Dr Ron Ehrlich: Hello and welcome to Unstress. I'm Doctor Ron Ehrlich. Now today's episode is an interesting one on so many levels. Doctor training, public health messages, industry influence, chronic disease management versus addressing the cause, what a novel idea.

Look we've all visited doctors and we've had various points in our lives and sometimes it's for an acute problem. You might have a respiratory infection, some injury or perhaps you're in for a regular check-up. You might get some blood tests, the results come back, your doctor gives you some advice, may even give you some medication. Now that advice comes from years of studying at medical school and then if you can picture me now, using quotation marks as I say this, "staying up to date with the latest," and again in quotation marks, "evidence-based medicine." Evidence-based medicine is the gold standard in health care, and of course, all of this is supported by professional organizations, one of which I'll get to in a moment.

Now as many of you may know, diabetes is a huge and growing problem in our society. Now I'm going to reference here the Diabetes Australia website, the National Diabetes Services Scheme, surely you couldn't get more evidence-based and up to date than that, okay. So, that was rhetorical by the way.

So what is type one diabetes? It's an autoimmune condition. The body attacking itself. The pancreas stops making insulin. Now that's in 15% of cases, that's what diabetes is, type one. Much more common is type two diabetes. The pancreas does make insulin but it's not produced in sufficient quantities that your body needs, and it doesn't work effectively. So it's a combination of genetics and environmental factors, used to be called late-onset diabetes but it's affecting people younger and younger. And this is still from the website, managing type two diabetes. I wanted to share this with you because it's very relevant to our conversation today and I again quote Diabetes Australia here. Type two diabetes can often initially be managed with healthy eating and regular physical activity, however, over time most people with type two diabetes will also need tablets and many will also need insulin. It's important to note that this is just the natural progression of the disease. I'm still quoting. And taking tablets or insulin as soon as they are required can result in fewer complications in the long term, to help you manage diabetes, your diabetes, and again this is that National Diabetes Services Scheme from Diabetes Australia, here are your meal suggestions. Regular and spread evenly throughout the day, lower in fat, particularly saturated fat, and most importantly should be based on high fibre carbohydrate foods such as wholegrain bread, cereals, beans, lentils, vegetables and fruits.

Well, my guest today is Melbourne medical practitioner, Doctor Rob Szabo, and this is not a spoiler, but he runs the practice in Melbourne, his practice is called The Low Carb Clinic. I had the pleasure of meeting Rob when he was speaking at the Annual Conference of the Australasian College of Nutritional and Environmental Medicine, the acronym is ACNEM, which has been training medical and allied health practitioners in nutritional and environmental medicines since 1982. I happen to be the President of that College.

We really enjoyed chatting when we met, and his story and his interests in regenerative agriculture are so aligned with this show, that I just had to have him on and share him with you. I hope you enjoy this conversation I had with Doctor Rob Szabo.

Welcome to the show Rob.

Dr Robert Szabo: Thanks, Ron.

Dr Ron Ehrlich: Rob, now we met for the first time at the Australasian College of Nutritional and Environmental Medicine's Annual Conference this May, and you gave a fantastic presentation, and I thought I've just got to get you on this show and talk to you about that again.

So I wondered if you might share with us your journey, you're a medical practitioner, from your training right through to where you are today.

Dr Robert Szabo: Sure Ron. Well, thanks so much for having me on first of all. I've had a look at the calibre of all the people that you get on and I'm quite flattered to be on. As you say I was excited, and I really enjoyed speaking at the conference and was delighted there was a really good reaction, response to the talk.

As you say, I guess my journey to get to what I'm doing these days has been very personal and it's been a health journey for me, and it happened over the last seven years. So I'm 44 now. Back when I was 37 I was diagnosed with type two diabetes and it was an enormous shock because for extensively on paper, I shouldn't have got it. If you think about the sorts of things that we're told to do, and that was the big kick in the guts for me, was that I felt like I had spent a lot of effort over many years, trying to be healthy.

Dr Ron Ehrlich: What characterized that? If you had to put it in a nutshell, just to remind our listener of what that was, tell us a bit about that. What was being healthy?

Dr Robert Szabo: Yeah, so the health-related behaviours that I regularly engaged in, were that I went and I exercised at the gym six days a week, and that included ... As well that as I walked my dogs most days, so you know I'd have some cardio, but I'd also lift some weights, literally every day of the week for about an hour each day. I would make sure that I had lots of wholegrain cereals, so I'd always have whole oats and brown rice and I'd have lots of vegetables, lots of greens, lots of broccoli, and lots of lean meats. Not too much red meat, I'd have lots of chicken and fish, quite lean. The thing is I would also have a cheat day, as many of us do, and that would be quite sugary. I had a terrible sweet tooth and I'd been raised on sugar. My mum, bless her, loved us and loves us and she showed her love with sugar.

Dr Ron Ehrlich: As many people do.

Dr Robert Szabo: That's right, had lots of sweet treats for us throughout our childhood. That habit carried through into to my adulthood as well, and so in retrospect, when I reflect on where that diagnosis came from, it was obvious but for me at the time, you know, it was an absolute mystery and I was spellbound as to how this could've happened in the context of all the things I was doing to try and look after myself.

Dr Ron Ehrlich: What were some of the symptoms that you ... I mean were you regularly taking your blood sugar, or was this just part of an annual check?

Dr Robert Szabo: I had no symptoms. I felt great. I had HbA1c at 7.7.

Dr Ron Ehrlich: What's a healthy range, to remind our listener because they may not have...

Dr Robert Szabo: So normal is, HbA1c is a marker of long term glucose control, and normal is less than 5.6. Prediabetes is 5.6 to 6.4, and diabetes is over 6.5. So given that it's a very, very steady reading, it doesn't vary day to day, week to week. It varies moreover months. At 7.7 I was very diabetic, I wasn't a little bit diabetic. I felt great. I was going to the gym, I was doing all my exercises, and I was really, I thought, thriving. It was an insurance medical that I was just doing for income protection insurance. At first, I was in denial, and I thought that's not my blood, that's somebody else's.

Dr Ron Ehrlich: Of course, yeah, quite understandable.

Dr Robert Szabo: Right. So I went to my GP and organized some tests again. Unfortunately, sure enough, it was my blood.

Dr Ron Ehrlich: Yeah, so here you were. I mean you'd already been in medical practice, well 10, 15 years?

Dr Robert Szabo: I graduated in '99, so yeah, it was a good 15 years or so.

Dr Ron Ehrlich: And you were doing pretty much everything. I mean you went to, I know you mentioned to me, you studied at Monash University in Melbourne and I know some of the people there, and I know it to be quite a progressive medical school. So you'd been through the system. You'd been in general

practice. You were doing everything you were supposed to do. You were feeling terrific. Which is even more bizarre.

Dr Robert Szabo: That's right. Yeah, I was following the healthy paradigm.

Dr Ron Ehrlich: Yeah, but you were feeling good, which is even more bizarre. And here you were at 37 doing everything right. Go on, what happened then?

Dr Robert Szabo: And sure I had a bit of a layer, you know. I'm 180 centimetres and I weighed maybe 90 to 95 kilograms, and some of that was muscle, but you know I was probably, by comparison now, I'm still working out, but I'm about 83, 84 kilograms now, so maybe 10 to 12 kilograms more which would've been fat, but I wasn't obese. I was in the overweight range and I probably had a BMI of about 27 or 28. Yeah, so that was that state.

What happened then was that I was sent to an endocrinologist to try and determine was this maybe larder or a form of type one diabetes, given that I wasn't that overweight, and I was fairly young for the diagnosis. She determines that no, it was type two diabetes and she then promptly sent me on to a well-regarded dietician and the dietician went through my diet and said, "Hey look, you're eating perfectly. There's nothing more." Well, maybe not quite. She said maybe add a bit more dairy, maybe have a bit more yogurt and cheese.

Dr Ron Ehrlich: But the low fat? Was she keen that you stay on low fat?

Dr Robert Szabo: For sure, but apart from that she really couldn't fault. You know, I wasn't eating biscuits, I wasn't eating ice creams, maybe just that one day a week but the rest of the time I wasn't doing any of the sorts of things we're told not to do.

So I was baffled as to why I was where I was, but you know, I think when that was the direction that I'd been coming from, I felt like a and knowing that this is a lifestyle disease, I just somehow felt like a bad person. A terrible sense of guilt that I'd done something wrong, but I couldn't quite figure out what that thing was. So I was baffled, but at the same time I'd always said to my friends and family, going through medical school, the one disease I don't ever want to get is diabetes. Because as you and I know, this is not one diagnosis, this is a thousand diagnoses once you have diabetes because of all the things that it causes.

Dr Ron Ehrlich: Just remind our listener why diabetes is such a problem. I mean I know and I'm sure a lot of my listeners do, but let's remind our listeners why diabetes is such an issue.

Dr Robert Szabo: Well the thing is, the stuff that goes on in your body when you've got diabetes or even the earlier stages, even pre-diabetes or even insulin resistance with a normal blood glucose, in which case you're not going to be diagnosed necessarily with anything, but you're still going to have this condition, is the early pre-condition of diabetes, is that that's the thing, the insulin resistance that actually causes all of, well most of the diseases that we're experiencing. Whether it's something as simple as high blood pressure, or whether it's something as devastating as a heart attack or a cancer diagnosis.

So we know that people that have diabetes have something like a 300% or a triple rate of cancer compared to people that don't have diabetes. Then there are all the other specific things that happen in diabetes, like the blindness and the kidney failure and the ulcers and leg amputations and all those fun things. But all of those specific things aside, there's all this other stuff that happens when you have diabetes. So once you have diabetes, you kind've can look forward to lots of doctor trips, lot of events, and by events I mean not fun events, but medical diagnoses on top of your diabetes diagnosis.

So I kind just thrown my head between my legs, and I just thought, "My God, my life has changed." So it was quite an awful experience, to be honest, and I kept it to myself because I felt

ashamed that I'd done something wrong, and had this kind've lifestyle disease. But at the same time, I thought well I don't know what I've wrong. Quite baffling.

Dr Ron Ehrlich: And of course, you had been in practice and you will have seen many patients with diabetes, pre-diabetes, and you will have advised them according to everything that you'd learnt, and here you were at the dietician and the endocrinologist. What is the typical advice that a person diagnosed with type two diabetes would get from you pre your diagnosis?

Dr Robert Szabo: Well I'd put them on medications, that would be one of the first things that I'd think to do, and I think most doctors, most GPs are in that mindset. Medically our education, and as you say I thought I had a great education and much of it was fantastic, a lot of great educators at Monash. But the medical paradigm is very drug company driven. All you need to do is find out just how many visits the average doctor gets from their local drug rep to know that that's true.

So that's the first thing you think of is your prescription pad, rightly or wrongly, wrongly obviously. And then, get rid of sugar, but we're not taught about the impact of starches. You know, everyone's talking about sugar, which is a very, very important discussion to have, but no one's talking about starch and that is the big elephant in the room. Whether it's the oats in the morning, or whether it's the potatoes and the rice and the bread and the pasta. All you need to do for somebody, even if you haven't got diabetes actually, is if you've got somebody who's got a blood glucose monitor, is have a really big starchy meal. A big bowl of pasta with some garlic bread, followed by an apple and a low-fat yogurt, and check your blood sugar half an hour, one hour. It'll go up to 10, it'll go up to the diabetic range. Now if you're not diabetic, then it'll come back down again after an hour or two, but it will still spend some time up in that zone, and that's a toxic zone for the body. If you're diabetic, it will stay there, and it will continue to ravage the effect of that toxic high blood sugar.

Dr Ron Ehrlich: Now I know we're going to be talking about your approach, but I'm back to your story because here you are at 37. Here you are at an endocrinologist. Here you are, you know, with your medical background and facing a lifetime of medication. I think Metformin's a pretty common one, isn't it? [crosstalk 00:16:26]

Dr Robert Szabo: That's what I was put on, that's what my GP put me on.

Dr Ron Ehrlich: But then something happened to you or you had another think about it. Share with our listener that epiphany.

Dr Robert Szabo: And I think for the sort've people that go to an ACNEM conference or that get involved in this, I think this is a really common experience, is having a personal shock that gets us there, and, unfortunately, that's often what it takes. You know, we kind've had this thing where something happens to us in our lives, that makes us question so much of what we assumed, and then we think well if that was wrong, what else might be wrong, let's explore these more deeply.

But for me, I was very lucky to have a friend who's a physiotherapist near where I work, Andrew Wine, who said to me he'd been through a Low Carb Down Under conference run by a local anesthetist.

Dr Ron Ehrlich: Yes, we've had Rod, Rod Taylor's been a guest on our program. He's fantastic, he's done some amazing work.

Dr Robert Szabo: He has. So Andrew had been to one of these conferences, where Tim Noakes had spoken, who was his hero, and you know, Tim's a professor of sports medicine from South Africa, whose known worldwide for his journey turning to a low carb diet, and Andrew had said to me that these people were almost like a cult. They were so fervent, there was this energy in the room because they were talking about how they could reverse diabetes. I hadn't told Andrew about my diagnosis, and I kind've just gone all quiet and thought right, I need to look this up in my own time, and went home and looked it all up and it kind've made

sense, that if you don't eat this starch, you're not going to be spiking your blood glucose, and you might actually end up having normal blood glucose levels.

So I went home and tried that, and I was on Metformin at the time, and so I thought, right I'm going to stop the Metformin and stop eating carbohydrates, and check my blood glucose levels closely, and lo and behold, they were essentially normal.

Dr Ron Ehrlich: Wow, within? How long did this normality take to kick in?

Dr Robert Szabo: Instantly, so just one day. So in the morning I just didn't take my Metformin, and I didn't eat my oats, and I had instead some eggs. Throughout that morning and afternoon, they were all normal.

Dr Ron Ehrlich: My god. I mean I can only imagine how, well you must've been pretty excited about that.

Dr Robert Szabo: Well I was.

Dr Ron Ehrlich: That's putting it mildly.

Dr Robert Szabo: Yeah, exactly. Especially what I'd watched a few YouTube lectures and I'd read some stuff online and to be able to reverse this disease which I thought was a life sentence, which is the paradigm through which we're taught. You know, any doctor will tell you that that's the paradigm. It's that this is a lifelong sentence, so to have read maybe that you can unwind this was exciting.

Dr Ron Ehrlich: Yes, particularly as it's happening to you. Right. I mean you get excited enough if you manage to do that for a patient, I think that's pretty exciting at the best of times, but when you're the patient, it takes on another form.

Dr Robert Szabo: Exactly, yip. Right, right and it's kind've as a paroxysm emerged of, you know, it's a profound thing to happen because so many long-held assumptions, suddenly sort've come crumbling down. As the weeks went on, and these blood glucose as being normal just continued, then I started to think why are we doing this? Why isn't everyone doing this? This is just that simple. I found it very easy to do like I didn't find it difficult to give these things up. Some people do, I've treated many patients this way since and some people do and that's understandable when it's ubiquitous. You know, carbohydrates are everywhere and in every meal, but for me and a lot of my other patients, it's very simple.

Dr Ron Ehrlich: You asked a very important question there because it is remarkably logical and remarkably simple and remarkably profound and the question is why. Why isn't it, what did you come up with? You've grappled with this question. I don't want you to put your head on the chopping block here too far Rob, but why?

Dr Robert Szabo: And when you put it like that, and I put it that way in my mind many times, and it's embarrassing that I didn't figure this out for myself. I kind've thought well these things are made of glucose and you've got a disease where you can't control your glucose, and why the hell would you eat it? Especially when high glucose is toxic and it's the actual thing that does you all the damage in diabetes. It's like adding up one and one, so why aren't we taught this really simple but profound lesson.

Hey, you know there's a multitude of reasons. Look I mean I hate to say, but at the moment, maintaining the status quo, and it's always easy to maintain the status quo, you know we're change-resistant as humans and I guess that comes back from our ancestors where they had to live in this dangerous and difficult to survive in world, where you would get wisdom from your ancestors to be able to survive. So that desire to change I think, is very, that resistance is very built into us. Whenever you've got a paradigm that's in place, not just within a doctor's consultation room, but globally and internationally, well it's very easy to maintain that.

Where we find ourselves now, is just so simple to for those powers that be to maintain. And the reality is like I said, is that this is a trillions of dollars invested in maintaining the status quo because we're talking not just about all of the drugs that go with not just diabetes management, but all of the consequences like I was saying of diabetes-related diseases, but also all of the food that is being sold. I often think about all the fat on all the people's bodies around the world, just like it was on mine seven years ago, as being food industry profit. This is food that humans, calories that humans ate because they were made to be more hungry than they ought to have been because of the food that they were eating. So all these starches and sugars that they were eating, were playing with the hungry and satiety signalling to make these people more hungry, so this is food that they didn't need to eat but the food industry has made a profit from those sales.

So if you add in all the food, and all of the drugs and all of the complications from diabetes, this is going to be trillions of dollars.

Dr Ron Ehrlich: It's a great economic model, isn't it?

Dr Robert Szabo: Look, it's amazing.

Dr Ron Ehrlich: It's a great business model. I mean if you were going to write a business plan for anything, that's a beauty, isn't it?

Dr Robert Szabo: Right, right. You've got not only the cause is making a profit, the food but the effects, you know, the drugs and all of the complications are making a profit. Unfortunately, I've come to the realization that the health industry's mostly about the industry and not so much about health. I hate to say that, because it's a little bit, potentially can be demoralizing, but I guess what I do to overcome that, is to think well I can do my little bit. And it is little, but it's still something, and that's what I do with my patients, is to give them the option of unravelling themselves from this whole sort of system.

Dr Ron Ehrlich: Well it's profoundly, I know, because I've heard you speak, and it's profoundly affected your practice. Your practice in Melbourne is now called The Low Carb Clinic, that's right, isn't it? But I'm just intrigued. This went through you, you turned this around in 24 hours, you know, in a week you were a changed person. How do you then go back into the practice on Monday after having normalized your blood? You know, wow I mean just can only ... and the first patient, I bet you that the first patient was a diabetes patient or pre-diabetic and here you were born again. Oh, can only imagine.

Dr Robert Szabo: You know what we think of people who are born again, you know, we kind've raised our eyebrows. Hang on, here we go. And so this is the thing. I think the doctors that I practice within my other place in the general practice because I'm in two places. I'm in my Low Carb clinic where I work, but I'm also in a general practice a few days a week. I think I've had to be very careful to not come across as being too evangelical at the same time as maintaining my passion and that's a fine line to walk. One of the closer doctors that I work with is a friend, actually called me evangelical.

Dr Ron Ehrlich: Can't get much worse than that.

Dr Robert Szabo: Well that's what I thought at first. At first, I was gutted. I try so hard to not be evangelical.

Dr Ron Ehrlich: I think this is a noble thing, Rob. Let's not stifle things here.

Dr Robert Szabo: Then I came to own it and I thought you know, this is a commentary on how much passion I bring to what I do. I wear that with pride but I still, ultimately, as we're taught in medical school right the way through, the important thing is the patient choice. This is not about us, this is about our patients and I have many patients to whom I talk about the option of reversing their diabetes using a low carbohydrate approach and they're not interested and that's fine. I support that for them because they have their own set of life circumstances and they're the ones best placed to know what's right and what's not for them. I've had other

people for whom it hasn't been right for years, and then it's suddenly become right and they don't go back. This is the thing. For somebody like myself and somebody like one of those patients, once you see something, you can't unsee it and you have that eye-opening moment that you know, is going to carry with you for the rest of your life.

Dr Ron Ehrlich: It's interesting isn't it, because you mentioned your mother feeding you all sorts of, and all our mums or whatever did, and it was always associated with celebrations and this and that. So you can really, I mean it's a bit like religion sometimes, or politics as well and going to somebody's diet is sometimes digging into a part of their existence that they don't want to go.

Dr Robert Szabo: You're right.

Dr Ron Ehrlich: And I think that's fine, but it's so important to be given the knowledge and then make your own decision.

Dr Robert Szabo: And that's the thing that I'm most disappointed about, is that people are not given this option and this information when they're first diagnosed. My real hope is that one day that changes, so that the doctors are well armed with this knowledge, and can say well hang on you've got some options. You don't necessarily need to go down the path of this getting worse and worse and worse.

That's another thing I forgot to mention with diabetes that gutted me, is that I have been taught that it was a progressive condition. By progressive, what that means is it's a bit like having cancer. It was kind've like the cancer model of diabetes is what we're taught, which is you've got a diagnosis. You're going to have it for life. It's going to get worse. You're going to get complications from it, it just depends on whether they're sooner rather than later. Eventually, it most likely will kill you because of the complications.

So that's a bit like having a cancer, right. When you think about it, it's like the palliative care model of diabetes, where it's a lifelong condition, it gets worse, it needs more chemotherapy, i.e. medications as it gets worse and then it eventually kills you.

It's like it's gone into a holding pattern before you die. It's awful. Instead, we're not given the other option to reverse the disease. It's a bit like having cancer where you have a potential for cure, but not being offered it.

Dr Ron Ehrlich: One of the things that have always intrigued me, and as the Low Carb, Rod Taylor's Low Carb group and now you will have noticed at the ACNEM conference in May this year, there was very much an emphasis on this approach, and we heard it from many different people. We heard it from pediatric gastroenterologists, we heard it from obstetricians, we heard it from anesthetists, we heard it from urologists, we heard it from you, we heard it from the sports medicine guru, Peter Brukner as well. So it is happening. Cancer's an interesting one. Always intrigued me that you know the use of the PET scan involves, if I'm correct here, involves the injection of a radioactive glucose because it's known that cancer cells preferentially like glucose and so if you lie still so that your muscles don't get that glucose for 10 or 15 minutes, and then you take the PET scan, the cancer cells will light up. Is that right? Is that what a PET scan is?

Dr Robert Szabo: I've got a pretty rudimentary knowledge as well, so you'll have to excuse me.

Dr Ron Ehrlich: Yeah, I think that is, but having had cancer and explored it myself, I do know that that's the case and so, you know, you think okay, we're using radioactive glucose diagnostically, let's go to the Cancer Council website and let's get some recipes. And when I went there, it similarly hadn't made that leap into, you know hey, maybe glucose in all its forms is a bit of a problem.

But let's get back now to what low carb is because you are in the Low Carb Clinic. The low carb I know means different things to different people. What does low carb mean?

Dr Robert Szabo: So for me, and I guess for what I like to talk to my patients about, is if they choose to go down that path, is to switch energy supply systems. So it's a fundamental change in how the body operates and that is based on the fact that we're a hybrid engine, our bodies really can run on different fuels. It's a bit like an electric car that can run on petrol and electricity, and what we're doing is switching from one fuel, i.e. carbohydrates to another fuel, i.e. fat. So fat becomes our predominant fuel source, and the beautiful thing about that is, that it keeps glucose nice and low. So as you say, if you've got a glucose-dependent cancer or if you cannot control your blood glucose i.e. diabetes, then that's not even a consideration because you're not feeding yourself the glucose.

Now I mean, it is in some people who are more severely diabetic, and you know, had it for much longer, or in type one diabetics where they don't make any insulin whatsoever, so they still need to inject their insulin, but even for those people, a low carbohydrate diet is just vastly superior when it comes to managing their type one diabetes.

Dr Ron Ehrlich: They will have less need for injection?

Dr Robert Szabo: A much, much lower insulin dose, and as a result a much, much lower fluctuation because what leads to the huge swings and roundabouts in type one diabetes is the scale of injection. So it's, to quote Richard Bernstein who's written The Diabetes Solution book, which is like the bible of type one diabetic low carb management, it's the rule of small numbers. The rule of small numbers is that the smaller the insulin dose, first of all, the smaller the carbohydrate intake, the smaller the insulin dose, the smaller the fluctuations. Because the thing with insulin in type one diabetes, it's a very blunt tool and it's very imperfect, and there's no way around that. We're stuck with that imperfection.

So the more insulin you have, the greater the highs and lows that you're going to get because of the inaccuracies of dosing. So the rule of smaller numbers is the smaller all of those things are, the tighter your control and the more you can take your target lower, so that what prevents somebody who's on a high carbohydrate diet with type one from getting tight diabetic control are they hypos. When you go low with your blood sugar, that can kill you, that can be a fatal event. So you can't afford to get any tighter when your band of error is so great. You know, your highs and lows are so high and so low that you need to keep your average quite high. But when you have such a small injection of insulin then you can tighten up that window and so you can afford to tighten that right up because you're not going to get hypos.

So you can essentially get normal blood glucose levels, I mean non-diabetic blood glucose levels on a low carbohydrate diet with your insulin dosage in type one diabetes. You know, you've still got diabetes, you've still got to inject your insulin. It's usually about maybe a third to a half of what you would've been injecting beforehand, but you have non-diabetic blood glucose levels. When you've got that, then you don't need to worry about all those fun things that I spoke to you about earlier.

Dr Ron Ehrlich: Do you know, I love your analogy of the hybrid car because having driven and drive a hybrid car, I know that I'm not always in electric mode and I'm not always in petrol mode but as I drive along, I fluctuate. Is that what we can do as humans? Like within 24 hours there are times when we're in ...

Dr Robert Szabo: Precisely.

Dr Ron Ehrlich: So we don't have to be in ... Well, there's another word we're hearing a lot about which is ketosis. Just remind our listener about keto, what that is.

Dr Robert Szabo: Yeah, so ketosis as you say, we're hearing a lot about it and quite rightly. It's been found to have not only, not only be a state of utilizing as the main fuel source but also to be a really powerful metabolic state for our body to be in for a whole range of health and disease benefiting processes. So ketosis just means that fat is the predominant fuel. It's not the only fuel, but it's the predominant fuel that we're utilizing in our body and as you rightly point out, there will be times when someone whose in ketosis when they will be utilizing glucose. That will always be happening in the background at low levels but the fat will predominate.

When that happens, when the body's tuned to burning fat predominantly, then you induce a whole lot of enzymes that help regulate that process and they help regulate the ability to use fat as a fuel.

So those enzymes, once they're induced, your body is kind've just humming along on fat and the beauty of that is that we have an enormous energy reserve of fat. Even a lean person's got something like 40 or 50 thousand calories in fat on their bodies. You know that's a lean person, let alone someone who's obese might have several hundred thousand calories in fat. What an amazing energy reserve when you consider that the average person has two to three thousand calories per day. If you've got a couple of hundred thousand, you're not going to run out of energy any time soon. If you can tap into that, wow, your hunger is suppressed and your energy levels are boosted because you suddenly have this constant supply of energy. Exciting.

Dr Ron Ehrlich: So we've got these two fuel sources, which is great and I love this analogy. So again, when I read some, and you would've read these too, the journals which talk about low carb doesn't make much difference, and then you read the fine print and they're talking about 250 grams of carbohydrate a day, which is low because sometimes the recommended dose is 350 to 400 grams of carb a day, so 250 or even 150 is low, but that's not really low is it. What is low?

Dr Robert Szabo: No, I don't think so.

Dr Ron Ehrlich: Putting a number on it, or numbers.

Dr Robert Szabo: For me low is less than 50 grams, but preferably for most people, less than 30 grams total carbohydrates per day, and when you think about one banana has about 30 grams, then you can kind've seen what I'm talking about. It really, the fruit becomes a very, very scarce part of the diet. Like it's basically I prefer that people don't have fruit because of the amount of sugar that it... You know one banana's got six teaspoons of sugar. So you know we would never put six teaspoons of sugar into our coffee or tea, but that's what we eat every time we have a banana.

So yeah, it's low. So basically all of the starches and all of the sugars are sort've out of the diet, which sounds maybe to some people, who are not familiar with it, really awful. You know, they think, "Wow, how am I going to enjoy my food?"

Dr Ron Ehrlich: Yeah, what can I eat?

Dr Robert Szabo: Yeah there's lots of really, in fact, there's lots and lots of winners. There may be some losers that are true, but the thing is there are many, many winners and I found myself having this reflection many times over the first few months when I started embarking on this. This was six years ago when I started doing this, and I remember thinking, "Oh, I can't have my bowl of oats in the morning. I enjoyed that." But then I'd think, well hang on, I can have eggs and bacon, that's not bad. It's pretty good. And I can have roast chicken, that's pretty good. I can have cheese, that's pretty good. I can have nuts. So there are many, many winners and for me now, this is what happens I think to most people, just through talking to my patients, that after a few months of not eating these foods, they kind've become non-foods. You don't miss them any more and they're kind've like you would think of a stick or some dirt, you just don't even consider it to be edible. I think that these things are not human grade for most people.

Dr Ron Ehrlich: Now you're talking about the foundation of the food pyramid here Rob, so be careful. It's all right, you're in good company here.

Dr Robert Szabo: Ron, no I think it's a very valid point. I understand how people can feel like, they might be listening to this and they might be completely put off by what I'm saying and think it's ridiculous. I respect that you know, and I probably would have felt the same way years ago, so I completely understand, but the reality is that there's only 10-15% of the population that can handle these things well and why I say that is ... So for those people, they're probably fine, so it's not a one size fits all model. It's very individual and if you're lean and you eat lots of complex carbohydrates and if you keep your sugar low, you might be able to get away

with it. It doesn't mean it's probably the best thing for you. I don't think it still is, but you could probably get away with it.

Now the reason I say only 10-15% is that we have the data which I presented in my talk, is that 52% of the US adult population, which is probably very similar in Australia, maybe slightly less but probably not very different, so 52% of the adult population were either pre-diabetic or diabetic. There are other data, that if you then add to that, tell us that there's people, probably another 30 to 40% of the population that have a normal glucose who are still insulin resistant but are still managing their glucose at a normal level. So they're sort've pre-pre-diabetic if you like.

So when you add that 52% of pre-diabetics and diabetics on to the extra 30 to 40% that are insulin resistant, that brings us up to 85-90% of the population, which only leaves us 10-15% that are not insulin resistant. It's the insulin resistance that does a lot of the damage, a lot of the heart attack risk, and a lot of the cancer risk is actually in that insulin resistance. So it's not even the abnormal glucose that leads to a lot of the diseases that diabetes leads to, it's the insulin resistance in diabetes that leads to those diseases.

Dr Ron Ehrlich: And the marker for insulin resistance, is this HbA1c? What are the markers there?

Dr Robert Szabo: So this is the thing. It's difficult. The answer's no, unfortunately. If only it was that easy. HbA1c will only start to become abnormal once you're pre-diabetic or diabetic, so it's only if you're in that 52% of the adult population that you'll start to get ... Unfortunately the knowledge that I've discovered, and this is also thinking about me pre-diagnosis, my diagnosis, was that we're not taught how to interpret HbA1c normally, so I see a lot of patients, I've lost count of how many patients have not been told by their doctor that they're either pre-diabetic or diabetic that have got an HbA1c of 6.10 or 6.5 or whatever. I think we've been trained to think that a good HbA1c is in the 7s.

Dr Ron Ehrlich: Wow.

Dr Robert Szabo: So high 6s to low 7s is good, that's what we're taught. So a lot of doctors will think that something in the 6s, the low 6s is fine, not even worth communicating.

Dr Ron Ehrlich: And do you think testing, I always think when you move onto this low carb thing, you need to spend a week or two, or maybe longer, but not your whole life, a couple of weeks, weighing and measuring and looking at the food. It's a really interesting experience to start to see. Like you mentioned a banana having six teaspoons of sugar. Well, that's quite an eye-opener. What about testing our blood glucose? Do you think that's a worthy exercise for a week or two of your life?

Dr Robert Szabo: Oh definitely for a diabetic.

Dr Ron Ehrlich: But for any of us that ... Like you didn't even know you were and I presume you weren't testing your blood, taking a finger prick test daily. I think I wonder whether we should go through a little bit of a week-long journey individually.

Dr Robert Szabo: Like glucose week.

Dr Ron Ehrlich: Yeah, like glucose week.

Dr Robert Szabo: I like that idea.

Dr Ron Ehrlich: Yeah, what is normal ... Like if I had something to eat, and I did that, what would be a good result?

Dr Robert Szabo: Well it should stay in the 5s or the 4s. It shouldn't go into the 6s or even if it is in the low 6s but it shouldn't go into the high 6s or 7s. I mean not that it, you're not going to get much damage to your

body unless it's in the, from 7.5 and above. The amount of damage you're going to get from that is going to be pretty minimal, before lower than that [inaudible 00:44:43]. I was talking about 52% of the population that was found to be, the US population, that were found to be pre-diabetic or diabetic, the vast majority of those wouldn't know, so you're right. There's not half of the adult population that walk around knowing that they're pre-diabetic or diabetic, so this exercise would suddenly cast a light on all of these individuals.

If I could just cover the other point that you mentioned, which is how do you measure insulin resistance, because as you say, this is actually the bulk of the population, and this is a test that I think should be on every GPs rubber stamp that we do for annual blood tests when we check things for people, is a fasting insulin. It's not perfect, but then no test is. But the number of times that it yields a eye-opening result and you can say to somebody, "You have perfectly normal glucose, you're not pre-diabetic or diabetic but there is a problem."

The number of times where you can have that conversation where it does reveal something is powerful because suddenly this person knows that they have a disease. They have a hormone disease and the insulin's too high, and that's what's causing them to have their high blood pressure or their obesity or their gout or their polycystic ovarian syndrome. It might even be the cause of their osteoarthritis or their asthma or their hay fever. Right. It's amazing just how many nails this hammers got. When you do low carb, it just seems to, because it reverses insulin resistance you can just tick off so many things. Sometimes eczema gets better or psoriasis will get better. Often people's hay fever and asthma will if not resolve, reduce.

So it's quite a profound impact on our, all these common diseases that GPs treat every day, suddenly just can often be touched by this.

Dr Ron Ehrlich: And here's the question. It's not part of a standard blood test?

Dr Robert Szabo: No, I was never taught to do it. I quite cheekily just thought I'm just going to throw this on, and see what happens. I'm just going to spend a month or two putting it on to my standard blood forms, the fasting glucose, sorry the fasting insulin, and just see what happens. Also, I again read some things online and watched some learned people tell me what and why constitutes normal and abnormal because a lot of the lab references are quite wrong too.

Dr Ron Ehrlich: What are the lab references for a fasting insulin level? What is normal?

Dr Robert Szabo: It varies. It depends on the lab. So one lab less than 12, one's got less than 17 and one's got less than 25.

Dr Ron Ehrlich: Wow, that's quite a range.

Dr Robert Szabo: Yeah, and what's normal is less than eight, preferably around about five.

Dr Ron Ehrlich: Wow, that is ... So less than eight, or less than five is ideal. Wow, that's a huge range. Well that's the problem isn't it, with normal. I think people, we need to remind people that what normal is, is you take 100,000 tests and see what the average is and that's normal. But if 80,000 of those are unhealthy people, you've just set the normal at a really bad level, the bar has been set very low.

Dr Robert Szabo: And I think that's what's happened.

Dr Ron Ehrlich: Oh wow Rob, what an amazing journey for you to go on and to shape your practice. The other part when we met in Melbourne in May, was your interest in regenerative agriculture and this is something that I feel very passionate about as well. Tell me a bit about that. Why are you so interested?

Dr Robert Szabo: We really hit it off on that, it was great to talk to you and you told me about one of your heroes, Allan Savory that night, and I quickly went home and watched his Ted Talk, which I'd highly recommend people watch.

Dr Ron Ehrlich: But you've had some involvement in the community. What is it? The CA ...

Dr Robert Szabo: Yes, it's a thing called CSA which is Community Supportive Agriculture. My involvement is simply as a consumer. If you google CSA and put in the city in which you live, or the area in which you live, or Community Supportive Agriculture, you'll just come across a bunch of farms around you that supply directly to people. Now that doesn't mean they're regenerative farmers, but they often are, and they're people who are quite passionate about ... You can read on their websites too about what they do, and see whether they use regenerative practices. By regenerative what I mean is that they're building soil. They're putting carbon back into the ground and sequestering carbon. We talk about do we have technologies for carbon sequestration. Well hey, you know, we have cows and we have a frequent rotation of herds within paddocks. That's the technology that nature has used. Well, it hasn't used paddocks, but what it's used is predators.

Dr Ron Ehrlich: To move them around.

Dr Robert Szabo: And to keep them tight. So the wild buffalo that used to, the 10 million or so wild buffalo that used to roam the North American plains were kept very tight by the coyotes and wolves and they'd completely eat out that patch of grass they were standing on. They'd drop a whole lot of manure, and a whole lot of urine on that patch and then they'd move on and not come back to it for months if not years because they were so tight. In that time that grass would go berserk. As Allan Savory, I think said, no it was actually Charles Massey said that solar panels on the grass would work, and you'd photosynthesize and put the carbon back into the ground. That's what most farmers don't do unfortunately because instead of having a tight paddock, they have a open paddock with enormous size, so the grass is just constantly being nibbled on all the time but never really eaten out. That same process doesn't happen unfortunately when that's happening to that grass.

So the only real difference, well not the only difference, but one of the differences of regenerative farming is paddock size and electric fences are great at moving on a daily or weekly or whatever basis. Even though you might have the same number of cattle on the same total space, by keeping them tight and moving them constantly, you build soil. It's exciting because it reverses climate change. It's defining environmental disaster of our era and it's got a solution.

Dr Ron Ehrlich: I was talking to Terry McCosker on this show recently, and he added another little bit of pearl of knowledge and that was did you know that ruminant urine contains plant growth hormone?

Dr Robert Szabo: Wow.

Dr Ron Ehrlich: I know that's what I said. I mean it's just such an incredible system and what I find fascinating about it is there are so many similarities between health care, holistic health care, and a holistic bland management and resistance to the status quo and influence of not big farmer, but big chemical and you know it's a really interesting parallel and it's just so important for us as health practitioners, as I know we wound each other up when we were talking about it. Which is great. I mean I think we do need to connect. I'd like to see the coming century as the century of the revered farmer, not the revered financier or lawyer like we had. No offence to any financier or lawyer listening to this but the farmers are.

Dr Robert Szabo: Yeah, and the beauty of Community Supported Agriculture, is that you as a consumer of these farming products, you can actually make that happen by supporting that regenerative farmer, instead of giving your money to a supermarket, give it directly to this person who is actually saving the planet, right as well as giving you really amazing food. What usually happens is they deliver it either to your doorstep or to a store that you nominate nearby, you can go and pick it up once a month. It works well. Today I'm getting my pork, I'm excited.

Dr Ron Ehrlich: Okay, I thought I sensed a sense of excitement here. But listen now, we've covered some great territory here Rob and we're coming to the end and I just wanted to ask you this question. Taking a step back from your role as a medical practitioner, because as you've shared with us, we are all on this health journey through life, what do you think the biggest challenge is for people in our modern world on their health journey through life?

Dr Robert Szabo: Well I guess it's sorting the wheat from the chafe isn't it.

Dr Ron Ehrlich: That's a hell of an analogy to draw for a low carb person.

Dr Robert Szabo: That's right. Yeah, yeah, yeah. But that is it isn't it, and even for me pre investigating all of this pre my diagnosis, it was all the things that I'd read day in, day out and trying to determine what's real and what's not and unfortunately now I realize that like 99% of what I actually read about food is wrong. There was a story in The Age here in Melbourne a few days ago that was reprinted from The Washington Post, that rated the order of healthiness of meat, and I was astounded to once again hear about ... not astounded but I was disappointed to hear about that red meat has been put down as being unhealthy and that is bizarre because this is a human natural food.

In nature, we eat red meat. What would the aboriginals have eaten, the ones who were inland and nowhere near an ocean? Lots and lots of red meat, lots of kangaroo and wallaby and whatnot and to demonize a natural human food without any basis in science, and this is the point you know, I guess the average person is being told that there is good research that red meat causes bowel cancer and all this stuff. The reality is, it's not. We're in the same place now with something like red meat where we were with fat in the '80s. So this is not unprecedented that we're being told quite regularly and quite from extensively respected bodies that there is a nutrient or food which is dangerous, for which there is no basis in science.

You know, we were told that eggs would give us heart attacks and that fat would make us fat and give us heart attacks, and we now know that's total nonsense. So it's not unprecedented for us to be told something on a regular basis that is completely wrong, and that's disappointing but it's the world we live in. I find it's a challenge for my patients.

So I kind've, when I talk to my patients I kind've needed to say, "Look I'm sorry. You're going to come across all sorts of things that are going to counter what I'm trying to get across to you." I like to ask people to suspend that and to not listen in the meantime, and just see how it makes them feel. The reality is that the path to disease is not littered with feeling great. If this diet makes you feel great, it's likely healthy. The path to disease is pottered with you feeling not great. So I very much doubt that you're going to get a major disease if it makes you have more energy and it makes you feel vital and have better concentration, which is what low carb does.

Dr Ron Ehrlich: Rob thank you so much for joining me today. It's been terrific. We're going to have links to your Low Carb Clinic in Melbourne and some of that Community Supported Agriculture. I think that's a great link for us to share. So thank you so much.

Dr Robert Szabo: Thanks, Ron.

Dr Ron Ehrlich: When health practitioners become patients, some very interesting things can happen. Challenging the accepted paradigm or status quo is one. There are many things Rob mentioned that resonated with me, but two, in particular, stood out.

The first was our built-in desire or need to accept the status quo. Rob made the point that throughout human history, listening and learning from experience would've been critical to our survival. What should we know about the environment in which we live? What food should we eat? What should we avoid? All these things to survive. Even to the point that a well educated, well-meaning practitioner accepts the status quo, advising patients with the best of intentions and as I said before on this podcast and in my book, our current health care system is a great economic model, it's just not a very good health model. The

influence of the chemical, food and pharmaceutical industry on what constitutes the status quo in health care is a story that is very easy to miss, but once you become aware of it, it is very difficult to ignore, and it can importantly, be very empowering. Not just for a patient, but a practitioner as well.

The second stand out for me was Rob's analogy of the glucose fat fuel model for the body is like a hybrid car, which switches throughout the journey and in the body's case, between glucose and fat. Now Rob defined the ideal level to be below 50 grams per day or around 30 grams per day. I must admit, I've always felt that 70 grams were very sustainable, but if I was diabetic or pre-diabetic, I'd certainly be following Rob's advice. But as he said, even when he gives patients and people that advice, they don't always want to go with it for all sorts of reasons, and that is perfectly fine. It's always better to make an informed decision in life and this is no different.

Now we'll have links to Doctor Rob Szabo's Low Carb Clinic, and also the CSA site, Community Supported Agriculture, another passion of mine and that one I have pursued in past podcasts and will continue to do as well.

Now don't forget to leave a review on iTunes. Don't forget to download the Unstress app.

So until next time, this is Doctor Ron Ehrlich. Be well.