Diet Doctor Podcast
with Dr. Mariela Glandt
Episode 65

Dr. Bret Scher: Welcome back to the diet Dr. podcast. I'm your host Dr. Bret Scher. Today I'm joined by Dr. Mariela Glandt. Now, Dr. Glandt is an endocrinologist practicing in Tel Aviv, Israel. But as we talked about, she had quite an international journey.

She was born in Argentina, then she was in the United States where she trained in internal medicine at Harvard and endocrinology at Columbia and then was working in New York and then eventually went to Israel, where now she's the founder and director of the Glandt Center for diabetes care in Tel Aviv and she's even developed an entrepreneurial side, which as you'll hear was probably more by accident than by purpose, but she is the cofounder of Eatsane and Metabolix and she's got her low-carb conference.

And so she is well versed and really into the low-carb world. And you're going to hear why. I mean you're going to hear her talk about how it's completely changed how she sees diabetes, both type 1 and type 2, and how she treats it and the results she gets, and we talk about lifestyle versus medications and like some very promising new medications and how she sees the balance between low-carb nutrition and medications, like SGLT-2 inhibitors and even bariatric surgery.

And of course we talk a lot about insulin and the use of insulin and we get into Covid, I mean, how can we not, and the time we're at now, talking about metabolic health and Covid and the risk it poses but also the opportunity it brings to talk more about it. So we kind of have a whirlwind of discussion of all these topics, but she has so much experience, so much knowledge. I think you're really going to appreciate hearing her perspective.

And of course she's got an upcoming lecture series which is taking the place of her in-person conference, which I think it's going to be really interesting and you'll hear about that as well. So I hope you enjoy this interview with Dr. Mariela Glandt.

Hi everybody, pardon for the interruption, but before we get on with the interview there's one more thing I wanted to mention that we actually didn't get a chance to talk about in the interview that Dr. Glandt wrote a booklet at asweetlife.org. The booklet is called How To Eat In A Time Of Covid 19. So we talk a little bit about the importance of nutrition and metabolic health with the Covid 19 infections.

So that booklet might really come in handy through asweetlife.org. Also one other thing I want to talk about... if you are a clinician of any kind watching this, whether you're a physician, or nutritionist, or a health coach or dietitian or personal trainer, at Diet Doctor we're now rolling out our Diet Doctor Pro membership.

And what that is, is it's a membership for professionals like you where we can work with you to provide our content, our membership benefits for all of your clients at a discounted rate and as we're developing a more interactive platform with the goal being to make it as easy as possible on you to get the greatest success with your client.

So if you're interested please reach out to me personally, Bret@DietDoctor.com or you can always leave us a message at the Diet Doctor website to see if maybe this is a good fit for you and your practice. All right, now let's get back to the interview with Dr. Mariela Glandt.

Dr. Mariela Glandt, thank you so much for joining me on the Diet Doctor podcast today.

Dr. Mariela Glandt: My honor. What an honor!

Bret: Yeah, we've been talking about this for a while. I mean, you've been in Israel, then I've seen you at so many conferences here in the US and we keep saying we wanted to have a chance to sit down and do this interview, so I am so glad we get to do it now.

And preparing for this interview I had to research you a little bit more and I had no idea how international you were. Born in Argentina, trained at Harvard and then Columbia, working in New York and then going to Israel. So what is it in your background that made you kind of move around so much and makes you so international here?

Mariela: I guess I'm a wandering Jew. I guess, my parents since I was little they wanted me to study... At Princeton, my dad did his PhD there, then we went back to Argentina, and then moved back. And then life just took me, love just took me, so...

Bret: Right. The journey. I think it's so interesting because you've experienced medicine in multiple different countries and multiple different settings so I want to talk about that a little bit.

But first let's get into you are an endocrinologist, you've trained at some of the finest institutions for endocrinology, a big part of which is taking care of people with diabetes. Now knowing what you know now and looking back to the way you were trained, what's your impression about what you learned in your training about managing diabetes?

Mariela: I feel like I just started six years ago. I've been practicing for 20 something years. But I feel like everything I've learned in the last few years since I discovered how actually diabetes works. Like what is the root cause of diabetes.

So far removed from everything I learned in the conventional training. And I see myself now when I talk to my peers how far removed my understanding is from what everybody else's, which is kind of a lonely process. But this is a real big gap between what I used to know and what I know now since I've discovered things from a different perspective.

Bret: So, what is that perspective? You said, now that you understand the root cause of diabetes... So, what do you see is the root cause of diabetes?

Mariela: I think it's basically the glucose centric approach versus the insulin... the excess insulin. To me now when I look at diabetes I think, the body is basically screaming and saying stop the madness, stop bringing in the excess; we are totally full. And this results of course in more and more insulin and for me it's all but the insulin.

And diabetes is just a symptom. It's a severe symptom of this. But it's not all about the glucose.

Glucose is one of the many symptoms of insulin resistance. So I think this is where I really... the perspective is different.

Bret: Yeah, so you were trained that the disease is that high glucose. And you lower the high glucose by giving more insulin. But now it sounds like you've realized the problem is the high insulin and you can reduce the problem, the underlying problem, by reducing the insulin to start with. Which is amazing, that it can just not be a little bit off, but like 180° backwards. And just like amazes me and I'd imagine as an endocrinologist going through this, it's got to amaze you as well.

Mariela: It is because, you know, we've been trained to lower insulin whatever it takes. So if you have to give a ton of insulin and you just--

Bret: The glucose... lower the glucose whatever it takes.

Mariela: Sorry, I'm speaking Hebrew. In order to lower the sugar, just give as much insulin as necessary, but we know that that's not the approach because that just makes the disease worse. It's kind of like a Band-Aid, right?

Bret: Right.

Mariela: It might make things better temporarily, but just makes the underlying process worse.

Bret: Right, and actually we're talking about diabetes as if it's one thing. So there's type 2 diabetes and type 1 diabetes, but interestingly some of the pathophysiology stays the same. And you wrote an interesting article about reclassifying type 1 diabetes. So first give a sort of the basics of the difference between type 1 and type 2 and then tell us about why we should reclassify type 1 and how you see it.

Mariela: Basically I think they are opposites, the type 1 and type 2 diabetes. Type 1 diabetes is a lack of insulin, and type 2 diabetes is too much insulin. So we only see a real decrease in insulin years and years later if at all, but relatively speaking, there's still insulin around. And type 1 diabetes is just a lack of insulin and sometimes there happens to be some element of insulin resistance.

And the way we are treating type 1 diabetes is problematic because since the patients are told to eat as much as you want and just cover with insulin, cover with insulin, then type ones become insulin resistant, when they shouldn't have been. So there is two layers to it. So lots of times I use medications for type 2 diabetes to try to decrease the insulin resistance, to help them decrease their insulin levels, and then they really become a true type 1.

Bret: So that's also probably very counter to how you were trained in your endocrinology fellowship, that type 1 had a completely different physiology, that you just didn't have enough insulin, period. That's it. So give more, give more, give more. And then by eating more carbohydrates, taking more insulin, you actually make the body more insulin resistant.

So it's like a hybrid of type 1 and type 2, but the treatment doesn't seem... or the thinking doesn't seem to adapt to that. And it's still just give more insulin, give more insulin. So, I guess that's another... we said, sort of lonely, the way you see yourself among your colleagues... That's probably another one; they probably think you're crazy to be treating someone with type 1 diabetes similar to the way you treat someone with type 2. Do you see that reaction?

Mariela: Oh, yeah, yeah, no question. There's a lot of fear. There is a lot of fear. People are afraid

of ketones and are afraid of LDL, they're afraid of saturated fat... You know, all of the things that you know so well. But it's particularly ingrained in the diabetes doctors. And endocrinologists, I think, they are the last bastion, the change.

Bret: I would say cardiologists, but maybe endocrinologists too. We both have our work cut out for us for educating our colleagues, for sure. So, give us an idea though... I mean since you've changed your thought process about how you approach the treatment of type 2 diabetes or type 1 diabetes, what have you seen as the results and the outcomes for your patients?

Mariela: You can be... It's like a point in time, right? You can see just increasing the meds and just being well-controlled okay... this is the normal treatment... You just add another medication... there's some really great new medications out there, you just keep on adding them slowly, slowly... and you maintain... It's kind of like a sort of sustain the condition.

What's so much fun about the low-carb movement and about the treatment is that you de-escalate, you de-prescribe, you give the patient so much power over their future and the abdominal obesity starts to melt away, the fatty liver goes away, the hypertension, slowly, not so fast, in my experience goes away...

And of course the sugar... I love treating diabetics actually much more than all the other metabolic syndrome because the results are so easy, the feedback is so fast. Because you see, you know, you had an A1c of 10, now you have 5.5. That's really powerful. So, it's an easy feedback that's like very positive for the patient.

Bret: So, would you say that the carbohydrate reduction and a strict low-carb diet is more effective at controlling type 2 diabetes than any other medication? Would you be so bold to make a statement?

Mariela: Absolutely. Let's look at the cutting edge medication, like SGLT2. These medications are... They are now, you know, considered miracle drugs and even getting into the cardiologist field, as now is starting to take off because they reduce heart failure and they have mortality benefit. But when you look at the A1c reduction, it's only 0.5, okay?

So you can achieve a lot more with the low-carb diet and a lot of times I have to argue with the cardiologists, because as you probably know, SGLT2 medications can be very dangerous because they do lower insulin and this is why they are so great. In my opinion. But they do so in an artificial way, because they lower sugar through the urine and when they do that, that lowers the insulin levels.

And so they do increase ketones. But when combined with a low-carb diet, it can be actually quite scary, because you can artificially lower insulin too much. And so I say, okay, so between the two, I definitely prefer that you stick with the diet. And then I take them off the SGLT2 and the cardiologist doesn't like that at all, but I love it because the patient is going to get so much more benefit out of it. Instead of a little bit of decrease in the sugar, they're going to have a huge decrease if they want to stick with the diet.

Bret: I think this is going to be an interesting sort of cross point of using low-carb diets, because now more and more people are being put on an SGLT2 inhibitors by their endocrinologist, by their primary care doctor and now by their cardiologist, because for so long, medications, to reduce blood sugar... might reduce blood sugar, but didn't improve cardiovascular outcomes, didn't improve your risk of dying, but now the SGLT2 inhibitors...

Gosh, I get tongue-tied in all these things... they do reduce cardiovascular events, they do reduce mortality, so more and more people are using them thinking they are the best treatment.

But it is interesting, would you say they work kind of the same... the same mechanism as a low-carb diet? Are they the one drug that actually does reduce the insulin like you're saying? So, do you think that's where their power and their benefit comes from?

Mariela: In my mind there's no question. I mean it's definitely not the blood pressure reduction, it's definitely not the weight reduction, it's definitely not the sugar reduction. To me it's the fact that... ...you are lowering insulin. And this in the end...

The heart loves ketones as we know and when you're in trouble and you're working on ketones, you're going to do better. So I am sure that it's multifaceted and not 100% straightforward as is, but just like when you reduce, when you lower insulin... a lot of people have a lot of swelling in their legs with insulin.

And you lower the insulin with the diet and then all the edema, the swelling goes away and it's just the lowering of the insulin. So, you know, it's lowering the fluids, but it's much more so when they compare it with the diuretics that you don't get the same effect, okay? There is something about lowering the insulin that is playing a role here.

Bret: So, how would you react to a doctor who says, look, I've got outcome data, I've got five-year outcome data, showing that these drugs have benefit. You can't say the same for a ketogenic diet, so I'd rather have my patient eat carbs and take the drug. That seems like a pretty common response, so how would you react to that?

Mariela: I say... it's a tough battle. I say we are probably never going to have this mortality data, because this study is just never going to be done. It quite requires millions and we're never going to have this opportunity to feed people low-carb and follow them for years in, you know, 40 centers around the world to get an answer.

So I think that mechanistically it makes more sense to go keto. I once had a conversation with Steve Phinney about this and he calls it "stealth keto", and I love the way he said that because it really is... To me this is like little keto, you know. You go on real keto and this is where you're going to get the real benefit. To me, my argument is when I put somebody... a lot of patients come to me on SGLT2. And I'm like, I already see what the SGLT2 is doing.

Give me the opportunity of taking it off and you'll see how all of the triglycerides, fatty liver, etc. improve beyond what I already see. So this is my argument and then after three months you can see the change in a committed patient.

Bret: That's a good point. If you've already seen what the is SGLT2 inhibitor can do then you say now, let's see what the carb reduction low-carb diet can do and if it's more impressive, then you've got your data for that individual patient.

Mariela: But it's a proxy, right? It's still a proxy, we don't know. That's the problem and we won't know. And we'll have to live with that.

Bret: Yeah, so it is sort of an uphill battle. But now you've got your own center for diabetes care in Tel Aviv. So what is the reception in Israel, because every place is different in terms of the culture, in terms of the atmosphere, in terms of the nutrition, you know, in terms of the history.

So when you now are sort of putting your stake in the ground, it's like, we are treating type 2 diabetes and type 1 diabetes with carbohydrate reduction, what do you think is the reaction for most people from a cultural standpoint? Because I remember I've been to Israel like 30 years ago. But there's the shawarma, where they just cut the meat which is great, but it's packed in a pita. And every Friday out comes the challah and the bread and so it is... so there's this carb culture. So what's the reaction there?

Mariela: And don't forget the fruit. There's a huge bowl of fruit in every kitchen, it's part of the culture. It's actually part of the national identity... the orange from the... It's very much linked to the identity of the country. And when you tell somebody, we're going to leave the fruits aside for now, they are like, what? It's like there's no way. Fruit doesn't even count as a food. So it's a very big battle. Bread is also huge... actually from this need for bread I had...

Two things, first of all what happened is that I started making bread from the recipe book that we see, that we know so well and I started out recommending the patients, go make your own bread. I am personally more on the carnivore side. I really love a very clean diet. I like meat, chicken, fish, eggs. But a lot of patients fall because of the bread, they cannot do it.

They just cannot do it. So then I said okay, you know, the best is the enemy of the good and we're going to need something to help us out. And this is how I started making bread and chocolate that fit the diet. And this has become a real startup which is kind of comical to me and I can't believe this is actually happening. But it became a real thing. And we were able to... we're actually launching in the US very soon...

Bret: So this is Eatsane?

Mariela: Yes.

Bret: And so you make your own low-carb pitas and your own low-carb breads?

Mariela: Yes, low-carb pitas are very soon coming out. They are... I see the flat sugar... no increase in insulin or sugar actually. And it's very tasty and no artificial sweeteners because I really am against the artificial sweeteners because I just see how it keeps you addicted and it makes it much harder to drop the addiction. So, I looked for that and I couldn't find it so this is how I started making it.

Bret: You said you think it's comical. So does that mean, like you never had any sort of entrepreneurial aspirations, you never wanted to set out to create your business? It just like fell on your lap and you looked around and no one's doing it and it's like I guess I have to do it? Is that basically how it happened?

Mariela: That's basically what happened. Also, the two things happened... I started by opening my own clinic, I wanted to give the patients a chocolate when they left as like a twist, you know... you can have a happy life even eating low-carb. But then I started looking for chocolates and I couldn't find them anywhere.

So I started, I brought like 10 kg of dark chocolate from Argentina and started making it in my kitchen and then wrapping it in this paper that I bought from Amazon... Very, very homemade. And the patients were like, this is awesome... like why aren't you making this for real? And finally one patient who actually had his daughter... I normally don't treat kids, but he totally convinced me to take care of his daughter...

He was like, okay we're doing this... and the whole thing took off slowly. Because he wasn't in the food business and I had no idea whatsoever. So it is comical and my family still can't believe it... But it's very helpful, it really helps people.

Bret: Yeah, I think that's such a great example of meeting patients where they are and we hear that term all the time. But sometimes it's not clear exactly what it means, but in this case is perfectly clear; you prefer the carnivore.

But if you tried to promote that to your patients, they might just turn away and say forget it, I can live this way. But instead you're helping them find a bridge to get them to the solution they need, but starting from their culture, from their beliefs, from their tastes and their enjoyment. That's the true meaning of meeting them where they are.

Mariela: Yeah, trying to make it sustainable.

Bret: Did you learn that by first trying to get people to kind of go more towards the carnivore and just seeing the resistance? Or did you just know, like I know this culture, I know this land and this is not going to work here?

Mariela: I think it was more trial and error, you know. You just see that the patients fall because there's no bread. And then I am like, well, there are all these recipes and go and make it home. But the problem is that people are busy, etc. So this was kind of trying to find a solution. It's very hard to change habits. People don't want to change their habits.

But there's some that do. Some do and I really encourage them, actually, don't even bring up bread at all. I really prefer no bread and no substitutes. But then... exactly, we try to meet them. We do what we can.

Bret: Yeah, and I guess that the benefit of being in Israel or just the Middle East in general is that olives and olive oil is everywhere. So that's probably also part of the culture that is a beneficial thing. So did you find out to be a benefit?

Mariela: Well, there are two sides of this. On the one hand olive oil is amazing and it's great. The flipside of this is that Israel has a huge consumption of polyunsaturated fats. The reason is that kosher doesn't allow you to mix milk and meat together. So you can't fry meat in butter; you can't mix these things.

So actually it was the Haredi, the Orthodox community, that was one of the first to take up Crisco and these polyunsaturated fats, because they were very convenient. It was "parve", meaning that it could be used with milk or meat. And I think that the nutrition in the Jewish community, the religious Jewish community is actually very, very worrisome. Because they eat a very, very high amount of polyunsaturated fats. So I would say that this is just as bad as Coke. You know it's a very, very significant portion of their diet.

Bret: So what do you advise them to do? I mean, what do you tell them to use tell as their substitutes or their go-tos?

Mariela: I say let's go back to what your grandmother was doing 100 years ago. You know, use the animal fat. And it's not easy.

Bret: Yeah, as you don't have to use butter, you don't have to mix the milk and meat, but you can use the pure animal fat rather than the manufactured seed oil fat.

Mariela: Exactly.

Bret: And then I'm sure there's some resistance to that, because is not as easy. You can't just go to this store and buy cheaply off the shelves. Sometimes you have to make it on your own. So what kind of hacks do you have to help people succeed with that a little bit better?

Mariela: This is something that I struggle with. I see in the US you can buy tallow and things like this. Here you just can't.

Bret: There's your other business opportunity right there. As if you need more things to do, right?

Mariela: Let's partner up and we'll do it.

Bret: Very good. One of the other things I wanted to talk to you, but you gave a great talk at the... I think it was at Low-Carb Denver about reversing diabetes and sort of reawakening the pancreas. And so for those with type 2 diabetes, where their insulin output has now started to not match what they need. So initially the insulin is too high because of the insulin resistance, but eventually the pancreas gets tired so to speak, or starts to fail, and the insulin drops not to zero, but drops lower than it needs to be.

And you showed some really interesting data about being able to reawaken that pancreas. So tell us your approach to how you think about whether someone can reawaken their pancreas and regain pancreatic function to truly reverse their diabetes.

Mariela: First of all, one of the things that we know clearly is that how long you've had diabetes is a big predictor of how well you're going to be able to get off the meds and also how high those numbers were throughout your history. So the toughest patients are those that are, you know, A1c 13 for 10 years or more. And in those cases... I mean, we still can make a lot of progress. We can still really make a big difference; there's always some reawakening to do.

And this brings me back to also what kind of medications the patient's been on. Because if you've been on medications like glyburide or sulfonylureas and others like NovoNorm, I forget the American names... The mitiglinides. And any kind of medication that increases the production of insulin by the pancreas, actually squeezes the pancreas, it increases reactive oxygen species and actually kind of destroyed the pancreas.

So while it temporarily increases insulin secretion, it actually ends up destroying the pancreas. And in those patients, I tell them from the beginning, it's going to be very tough to really, truly reverse this right away. It's going to take a long time. So, first of all, the use of this medication is a problem... which now they are using them less and less, but still it's a problem, duration of diabetes and degree of how bad the diabetes is.

So these are the factors that lead me to this, but I'm very... Sometimes all you have to do is combine with the new medications. For example if you take these really tough, tough cases and you put them on a GLP-1 agonist, like for example Ozempic, and you add... you know, I like to keep metformin on for most people if they're willing to take it, because I almost don't consider it a drug. And if you keep metformin and you combine it...

And you know, sometimes I even use SGLT2, but you know, maybe every third day... you have to really tailor-made the treatment, you have to individualize it, no question, as long as you're checking ketones in those patients that are using SGLT2. But in my opinion you can most of the time

get them off the insulin and have them, you know, combine that with the new drugs that kind of our thinking the same way the diet is. And then you can really make huge progress even in those patients that are really advanced.

Bret: That's so interesting because there are studies that look at, you know, reversal and remission of type 2 diabetes, which by the way was something we'd never even heard of before it seems like in your training, in my training, we'd never even encountered this.

But now we're talking about it and arguing about it, about whether we're doing a good enough job, whether we are really getting remission or reversal, you know, because people just love to find things to argue about, instead of just being in awe of the fact that we are actually discussing this topic and it's actually happening.

But one thing that really matters is how long you've had type 2 diabetes, what medications you've been on, and these are probably some of the things that get lost when you're just trying to lump people together and say what kind of effect are you having. So I think that's really interesting. I bet if you parsed out the populations that way, you would see a pretty dramatic difference in this concept of reversal or remission.

Mariela: Yeah and actually when you compare low-carb... the results from Virta for example, compared to a very low calorie diet, they do better in people that had longer diabetes. So when you compare head-to-head these types of trials. So, exactly like you said, I mean, the option is zero reversal. So if you see a 50% reversal, I think we should be very excited about it.

Bret: Yeah, and the other option is bariatric surgery which it's gotten much safer and easier on the patients over the years, but it's still a surgery. But that's probably all we had before low-carb diets for reversing type 2 diabetes. So do you see the same thing in terms of how long someone's had it and what medicine they've been on in terms of their ability to recover after bariatric surgery and reverse their diabetes?

Mariela: Yes, it's the same risk factors. So, it's the same thing. It's interesting because I used to send people for bariatric surgery before this and the surgeon was like, where have you gone? I very rarely send someone for surgery.

Bret: One thing that I find so interesting comparing low-carb diets to bariatric surgery is that the weight loss with bariatric surgery seems to be much greater and much faster. But the metabolic effects and the blood sugar control and the diabetes reversal is either the same or better for low-carb diets, even without that extra weight loss. I find that so interesting.

Mariela: I mean, I haven't seen enough in my practice to say, because I really can't remember the last time, but... Yeah, again, it's not just about losing weight; it's where you lose the weight also, right?

Bret: Yeah, that's a great point. Now, you went so far I think in one of your articles to say we should never be using insulin on someone with type 2 diabetes.

Mariela: Wow, did I!

Bret: Did you? Or I'm making that up?

Mariela: I remember, I might have said that. I think it's wrong. It doesn't make sense that we should be treating type 2 with insulin. The funny thing is that I've evolved over time, because

I used to really give people insulin very intensive course to reverse the gluco-toxicity. Because this actually does help. When you normalize sugar levels, then the beta cells start to create more insulin.

So I used to give intensive insulin course and then change the... you know, keep on with medications, but it would give the boost to the pancreas to start secreting more insulin once you clear that gluco-toxicity. But it doesn't make sense. The problem is too much insulin, the body is rejecting that sugar and giving more insulin is just going in the wrong direction.

Bret: Yeah.

Mariela: So that's why... I mean I don't remember ever starting insulin once that became totally clear to me. Of course, a lot of my patients are on insulin because they've come on insulin. So then I have to take them off slowly. And not always do I succeed, but most of the time it is doable. 90% of the time. Now, it would be wonderful if every patient with type 2 diabetes on insulin could come and see you.

That would be great. And then they would have an expert managing them, but obviously not everybody can. And some people who have type 2 diabetes and are on insulin want to start a low-carb diet to see the benefits. Their doctor may not be on board or supportive, but it can be dangerous if they do so.

So what kind of advice can you give? Obviously without giving direct medical device because this is just a podcast, not talking to any patients. But what kind of advice would you give to people of what to be wary of, what to look out for and how to do it safely?

Mariela: Well, I think because it's so powerful, it's such a powerful treatment, we have to be careful about hypoglycemia. So if you're taking insulin, then I would say just in case it's better to overshoot, meaning to have high glucose instead of low glucose as you're going through the transition. So I like to decrease insulin by about 30% to 50% depending on how strict the patient is going to be.

But if they're going completely to be very, very committed, then I like to cut insulin by about 50% from the beginning. And then you continue to decrease and decrease until it becomes obvious that they can come off of it. And one thing they need to understand is that every time you lower the insulin there's going to be a time period when the sugar might go up for a week or two.

But if you just stop bringing in the sugar into the body, it just keeps coming down afterwards. We adjust and it keeps going down.

The other medication, you really have to be careful about the SGLT2, because you can get into what's called diabetic ketoacidosis, which is basically an acidosis where the sugar looks good and you don't see that there's something wrong, but the insulin is so low that you can actually end up in the emergency room and it can be a really big deal.

Bret: Yeah, that can be life-threatening. So I think that's a very good thing to be wary of. Now, let's transition off of talking about management of type 2 diabetes to talk about, you know, where we are in today's world, where everything is Covid related, and rightly so.

And you've written some articles about Covid and sort of the relationship between metabolic health, type 2 diabetes and Covid. So, I'm curious, do you think this is just a prime opportunity for people to be more aware of metabolic health and about potential for low-carb nutrition? And

what do we need to do to make people more aware of that?

Mariela: I don't know, trying everything I can, right? As you know, we started an NGO to bring awareness of this topic and we can talk about one hour later, but the bottom line is that it's amazing how we spend so much time talking about the vaccine and all of these things which are so super necessary in my opinion, but we have a natural vaccine in my mind, which is having a healthy immune system.

And well, we can't really say... there's a leap here... I can't guarantee that if you eat this way, if you eat low-carb, you're going to be immune from having severe Covid, of course, I can't make that statement. But what we can say is, let's look at the reverse. Let's look at the people who are dying from Covid. These are people that have cardiovascular disease, which to me is a different way of saying metabolic disease. You have people that are dying with hypertension, same thing, diabetes and obesity.

These are driving the mortality. And those who don't have it, they probably have it and they don't know it, I'm sure have high insulin levels I would say in a big percentage. I am sure of course there are other categories, but this is an overwhelming number, which is one of the reasons, I believe, in the US which has so much trouble with metabolic syndrome, this epidemic is hitting so hard.

So we know from studies that we can reverse metabolic disease in quite a short time. And we can do this and at least not put ourselves in the high risk category. So, yes, I'm trying to get this message across...

We are sitting at home feeling sorry for ourselves, when we can actually be taking care of ourselves and doing the thing that protects us the most also from Covid but also in the long-term. I think of it is a great opportunity to change the trajectory of things by just simply watching what you eat instead of eating those Cheetos and donuts and giving the nurses that are in the front lines, all this terrible food.

Let's feed our body what it needs to be eating and what it needs for nutrition and fix this. We can correct this metabolic problem. It's totally correctable. So it's like an epidemic on top of an epidemic and I really feel like this is an opportunity like you said, to bring this message across.

And unfortunately there's not a lot of ears that want to hear this message. It's really frustrating because it's not that sexy to say, you know. You have to watch what you eat, so it's not that interesting. It's not technological, it's not...

Bret: Right. And it's become pretty controversial because there are some strong voices that say oh, coronavirus isn't really something you need to worry about if you just take care of yourself and then it would disappear. And then there are others who say, how can you make that statement, you know, there are healthy people dying.

And so I'd like your sort of measured approach to it that you can guarantee that you're not going to have a problem with it. But since all the people are having a problem with that or have metabolic disease or the majority of the people, you just don't want to be in that camp. And then you would be so interesting to see that world.

How bad coronavirus is in that world. But we don't know and we are not going to have that opportunity. So we sort of do have to have that two-headed approach of, you know, the social distancing, the masks, the vaccines and working on your metabolic health. And if you do both then we're

almost certainly going to get out of this in a much better shape than if we didn't.

Mariela: I know. We tried to reach my friend Jessica Apple who has a low-carb website, called asweetlife.org. She has really been trying to reach the government and trying to say, you know, we're spending so much energy on technologies, etc., why don't we just spend a little bit of effort in trying to educate people on how to eat? Just a little bit.

Bret: Right.

Mariela: But we haven't succeeded.

Bret: Well, like you said, there are lots of people who need to hear this, but aren't open to hearing it and hopefully the tide may be changing, but we'll have to see.

While we are on the topic of Covid and vaccines, Israel has been in the news for like what a phenomenal job they're doing distributing the vaccine to people, in terms of the percentage of the population and the number of vaccines per thousand people, or whatever metric you look at, Israel's at the top.

United States is of course, way at the bottom. So what is Israel doing so well, and what can the rest of the world learn from Israel to get up to speed with the vaccinations?

Mariela: Yeah, well, first of all I think it's organized. There are only for HMOs in Israel. It's socialized medicine and it works, okay. Really in my opinion compared to what I've seen in the US, what a relief it is here, because everybody has coverage and it's a different world. It is it something that is right and I am so appreciative of it because I know the alternative. So, I think the way it's structured, it mobilized everybody in a very, very organized way and it was really shocking to see.

But because it's four HMOs and they are very organized and then they really took this very seriously and it's really... I have to agree, it's very impressive. And they have websites and everything is set up, and everything is rolling. And, you know, it leaves us behind.

Bret: Yeah, right. I've heard people talk about it and they said that in the US we're so concerned about making sure the people who are the front of the line get it and nobody else gets it yet. And like we're very protective of doing things in the right order. Whereas Israel, and I don't know if this is true or not, that they sort of have the structure of who they want to get first, but their priority is just get everybody.

So if someone walking on the street and you've got a couple of extra doses, you just pull the man and you jab it in the arm and they go about their way. I don't know if it's quite that informal but like that was sort of the explanation of the culture and the approach. Like rather than having to follow the rules, nobody step out of line, there are penalties if you step out of the line. Israel is was like I we to try and follow rules, but let's just get it done. Is that a fair representation?

Mariela: That's a pretty good representation of Israel.

Bret: In general.

Mariela: Exactly. So, yeah, but it also kind of depend on the HMO. So, some are stricter than others. But it's really fun to see... they started with the older population and the healthcare workers and now it's moving down the age groups and people are starting to breathe again. But the numbers are still going up. But we have to wait until...

Bret: So, it's interesting. Even with those vaccines the numbers are still going up.

Mariela: Yeah, but the numbers are going up right now. We are in a full quarantine. Like my kids are not going to school right now, everything is closed except the...

Bret: And that has its own negative impacts as we've learned. And that's other aspect of, you know, if we were healthier populations with lower metabolic disease, could we have avoided all the quarantines and sort of the harsher lockdowns and avoided some of those negative aspects? And again we won't know the answer to that question, but it's something we can certainly strive for.

Mariela: Yeah.

Bret: So, because of all this, you had a conference... was it the last year or two years ago, I forget... the first low-carb in Israel...

Mariela: November.

Bret: November... so before the Covid crisis. And it was the first ever low-carb conference in Israel and there were like 500 people at this conference which I thought was just amazing for a first-time conference. What was your response to that type of attendance and interest?

Mariela: Oh my God, it was such a blast. Every time I think about it I just smile, because it was so much fun. A lot of the big shots came... volunteered to come to Israel. Donations came mostly from my patients and from people that cared about this topic. It was done at the Hilton. The donor said to me, do it in a place, do it in a real place where they'll take you seriously... So many people came together to make this happen.

Like 20 volunteers started working round-the-clock nonstop to get the word out. It was very ambitious to do a conference. Israelis are not used to pay for conferences, so for everybody to buy a ticket we lost money because we were subsidizing the ticket. But we wanted more people to come.

And then one of my best friends, Assaf Librati, who... Somehow we were able to be on the media. We were on the cover of the main newspaper of Israel. And it made sensation and then people just started coming and it was amazing. Now the people who organized the conference put a certain amount of chairs and they said... always 20% people show up... well, they had to open a separate room, like they had to open the auditorium, like the area, because there were not enough chairs.

They couldn't believe it. They also said to me, you know, after launch, everybody's going to go home. This is the way it is in every Israeli conference. And it was 5 PM and everybody was on the edge of their seats, I swear to you. The energy in the room was unbelievable. So anyway, we wish we could do that again in person, but we'll have to wait. In the meantime, we're launching our lecture series.

It's like a conference, but we decided to not overwhelm people on Zoom, we decided to do it as a lecture series starting February fourth with Robert Lustig and then every week we have another lecture. It's Ben Bikman, followed by Nina Teicholz, followed by Jason Fung, followed by Aseem Malhotra, and I'll get to you in a minute, and followed by Sarah Hallberg.

So these are the main six lectures and then all of them will be followed by experts such as your-

self. And honestly, I've always wanted you to come for a lecture, but the thing is that I know how busy you are. So I'm just going to have to ask you to be on the panel.

Bret: Well, I am happy to take part, however I can take part, but I really like that structure because, I mean, one thing we've learned is like a full day of Zoom conferences is exhausting and like is so hard to do it. And it's sort of the new norm, the way of the New World, but it can be so challenging to do.

So, I like how you broke it up with one lecture and then the moderator and the expert discussion afterwards and one each week. And I haven't I haven't seen that in other conferences so I am really curious to see how that works and I think a lot of people are going to be interested in that format.

Mariela: I hope so, I hope it works and I really urge everybody to come in and listen and to sign up... it's metabolix.org.il. It's going to be really great. I mean there's some amazing people. It's, you know, the top stars of the field, so we're really looking forward to it. This is launching very soon.

Bret: Yeah, I look forward to that as well. So, we've got to learn a lot about you today and about your journey and about your thoughts on diabetes and insulin and low-carb nutrition and medications; we've done a roller coaster of all that. Any last thoughts that you want to leave our listeners with do you think would be important?

And of course where can they find you and learn more about you to see all the exciting stuff and your conference and your products and all that?

Mariela: I think that what's so exciting is that our health is in our hands. And I think that this message is very, very empowering. And we don't have to be sick. We don't. We can just grow old and die from old age, we don't have to be metabolically sick, which is the condition that we find in ourselves now overwhelmingly.

And I think once you start to understand it, understand that eating this way... It seems extreme because not that many people are doing it. But the more people do it, then it's not an extreme diet. It's a tasty, satisfying way of living. And it also is a positive feedback cycle, because once you see that you can make this change, you see that you can make a lot of other positive changes in your life. It's not isolated.

It's part of having a better quality life in general. Your sleep, your sex life, your human relationships... all of this is part of the big picture that comes together and I think this step is actually the easiest one to make, because it's... I always start with the food... because it's actually not that complicated. So, first of all I think that once you understand how much power you have, you can you can really do it.

And I love Diet Doctor, I owe so much to Diet Doctor for teaching me so much, for getting me involved in all of this. And, you know, I really thank you, guys, I think you do an amazing job. It's wonderful.

Bret: Thank you. Great. So, where can people find more about you online?

Mariela: So, metabolix, you go to Facebook for metabolix, or can sign up on metabolix.org.il. Eatsane is the name of the bread, E-A-T-S-A-N-E. I think you have to look up Eatsane bread, we're about to launch that. So, that you need to look for. And I might have a new website, but it's not in

English yet.

It just came up yesterday, but it's glandt.co.il and I hope very soon to have the English version of it, but in the Hebrew one I really do get into the whole, you know, what is keto and why we need to treat diabetes this way, etc. So, thank you so much.

Bret: Thank you so much for taking the time to be with us. I'll look forward to taking part in the conference and learning from it and I'm really excited about that.

Mariela: We are really looking forward to having you.

Bret: Great, thanks, have a great day.

Mariela: Bye-bye.