulin to do its job effectively. So, insulin's main role in the body is to move glucose from the bloodstream into the cells. And insulin resistance used to be a protective mechanism from evolutionary times when there was a scarcity of food. But now it's a problem because we have an excess of food, especially fatty and processed foods. So if you imagine in the savanna in the African savanna, when you know hunter gatherer had not eaten for days on end and he was in ketosis, moving around looking for some food, and there was a tiger hot on his heels, he had the choice of running. Now, if, if you imagine the tissues in the body actually all the tissues except possibly the brain, and the RBC can utilise ketones as well as glucose. It's only the red blood corpuscles that cannot survive on anything except glucose itself. So if the muscle at that point of trying to run away from a tiger utilise whatever little glucose was there in the bloodstream, it would mean the patient would, the person who was running would suddenly become hypoglycemic. So this used to be a friend factor. And because the red blood corpuscles have no mitochondria and no nucleus, they have no choice. They depend on a steady flow of glucose that is put into the bloodstream by a process called gluconeogenesis. In which the liver cannibalises amino acids from whatever is floating around excess proteins or even cannibalising or cells that are dying, and those cells are the amino acids from them are converted into glucose that the RBC can utilise. Now if the muscle then grabbed hold of this glucose to make you run from the tiger, you'd become hypoglycemic as I said. So, that process by which muscles stop utilising glucose is called insulin resistance. So it was actually a protective mechanism for us. And muscles could use ketone bodies. During this term during this period of starvation, so it's a bit like a hybrid car model if you look at it, so, if you think of it, you know, there's when there's abundance, in other words, there's gasoline, you fill your tank with petrol, then the combustion engine just utilises it. So the muscles utilise glucose. But are they at times when it's rundown, and there's no gasoline you can depend on the battery, which is like the ketone bodies and this is a smooth process of continually continue continuously utilising energy in different form forms. So if you look at the normal cell, this is a representation and you can see here that insulin receptors which are there on every cell, insulin acts on it to open up the gateway for glucose to be brought in into the cell and that allows for ingress of glucose into the cell. So this is the normal mechanism in a cell. If you have an abundance of fat within the muscle, which is known as a big fat globules are there in the muscle cells and that interferes with the insulin receptors. It's like a child cutting chewing gum into your locks so that you

can't open the the key to your open the lock to your house. And this obstructs the ingress of glucose and this is an insulin resistant cell. So the theory in this model that I'm proposing to you is that if you have an excess of fat within the cell, within cells that are not meant to have fat, namely skeletal muscle or liver or pancreas, then you will have the normal mechanism. I mean, normally fat is meant to be stored only in adipose tissue. It's not meant to be stored in the muscle. It's not meant to be stored in the liver. It's not meant to be stored in the pancreas. And this is the ascendance of an insulin resistant cell.

Rajiv Bajekal

So I'm just going to share with you three or four very interesting studies, which are have historical significance. The first is this one from 1927. So as I said, it's close to 100 years old, but nobody wants to listen to these studies, really, because they think it's old and outdated, but it's been reproduced a number of times. So this chap called Jay Shirley Sweeney, he caught hold of 20 medical students and made them volunteers. I mean, you didn't have a choice. If you were a medical student, you were incorporated into a study and over a period of two days. He fed them a carbohydrate rich diet. And then he shifted to a protein diet and then a high fat diet or a water diet of water only fast in other words, and you can see here, the blood sugar values that went up so you can see that really people were much more diabetic in the diabetic range if they were consuming a high fat diet. So this was the first experiment that was really quite important. And the other one is one by Rabinovich is very Rabinovich from Canada. This diet and this is pretty much like the ketogenic diet where 50 patients were treated with calories that arose from fat, so 60% of their calories rose from fat and 50% or 50 patients were treated with just 24% calories from fat. So more like the conventional diet that you'd see in a carbohydrate rich diet. You can see that insulin resistance was really much higher in people who had a 60% fat diet. In fact, in people who had a much lower fat in their diet 50 70% reduction was seen in the requirement of insulin.

Steven Bruce

I have some questions, though, if I may.

Rajiv Bajekal

Yeah, of course.

Steven Bruce

First is from me on your previous slide. The water diet was higher than the fat diet, in terms of your diabetic spectrum there is that surprising?

Rajiv Bajekal

That was surprising and I tried to get access to the original paper to try and understand that Stephen, you are asking absolutely right. I think in the initial period and Remember, this was only a 24 hour period. And on the water diet, what happens is ketone bodies are released into the blood, but there's a steady stream of the liver doing the gluconeogenesis. So I suspect it's because of that this is normal. This is what I was talking about insulin resistance being protective. And it does show that the blood sugar was much higher than that.

Yeah, it was, I mean, I couldn't get hold of the original paper. So I had to just get a summary from elsewhere, which is not normal, but I think I have to pay \$50 and I was too cheap to get the original paper.

Steven Bruce

or one of the other questions which has come in actually from several people kind of relates to that as well. It's whether you think that intermittent fasting can be helpful.

Rajiv Bajekal

It is extremely helpful in diabetes, yes, but it's extremely helpful from our from a variety of reasons. One is you If you believe that the what we're suffering from is dietary excess time restricted eating as it's called, instead of intermittent fasting nowadays, you eat over a period of eight to 10 hours ideally, and that really makes a difference in longevity. So people live for much longer and better lives, because it allows for the systems to rest and it allows for autophagy so there's absolutely very little doubt that intermittent fasting is extremely useful for any of these chronic degenerative conditions that we have.

Steven Bruce

You say on this, the slide that I've got up behind me, which is your two different types of diets, all diet, new diet, it says the 12 recent tell patients stopped insulin completely. Does that mean that Type One Diabetes is affected by diet as well as type two?

Rajiv Bajekal

Yes, except that, you know, no way can Anybody with Type One Diabetes stopped insulin completely ever. So this was actually type two diabetes. It was a study on type two diabetes, but these were people who were taking insulin because there was no no way of controlling their blood sugars otherwise, right? Okay, no way it would, but it is extremely useful even time restricted eating is extremely useful to improve your insulin resistance in type one diabetes. So your insulin requirement would go down even in type one diabetes, but never is it completely absent. I mean, you can't get off insulin in type one diabetes.

Steven Bruce

I've also been asked what your opinion is, this is from a chap called Nick. Nick says what's your opinion of the ketone diet for patients with multiple myeloma?

Rajiv Bajekal

The keto diet is a very high fat, high fat diet. The only place where it's medically been proven to be good is For an extremely resistant epilepsy in children, it has absolutely no role in almost any other condition. I mean, these are various iterations of the Atkins diet and we know what Atkins died off he died of heart failure. And but, you know, unfortunately, most of the people who champion it, do it on YouTube or some other such method of promoting an unhealthy diet. And you will see immediate benefits in certain conditions because if you're moving from a standard American diet of eating really processed foods like pizzas and doughnuts, then a keto diet is an advancement on that it is definitely an improvement. So you will see some temporary benefits you may lose some weight, but you are mortgaging your long term health

for any condition if you go on to a keto type diet, and I'm happy to debate this out. This forum but I'll never get because, I mean, unfortunately, dietary wars, and it's made people into literal tribal warfare on the keto front or the, you know, the vegan front and so on. And it's, it's sad because there is quite a lot of overlap and the good things between it. I mean, everybody will agree that processed food and junk food is really bad. Which is interesting because I'm going to go on to this slide, which, if you look at it, it's Walter Kempner, who was quite famous in Duke University in America introduced this diet to actually treat malignant hypertension. So it's white rice, which is very processed all the fibres been removed. Some fruit, fruit juices which are very processed again because the fibres removed and white table sugar. I mean, this looks like an old Fully processed diet except the fruit. But can you guess what's good about it? The good thing is that it has a 2% total fat rate. And believe it or not, this kind of a diet where you're giving people white sugar, fruit, fruit juice and white rice was actually beneficial in diabetes and reduced insulin resistance massively. So it's just to give you an idea that even processed garbage like this was often useful, because just the fact that it had not, it wouldn't cause fat accumulation in the muscle, liver and pancreas, your insulin resistance actually decrease rather than increase. So people used to be critical that all diets would help diabetes if there was a weight loss, and that is a true point. I mean, you know, even the keto diet, people will say See the numbers improve remarkably, especially your blood sugar levels. Because if you avoid eating carbohydrates and you eating, really a diet full of protein and fat, very high fat diet, you will not see a rise in your glucose levels. And so this paper is particularly valuable in 1979, James W. Anderson and kylene ward. They did this study where they really force fed people so that they didn't lose weight on a plant based diet. So low fat diet, very low fat diet, it was 9% factory. And for 16 days, they fed them and they kept making the meat so that they wouldn't lose weight. And despite that, they actually improved the insulin requirements and it went down 58% in the low five, five, so 10 out of 20 patients who had type two diabetes stopped using insulin All together. So it made us recognise that there are other factors such as phytonutrients and fibres in Whole Foods, whole plant foods that help us control diabetes.

Steven Bruce

Where does that Rajiv, where does that leave us with the modern narrative if I can use that horrible expression about diabetes, it all in the press and everything one when here's it's all about weight loss? Is it perhaps easier to communicate to me a lot of people find weight loss very difficult, but if they can still eat in the way you've just described, then does that make controlling diabetes easier for them?

Rajiv Bajekal

Absolutely. Stephen, thank you for asking that question actually, because that is the whole message that I'm trying to get across to you. You can eat in abundance, never having to starve and get rid of your diabetes. Every diet fails because you're starving yourself. You're hungry. You'll eat your pillow at night when you Sleeping in. So it's, it's desperately depressing when you do that. Whereas the truth is that you can eat abundantly and still get rid of your diabetes. So, if we move on to that's the relevance of this particular study is, is this is because of that insulin resistance is as a result of ketones from fat metabolism that actually affected an animal protein. So meat, protein or meat, eggs, dairy, all these things seem to increase insulin resistance. The ideal composition of this diet is 80 to 90% carbohydrate, actually, but you're talking about complex carbohydrates bound in fibre. You're not talking about simple middle you know white flour, white

rice, kind of carbohydrates, fat To 10% is protein and five to 10% is fat. And there are four basic components. So vegetables, green leafy vegetables, cruciferous vegetables, any vegetables, really fruit, grains, and legumes, which are beans and beans are a very important company because they have something called soluble fibre that feed our microbiome. And as you can see nuts and seeds in small amounts, and herbs and spices liberally because that helps to give us antioxidants. So if we look at it, you can eat this whole thing. You know, it's it's colourful, it's anti heart disease, it's anti arthritis, it's anti ageing, it's anti diabetes. This is the kind of range of foods that you can eat liberally and get the joy. So to give the listeners an idea of what they can eat You can start by changing each meal. So if you start with breakfast you can eat porridge or with not with ideally a plant based milk, berries, rye bread with avocado, a whole meal bagel With houmous you can eat pancakes and tofu, you know, these are things that are available in the plant based world and that the picture actually shows you what Nico and I were eating on one of our cruises that we go on, which is a plant based cruise. So you can see that's the quantity that actually that's needed for breakfast and she's quite a slender lady who managed to pack away all that food. So, the key is that you're going for a high nutrient density, but a low calorific density. So, in other words, every human being can only eat about four to five pounds of food in a day. And if you eat lower down on caloric density, you can eat As much as you like, fulfil yourself and you will not put on weight. So you can eat all these things just to give you an idea. So, snacks with nuts and seeds, crudities or crackers with hummus, use green smoothies, fruit smoothies, the fruit set slowly, if you drink it up too quickly, you'll get a sugar high. And you can eat all these foods that I've shown pictures of very happily, you know, so it's just to give you an idea that you know people who are plant based just don't eat white lettuce, they have a few other things to eat also.

Rajiv Bajekal

So what do we avoid? We avoid food without fibre because fibre is so essential to feed our microbiome. So we avoid animal products. We avoid juices, oils, junk food and highly processed food. I mean there's universal agreement that these foods are not going to do any good for diabetes. Now I'm going to introduce this mastering diabetes concept, which is data labelling foods as green light foods, amberlite foods and red light foods. And now give this to you, you know you you'll be handing over these slides to your listeners anyway. But it gives you an idea that certain foods like soy bean, which are very helpful otherwise on a whole food plant based diet are not ideal for diabetics, because they're pretty high, in fact, actually, and will increase your insulin resistance, but otherwise, it's very similar. So again, avocados are rich in fat. And so they come under ambilight foods don't have ad libitum whereas the green light foods you can eat any quantity ad libitum and not affect your insulin resistance. So to give you a personal story, I mean I was a type two diabetic since 2012 pre 2000 And 17 these are some photographs of me. You can see my wife need to who's lectured to you on a few occasions in the past. And you can see, she you know, I used to get these comments and how did you pull a bird like that which was deeply offensive, but I had no no idea that it would help. If I switched to a whole food plant based diet, which I did. After watching a documentary after not listening to me to poor thing, she'd been backing away for 18 years with me. But I wouldn't listen to her I mean, who listens to your wife God, so?

Steven Bruce

Well, we all we all listen to your wife.

Rajiv Bajekal

Yes, and that's sensible. So that's just to to give you a personal idea and obviously that is n is equal to one but I did learn as a result of this and went on to do a lifestyle medicine course and move on. Now, just to wrap it all up. I wanted to do Have you some resources for your patients? So, I think key is to watch this documentary Forks Over Knives, which you can watch on amazon prime. I think it influenced me and the number of good documentaries. The game changers is another one, which controversial longer it was. I think it gives you a flavour of what a whole food plant based diet is about. I found mastering diabetes to be an invaluable resource for anybody who's diabetic. And in Britain, you have the diabetes resource company reversal company DRC. It's called, they have an Instagram handle. They are available in London, and I think they're excellent. Um, I think all your listeners should really join plant based health professionals, UK I mean, it's got a very small membership fee, which all your chaps can afford or ladies can afford comfortably. It's a great resource for health education. nutritionists and dietitians are part of it. I've taken this opportunity to put in my daughter's name here and another excellent dietitian, Lisa Simon, who are on who are both part of the plant based health professionals. But quite simply, if you get a patient who is diabetic, you should just ask them to Google whole food plant based diet and there's a wealth of information on the internet for them. My own Instagram handle is doc at Dr. Rajiv magical but really I'm an instant newbie and I'm just getting into the the mood for it. And there are hundreds of other great recipes by Reagan rich and rainbow plantlife on YouTube that you should watch. And I'm happy if I'm allowed to take a couple of questions.

Steven Bruce

Let me start with Phil Phil has asked what role artificial sweeteners have in blood sugar spikes.

Rajiv Bajekal

Yeah, I mean,

Rajiv Bajekal

occasionally to have a little bit of stevia for instance, is not much of a problem. I think it's better to use dates. For instance, if you use drop dates, it's a better natural sweetener that has that comes with fibre and admittedly it will spike your blood sugar level. But somehow, artificial sweeteners seem to trick the brain into believing that it it gives you a sugar hit, and it does affect blood sugars, bizarrely, and there's another substance called erythritol. Every three prong is er yth, our ID oil and it's, it's supposed to be from pear sugar, but it's calorically, it's considered to be zero. It has about two thirds, the sweetness of table sugar and it's another good thing that can be used occasionally to sweeten up food for the Those who wanted who want that occasional tweet. Okay,

Steven Bruce

I'm recording Kirby has asked about the value of olive oil will be effective olive oil.

Rajiv Bajekal

Okay, that's a good question. I mean, olive oil is considered to be cardiac safe these days, especially if it has the phytonutrients which is called olio Canton. So it's in fact, instead of calling it extra virgin olive oil because I think everybody calls the oils extra virgin olive oil. It's better to call it all your Canton rich olive oil and that has phytonutrients and it's cardiac safe. But just one message for diabetics. Any oil is nine calories per gramme. So if you use a tablespoon of olive oil, you put in 120 calories into your food. So remember, it's just a spoonful and it's gonna disappear in the interstices of your diet, and it adds 120 calories. So, in general, diabetics better avoid any oil, but olive oil is probably the most helpful of them. Certainly don't drizzle it on your salad. It's madness to do that, I think if you're eating a standard American diet, it's excusable to use a bit of olive oil, it's still more helpful than the other stuff that they eat. But I'm, I'm not a great fan of olive oil purely because it gives the message that olive oil, any amount is fine, and that's the wrong message. Okay.

Steven Bruce

Trevor has asked whether intermittent hypoxic training assists with pre diabetes.

Rajiv Bajekal

Can you ask the question against even?

Steven Bruce

Yeah, he's asked whether intermittent hypoxic training assists with diet pre diabetes.

Rajiv Bajekal

I haven't come across any literature in this regard. That's a presumably praying a training at a high altitudes and things like that.

Steven Bruce

I more simulated high altitude so I imagine yes

Rajiv Bajekal

right no no idea at all.

Steven Bruce

Another one is what in your thing about diet earlier on you said only small amounts of nuts and seeds and someone has asked why only small amounts

Rajiv Bajekal

because for the same reason that they are high calorific density So, nuts and seeds. I mean, I am an addict and if I see a packet of cashew nuts or salted peanuts, I probably an assault and a narcotic so I can go through a packet of 200 grammes in no time. And that's massive in terms of caloric yield, you know, so it's better to just eat a small handful and ideally not roasted or salted because you can get through a bag full and if you remember, if you eat the whole food, you actually have to crack the shell of, I mean, not to get at the

knot. Now it's readily available and the knot industry serves it out liberally salted, and you can put on a lot of weight and increase your insulin resistance if you consume them in big quantities.

Steven Bruce

And perhaps I can just wind up with a couple of questions. One that's come in from one of the audience Kenneth Kenneth has asked if you have any views on the new NHS programme on tackling diabetes.

Rajiv Bajekal

And I haven't read it in great detail, but I think somehow the NHS tends to find this pathway of moderation being a good thing because they don't want to make radical changes. And I don't think everybody needs to make a radical change. But I think from a patient perspective, they should be offered the correct choices. And the choice should be really to go in the direction that Japan has gone so Japan says 13, portions of fruit and Vegetable, Emily's still lingering around the five and we barely managed it. And that is the way to actually make a substantial difference. And also not to serve the kind of garbage that they serve in hospitals. I mean, if you're into my hospital, all the kind of foods that I save, you must not have also in the hospital and I think hospitals at least should serve healthful food, you know, salads and soups, no problem. But really, should we be eating burgers in a hospital? I mean, you can go home and eat as many burgers as you wish. But just as they don't allow smoking inside the hospital or in the perimeter of the hospital. They shouldn't really allow unhealthful food in.

Steven Bruce

Well, I suppose that that leads me on to my final question, which is how much of the advice that you are you provided us with that we can give to our patients is going to be controversial? Will we find that the local GP who is complaining that we're giving improper advice to our patients

Rajiv Bajekal

it's a very good Questions keeping them it's the reason why did lifestyle medicine because if you want to tell people the truth, you have to back it up with science. And that's why I have put some of those resources and all the resources actually backed up by really hardcore science. They're well validated tables that are well validated studies, quite unlike pulling the wool over somebody's eyes by saying, but doing studies that are that get past peer review publications and get published, but really don't have scientific backing. So I would say if you provide this, in fact, patients is down to patients to educate their doctors. If they reverse their diabetes and prove it in that way to the doctor, the doctor will have to follow suit.

Steven Bruce

Okay. Rajiv, you've been very generous with your time as always, and with all your information I'm really grateful to you for coming on the show like this. And I'm sure many of our viewers are as well because that's what wonderful stuff that we can share with our patients. And I'm hopeful that we'll get you on the show again in the not too distant future for more of the same stuff. Thank you. Thank you very much, and give our regards to meet you as well please and welcome. Thank you.