

# TRANSCRIPT EP2

## Type 2 Diabetes Myths and Facts

[00:00:00] **Dr Darren Green:** Greetings, I'm Dr Darren Green, your host for this mini-series of The Health Rap, powered by Mediclinic. Today we're going to have a close look at type 2 diabetes and get a much deeper understanding of this often misunderstood condition. This is a series for anyone whose life is impacted by diabetes.

[00:00:22] **Dr Darren Green:** You can check out our Type 1 Diabetes episode that we've just released. And we're going to be exploring gestational diabetes, pre-diabetes, children and diabetes, as well as the mental health issues associated with this chronic condition. We've got some excellent doctors to share their expertise with you.

[00:00:43] **Dr Darren Green:** And we look forward to unpacking all the information we need to understand more about type two diabetes. Just a reminder that the views shared by any of our guests in this podcast may not necessarily reflect the views of Mediclinic. So please consult a medical professional if you have any concerns, particularly if you want to change your medication in any way.

[00:01:07] **Dr Darren Green:** In our last episode, we mentioned that 90 percent of people with diabetes have type 2 diabetes. According to the International Diabetes Federation, the main indicator of type 2 diabetes is insulin resistance, when the body cannot fully respond to insulin. And because insulin isn't working properly in the body, blood glucose levels keep rising, and more and more insulin is released.

[00:01:35] **Dr Darren Green:** But this can eventually exhaust the pancreas, which means that the body produces less insulin, causing even higher blood glucose levels. There are five common symptoms associated with type 2 diabetes. These are needing to urinate a lot, especially at night, increased thirst, increased hunger. Weight loss and even exhaustion.

[00:01:59] **Dr Darren Green:** And they are actually some of the same symptoms you'll see in type 1 diabetes. But what makes type 2 complicated is that these symptoms can be mild or even absent for many years. An annual finger stick blood glucose test is the best way to ensure that your blood glucose is within the normal range and you're not at risk of developing type 2 diabetes.

[00:02:23] **Dr Darren Green:** The IDF estimates that one in two people with type 2 diabetes in South Africa goes undiagnosed. So it's really common for people to go for years without being diagnosed. The problem with that is that high blood glucose levels can cause long-term complications, which means that by the time someone's diagnosed, they may have already started developing complications such as neuropathy, which is nerve pain, or even vision problems. If you've been diagnosed early enough, type 2 diabetes can be reversed. And if you're diagnosed later, it can be managed with medication, diet, and lifestyle changes. No matter when you're diagnosed, it's possible to live a healthy, happy life with type 2 diabetes.

[00:03:11] **Dr Darren Green:** Let's hear from Mark Savary, living with type 2 diabetes, about what he wished people knew about this condition.

[00:03:18] **Mark Savary:** My name is Mark Savary and I have been living with type 2 diabetes for just over eight years. Initially when diagnosed I went into a state of denial despite being well-versed and educated on diabetes.

[00:03:31] **Mark Savary:** A series of highs and lows made me realize that I need to take control. Since then I have adjusted my lifestyle to take control. This includes a balanced diet, exercise, and reducing my stress levels. Get to know your condition and your body. I believe if you do these things, and if you are more mindful of these things, you can live with diabetes and enjoy a good quality of life.

[00:03:57] **Mark Savary:** Do not be afraid to reach out for help when things go wrong. Living with diabetes is not very easy, but it can become comfortable if you actually take control. And allow yourself to dictate how you move forward with it.

[00:04:13] **Dr Darren Green:** So we've invited Dr Marius Wasserfall back to discuss more about type 2 diabetes in South Africa.

[00:04:20] **Dr Darren Green:** And as you may remember from episode 1 on type 1 diabetes, Dr Marius works at Mediclinic Panorama in Cape Town. So welcome back, Dr Marius, we're excited about learning more from you.

[00:04:32] **Dr Marius Wasserfall:** Thank you, Dr Green.

[00:04:33] **Dr Darren Green:** There tends to be some stigma certainly attached to type 2 diabetes. We refer to it often as a lifestyle condition, but there's a strong hereditary component or is this a fallacy?

[00:04:45] **Dr Marius Wasserfall:** I think you have to first just make sure you realise that your typical type 1 diabetic have destroyed their pancreases so they do not have any insulin, right? So that's got very little to do with decisions that they've made in their lives. Type 2 diabetes really hinges on insulin resistance. Which is different to type ones.

[00:05:05] **Dr Marius Wasserfall:** And people often say, yes, but you are overweight. And because you are fat, you've developed diabetes and it is your own fault. But it's interesting to think that 39 percent of type two diabetics have got at least one parent with type two diabetes, which means there's got to be a genetic link. If you are one of identical twins and your twin has tested positive for type two diabetes, you have got a 90 percent odds ratio of developing type 2 diabetes. Wow. So we know type 2 has got polygenic or let's say multiple hereditary components with thousands of genetic factors contributing. It is true though that genetic variants have got a small impact on risk, while lifestyle choices and obesity have got a much greater impact on increasing or decreasing your risk.

[00:05:55] **Dr Marius Wasserfall:** But now it is important to realize that obesity, although it is a pandemic in the world, obesity has got a 50 percent genetic origin.

[00:06:06] **Dr Darren Green:** Wow.

[00:06:06] **Dr Marius Wasserfall:** So 50 percent of obesity has got to do with your genes. Now the other 50 percent has got to do with epigenetics. Now epigenetics really refers to how external factors and environmental influences modify our gene expression.

[00:06:24] **Dr Marius Wasserfall:** And that leads to changes in how our genes are turned on and turned off without really changing the DNA itself. So, you don't choose your genes and sometimes environmental

influences can modify these gene expressions. So even obesity is not always 100 percent in control of the patient. So there's a big genetic component to what is going on.

[00:06:51] **Dr Marius Wasserfall:** But it would be wrong to just blame the diabetic and say that this is 100 percent your fault.

[00:06:58] **Dr Darren Green:** So Doc, if I hear you correctly, it's not necessarily their fault that they're developing type 2 diabetes.

[00:07:05] **Dr Marius Wasserfall:** If you think about the fact that somebody who is obese has got a 60, 6-0, 60 times risk, increased risk of developing type 2 diabetes.

[00:07:17] **Dr Marius Wasserfall:** But now, once you become obese. Remember we said that's something that's between genetic as well as environmental, cause we live in this industry where, you know, you are faced with marketing, you are faced with sugar, sweets and beverages, and you're faced with refined carbohydrates. And these are all environmental factors that contributes to people becoming overweight.

[00:07:39] **Dr Marius Wasserfall:** But what makes this more difficult is that once you are overweight, your body makes it difficult for you to lose weight. And this has been shown in what we call metabolic and hormonal adaptation. Now if you lose, let's say you are, you weigh 120 kilograms. Once you've lost about 10 kilograms, your body slows your metabolism.

[00:08:03] **Dr Marius Wasserfall:** That means that you'd burn even less energy, which means it's even more difficult to lose weight. On the flip side, if you lose five to 10 kilograms as an example, your body will try and regain that weight to what your body thinks the new set point is. So your hunger hormones will increase and your satiety hormones will decrease.

[00:08:26] **Dr Marius Wasserfall:** While your, while your metabolism has decreased. This all will work together in a vicious cycle. To try and push your weight back up to where it was. So firstly, people become overweight for various reasons, some of it genetic. They are then predisposed. Then they've got an increased risk of diabetes, but it is so difficult to lose the weight.

[00:08:49] **Dr Marius Wasserfall:** And that's why I think it's important not to judge people who are overweight and diabetics. They are probably trying. So it's not just their fault, it is a combination of genetics and environmental factors, the lives we live, the screen time we have, the sedentary lifestyles that we have, everything comes together in the perfect storm of obesity and international diabetes pandemic.

[00:09:18] **Dr Darren Green:** Well said. I think a lot of people also want to know, does eating too much sugar cause diabetes?

[00:09:24] **Dr Marius Wasserfall:** It's not just about eating sugar, but it's really about how your body handles sugar and excess calories and excess energy. Remember that carbohydrates are also metabolized to sugar. So think refined carbohydrates, white breads, treats, potatoes, pasta, pizza.

[00:09:43] **Dr Marius Wasserfall:** It's not just chocolates and white grain sugar, brown grain sugar. And there's really a lot of blame to be left at the feet of sugar-sweetened beverages. This probably contributes up to 50 percent of obesity and in children and in younger adults, but also think fruit juices and smoothies. How many oranges are in a glass of orange juice?

[00:10:09] **Dr Marius Wasserfall:** That's way too much sugar, way too much carbohydrates are being taken. Now what your body then has to do is it has to take all this energy, the glucose, the calories, and do

something with it. If you're not going to burn it, your body has from an evolutionary standpoint been taught to store it for future times of famine, but we don't have these times of famine.

[00:10:31] **Dr Darren Green:** Not coming.

[00:10:33] **Dr Marius Wasserfall:** Not soon. And at this stage, food is readily available and often carbohydrates takeaways, high-calorie foods are readily available. And if you can think about the energy balance intake versus usage, you've got this problem where you've got this excess energy intake, not just sugar, but carbohydrates, everything leading to excess calories.

[00:10:55] **Dr Marius Wasserfall:** Now this is being stored as fat. Now you and I will see the fat on somebody's body that we call the subcutaneous fat in around the abdomen, but that's not the problem fat. The problem is that this excess energy is also stored inside the organs. So-called visceral fat. This is stored inside the liver, inside muscle, inside the pancreas.

[00:11:18] **Dr Marius Wasserfall:** This leads to an altered handling of glucose because of insulin resistance. Now you can't just Cut down on sugar. Let's say you think you're diabetic because you're eating a chocolate every day and you're drinking two teaspoons of sugar in your coffee. But what about the white bread and the pasta and the potatoes and everything else that you are eating to increase the energy intake in your body?

[00:11:43] **Dr Marius Wasserfall:** It's not just sugar, it is the energy balance that leads to excess calories, excess fat that's stored in the body, in the organs, that leads to insulin resistance, and that ultimately leads to an inability of the pancreas to produce enough insulin to override this insulin resistance, leading to higher glucose levels in the blood, the circulation through organ systems, and the complications associated with type 2 diabetes.

[00:12:13] **Dr Darren Green:** Absolutely, and I think that a lot of people speak about type 1 diabetics needing to give themselves insulin, for example, every time they eat. We've discussed some of that in the previous podcast, but does every person with type 2 diabetes eventually have to inject with insulin? Is it a progressive condition necessarily?

[00:12:33] **Dr Marius Wasserfall:** It is unfortunately a progressive condition but for various reasons. So remember we said type 2 diabetes is because of visceral fat and it is because of insulin resistance that comes over time. But it takes about 4 to 7 years for your body to lose half of your pancreas insulin secretion ability before you pick up elevated sugar readings.

[00:12:58] **Dr Marius Wasserfall:** So you really would have lost 50 percent of pancreatic function by the time you are identified as being type 2 diabetic. But the problem has been there for four to seven years. Now, if you are not successful in losing weight, getting this visceral fat out of your body and improving on your insulin sensitivity, diabetes will progress and you will become more insulin resistant.

[00:13:25] **Dr Marius Wasserfall:** Your pancreas will have to secrete more insulin and by the time you've burned out enough of your pancreas and you've lost about 80 percent of its production function, you will not be able to utilize the little bit of insulin to get the glucose out of the blood. You will need to supplement your body's own insulin at that time.

[00:13:46] **Dr Marius Wasserfall:** Okay. So, yes, type 2 diabetes is a progressive condition, mainly so because we failed to make the lifestyle changes. We failed to lose the weight because of these metabolism changes and the hormonal changes that comes with obesity. And, yes, if you live long enough, You probably will end up on insulin. But if you look at the newer medication that is available, that helps people to lose 15 to 20 percent of their body weight, that decreases the visceral fat that decreases the insulin resistance.

[00:14:23] **Dr Marius Wasserfall:** And in some cases, it not only slows progression of diabetes, but it can actually reverse it.

[00:14:29] **Dr Darren Green:** That's incredible.

[00:14:30] **Dr Marius Wasserfall:** So you can influence the progression of your diabetes with your lifestyle, but getting that right, that is where the success lies.

[00:14:42] **Dr Darren Green:** We'll be back with Dr Marius shortly. We wanted to let you know about the Mediclinic 24/7 helpline.

[00:14:48] **Dr Darren Green:** We all know those moments when we have a medical question and need an answer right now, particularly when it comes to diabetes. You can save this number and have the helpline on your phone if you need to call it. It's 0860 233 333. And now back to Dr Marius to continue our conversation about type 2 diabetes.

[00:15:15] **Dr Darren Green:** We've touched on the fact that it's hereditary, we've debunked some of the myths, but maybe a quick reminder of some of the early and easily identifiable symptoms of type 2 diabetes.

[00:15:27] **Dr Marius Wasserfall:** I think that is one of the big problems we have is that type 1 diabetes typically we all know, you know, that you drink a lot because of your high sugar reading, you want to drink a lot of water, you are thirsty, you want to dilute it, and you go to the toilet, you pass a lot of urine, they lose weight, they've got blurry vision, etc.

[00:15:43] **Dr Marius Wasserfall:** The problem with type 2 diabetes is that it often does not present with these symptoms. And people often present with the complications of either a heart attack or kidney failure or damage to their eyes.

[00:15:58] **Dr Darren Green:** And even strokes, I suppose, as well.

[00:16:00] **Dr Marius Wasserfall:** Even strokes, exactly. So I often have situations where the cardiologist will refer a patient to me after they've had a heart attack.

[00:16:07] **Dr Marius Wasserfall:** And because they've now been diagnosed as type two diabetics, and then I see them and I'll tell them, you know, that you've just had a heart attack because of your diabetes. And they'll tell me, but I don't understand because I've just been diagnosed. The problem is that The diagnosis has been missed on the one hand, and on the other hand, the glucose readings have taken four to seven years to really go up, and we only now identify you as diabetic, but you've already had these high sugar readings circulating through your blood for the past four to seven years.

[00:16:39] **Dr Marius Wasserfall:** So people present with the complications. Now remember that. In South Africa, about 12.7 percent of South Africans are diabetics, but more than half of them do not know it. We really need to look for them, find them in that four to seven year space where they are pre-diabetics. That is where we need to intervene.

[00:17:01] **Dr Marius Wasserfall:** That is where we need to get them to lose weight, to have a healthier, active lifestyle, to get that visceral fat out of their bodies. But we miss a lot of that, because we don't always test the blood sugar level, and that is where we need to focus on trying to influence, let's say, the progression of illness and the quality of life for these patients in the long term.

[00:17:24] **Dr Darren Green:** Absolutely. One of South Africa's approaches to diabetes education is TEEL, T E E L. Which stands for take your medication, eat healthy food, exercise a little each day and lose weight if you need to. So eating healthy food isn't always easy though and palets obviously have to be adapted particularly for many South Africans who can't afford to buy special diabetic-friendly food.

[00:17:51] **Dr Darren Green:** But what suggestions do you have doc?

[00:17:54] **Dr Marius Wasserfall:** I think firstly we need to realize it is less about what you eat and more about how much of it you eat.

[00:18:01] **Dr Darren Green:** Ah, portion sizes.

[00:18:02] **Dr Marius Wasserfall:** Indeed. Healthy foods really do not have to be expensive, but we need to educate ourselves on food options and food portions. If you're going to think about the refined carbohydrates, again, bread, potatoes, pasta, pop, you know, all of that is cheap.

[00:18:18] **Dr Marius Wasserfall:** It is really high in energy. Now combine that with the takeaways and with the sugar-sweetened beverages, et cetera. You need to start looking both at what you eat and at how much of it you eat. Fresh vegetables and fruit really are not that expensive and it's usually readily available even on the roadside.

[00:18:39] **Dr Marius Wasserfall:** So we need to increase our intake of low calorie foods, low sugar type of foods, and increase much more green leafy vegetables. Stay away from takeaways. I cannot emphasize that enough. Fast food is high calorie, high energy. It is bad for you. Stay away from sugar-sweetened beverages. It is bad for you. Try and look for lower-calorie foods.

[00:19:07] **Dr Marius Wasserfall:** You can actually cook amazing, healthy and really tasteful foods if you just put a little bit of thought and a little bit of education into what foods you can eat. Remember your goal really is to have half a plate of green leafy vegetables, you know, for lunch and dinner. Limit the carbohydrates.

[00:19:28] **Dr Marius Wasserfall:** Try to cook your food yourself and not always eat ready-made foods because those are high in calories for all of us. So look at what you eat, but also, how much of it do you eat?

[00:19:42] **Dr Darren Green:** Now that makes sense. Portion sizes, type of food, quality of food. And I think a big fallacy out there is that it costs more to eat healthier.

[00:19:50] **Dr Darren Green:** And I must say, I have witnessed that that is not the case. There are wonderful options that are not expensive for people to have a healthy and a balanced diet.

[00:20:02] **Dr Marius Wasserfall:** And they taste good. It's not a bit, it doesn't have to be bad. I mean, yes, sugar is an acquired taste, but you can have really flavoursome food, great food, but you have to think about it and maybe you have to take a little bit of time to prepare it and you have to get your family and everybody to do the same thing because it will be to their benefit as well.

[00:20:20] **Dr Darren Green:** That leads me to my next point, which is a big one, Doc, and it's about sugar addiction. The Mail and Guardian reported that sugar addiction is an advertising and a healthcare crisis, with South Africa estimated to have the biggest increase in obese children between 2017 and 2030 at 14.3%. Do you have any practical tips for people with type 2 diabetes or anyone else to cut down on the sugar?

[00:20:50] **Dr Marius Wasserfall:** That is scary statistics. If you think about the fact that we know in South Africa, obesity is a problem. And we know that between now and the year 2040, we're probably going to have about 140 percent increase in diabetics. We are seeing children of three, four, five, six years old that are not just overweight, they are obese. And I guess, I guess the truth is that children are growing up in a different environment that we used to. They are sedentary. They are faced with screen times. They are faced with computer games. They don't run out and play the whole day outside. Then they are looking at advertisements of sugar-sweetened beverages and they're going to parties with just candy and refined carbohydrates and they need to try and live in this world and not become overweight.

[00:21:39] **Dr Marius Wasserfall:** So where we are struggling to get people to lose weight, it is much more important to not get your children to gain weight in the first place. And I guess. The hard truth is that the vast majority of overweight children is our fault as a society. What we present to them, again, the takeaways, the sugar-sweetened beverages, we allow the screen time.

[00:22:03] **Dr Marius Wasserfall:** We don't always encourage the activity. You know, we should actually be getting together as a society and say, hey, why don't we go for a walk in the park? Why don't we go for a run, go cycle together and not just get together, sit down and eat. So obesity is a massive problem and in South Africa, it's really scary because your refined carbohydrates are so readily available and children are growing up with all of these and we are accepting the obese culture as a whole.

[00:22:35] **Dr Marius Wasserfall:** And we are seeing industry showing that it's the models are not only the thin people. It is now the more overweight people that are being accepted. But this is leading to a pandemic and a problem and complications in the future. And we really need to address this in childhood and early adolescence and the young adults, because We know once you become overweight and obese, your body makes it difficult for you to reverse that.

[00:23:04] **Dr Marius Wasserfall:** And then you've got a very high risk of developing diabetes. And please remember, crash diets do not work. It has been shown time and time again, you need to start low, go slow, aim high. For people that are overweight, 10 percent is the magic number. You need to lose 10 percent of your body weight and maintain it for five years.

[00:23:31] **Dr Marius Wasserfall:** So gradual weight loss. Try a calorie deficit diet. Try to reduce your sugar intake in your coffee, your tea, your snacks in a sustainable way, but also with your carbohydrate intake. And try and lose weight. One to two kilograms per month, but in a sustainable way that you feel you can last, you can do that long term and still enjoy it.

[00:23:55] **Dr Marius Wasserfall:** And we need to retrain our taste buds to appreciate other tastes and not just sweetness and sugar. And we need to train our children to drink water and to drink beverages that have not been sweetened by sugar and try to as far as possible encourage no-sugar beverages for them.

[00:24:18] **Dr Darren Green:** Absolutely. Dr Marius Wasserfall, I think those are really positive and practical insights that you've shared with us.

[00:24:24] **Dr Darren Green:** And I'm extremely grateful for your passion in this field. Once again, sharing that the onus of addressing this pandemic of obesity and type 2 diabetes is not just the responsibility of the patient. It's all of us as a community to educate our children and adolescents and even our older adults.

[00:24:44] **Dr Marius Wasserfall:** Thank you, Darren. It's been a privilege to share the passion and the, let's say both of us advocating healthy lifestyles and preventative medicine. So thank you for the opportunity and I hope it's going to make a difference to all our type 1 and type 2 diabetics and their families and their caregivers. Together we can do this.

[00:25:03] **Dr Darren Green:** Thank you for those absolutely insightful and practical tips. We really appreciate you taking the time today to add some value to our lives. Don't forget to check out the show notes. We'll be sharing more information about all the things we've discussed today, as well as the links to the resources. I'm sure you'll find very helpful.

[00:25:25] **Dr Darren Green:** Dr Marius, thank you so much for sharing your time and expertise with us. It's been so helpful to understand type 2 diabetes even better with your expert input. Living with type 2 diabetes is often complicated as we've seen and it's made more complicated by the underlying stigma that still exists here in South Africa towards people with 2 diabetes.

[00:25:50] **Dr Darren Green:** Let's all be aware of the language we use around people with diabetes. We don't need to ask if they're allowed to eat something or how they got diabetes. We can give them the space to figure out how best to live a healthy, happy life with type 2 diabetes and all the support they need to go along the way.

[00:26:13] **Dr Darren Green:** And that's it from me, your host, Dr Darren Green, on this episode of the Health Wrap Podcast, powered by Mediclinic. Thanks again to Dr Marius Wasserfall for joining us today and sharing his expertise. And don't forget to subscribe to our podcast channel and sign up for the Mediclinic Prime newsletter, full of helpful health information.

[00:26:37] **Dr Darren Green:** You'll find the link in the show notes. Until next time.