Introduction and Dr. Vossu2019s background

today I have here. That's my great pleasure to have. Doctor Voss, who is, general internal medicine doctor. And there's a very, unique way of helping her patients and, like, a few of us in the space, like, myself included, sort of had to come to that conclusion, almost on our own.

It didn't, sort of get taught to us. It wasn't part of the standard medical curriculum. Puts us a little bit on the outside of what a lot of, you know, conventional medical teaching is.

But really, you can't argue with the results. So, Doctor Voss, as she's known, has been on multiple media outlets, has a great website to help, patients.

And maybe you can just, go back a little bit and, tell me you have a very interesting story about how you sort of came to this, sort of realization. So maybe you can take us back and, and, tell us a bit about your backstory.

The origin story of how did you take a left turn out of traditional care of medicine? Right. Honestly, I think there has to be a spirit in all, of the folks who've, you know, really found the wave away from traditional medicine where something always it was itching that this seems a little too scripted.

In the matching up of symptoms and prescriptions and diagnosis codes in the middle. And although that's how you really keep a clinical alive, is you've got to get these through insurance claims and you've got to, you know, follow the rules. What the government's telling you.

There's something underway that that was always like, it really isn't working very well. It isn't working very well. And and I like to be good. I like to do a good job and a little competitive, but it was not working.

And, the number one, influence that got me off of a, you know, family farm in the middle of nowhere or South Dakota, was that I. Well, I didn't want to live there, but I also, in medicine, loved answering the questions of my parents when they would ask me complex questions, and I could give them an answer that satisfied them.

It was very rewarding to me. I loved that, and Internal Medicine was that place. I had then done what I would call corporate medicine, working for major, major hospitals.

In Salt Lake City and then in Sioux Falls, South Dakota. And then it was just not a fit. It just hurt to do some of the steps that were not necessary for getting patient outcomes.

And I was I was considered disruptive. I can remember one of the biggest fights that was early, in my career was I was probably a year into practice, and I had met the several.

I took over for an Elder Mayo, who was leaving his practice, and I was his replacement, and I'd met a lot of patients, but there was this young mom who had four kids and was pretty healthy.

All that she needed was her thyroid. Stopped working about a decade before, and she was on thyroid medicine, so I met her. We established this relationship, and then she doesn't call me for a year and she's like, oh, I'm out of my thyroid medication.

And I said, well, here's the order. I'll just send you to the lab. And this is all through a portal, which was really bizarre at the time. Why don't you go get the lab checked and I'll send the prescription in if we need to adjust it. I'll let you know.

And I did this, and she went on her way, and I. Of course, there's nothing you can bill for when you do that,

especially in 1999 or whatever. 2001, whatever that was.

And the administrator came to my desk and said, that's illegal. It's illegal for you to write that prescription for thyroid medication and order her labs.

And I'm like, well, first of all, I don't think I think my value to this woman is to support her in the time that she needs. She has no complaints. She's been on this medicine for a decade.

The evidence is I need to make sure it's still correct, but that is a it's a lab test that a third grader can figure out. That is not what I went to ten, 15 years of my life.

This is just a matching game. Give me a real story when she comes in the next time and she needs something. I don't want to have burned the social capital it takes to get her to find a place for those four kids, or bring them with her just so I can tell her, damn, your thyroid medicine is still working as it has the last two years.

But it was one. It was the first clue to say, am I the first person to ever push against that? This was not, a place for, that there are really difficult problems to solve in medicine.

Let's get busy doing those. And so fast forward, I have a 71 year old mother who had plenty of internal medicine problems for me to help her with. And, the biggest of which was she had CLL, the chronic lymphocytic leukemia.

This, you know, proliferation of white blood cells that were not correct, almost like an autoimmune process. If you look at, the source behind this kind of cancer, is that the mistake that's happening keeps happening.

And, like, out of 5000 white blood cells, one is correctly identifying that there's an infection and we need to attack it. The rest of them are just mucking around, getting in the way and really making other problems.

This is on top of a thyroid problem in a, you know, 65 week problem that she's had for as long as I could, you know, the last decade for sure. And she comes in the office and says, you don't need to be a doctor again to see there's something very wrong.

Discovering ketogenic therapy through a family cancer case

She's gray. She looks like she might be 71, but she looks 101. And her cancer was back for the third time. And so we go to see my oncologist friend and he says, yeah, we need chemo.

And she's like, I am not doing that again. You two took my brain offline last time and I couldn't run a sewing machine, and she made all of my clothes until I was ten.

I couldn't figure out what a sewing machine was for six months. I'm not doing that again. And, you know, the oncologist says your life expectancy is six months if you don't do anything.

And she goes, I don't care. I'd rather die than do what you guys were doing. And in the background, I was trying to solve a difficult problem. My practice was, internal medicine, bread and butter.

But there is a thread of peak brain performance. First, I was chapter in my career. Was on Parkinson's and bipolar and sleep disorders and and even addiction had become this place where there's these rules about how brains work and how you repair them.

And they have a lot less to do with prescriptions, a lot more to do with how people behave. But it was really rewarding. I loved I still love that. And in that past year, I had been, had to deal with the, the striking reality that I did not know what a ketogenic diet was and how places like, NASA or the Navy Seal team and researchers like Dom Diaz Casino were using.

Well, they were doing exactly what I was doing in a rural South Dakota, except for they were using ketones first.

And so I spent this inappropriate amount of time at the medical school library for the first time and, you know, 15 years and said, how do I not know about this?

And what I came across during that, discovery was that there were several cancer protocols using it as well. So my mom's standing there in the middle of, the, hospital and front doors in front of us, and the place to schedule her chemo was off to the right.

And I said, mom, do you trust me? I mean, patients asked this all the time, you know, doc, what would you do? And I said, mom, do you trust me? And she said, well, honey, with my whole life.

And without a snitch of evidence, but a really good sense of there's something more happening here. I said I would walk out that front door, go on a ketogenic diet for six weeks, and see what happens.

I mean, I thinking back, it was really stupid of me to do that because it's her life. We were gambling with. But I had done everything medicine had asked.

And this research on the turn of of of inflammation, of, of goo essentially in your blood, through insulin, through obesity, through now what this cancer had proliferated into.

Well, that none of our, none of our options were treating that they weren't even coming close to addressing that. So we went on the but I still think the worst ketogenic diet I've ever led anybody to do.

But it was the first one. And at six weeks we come back to our her oncologist and the best we could have hoped for in that chemotherapy treatment was because we've been there before.

We tried this a few times. And, you know, he has lots of patients with this problem was you should expect the cancer to not double in six weeks, but may be increased by 30% or we hope it only increases by 10%.

But we had no place that no chemo six weeks over a sloppy ketogenic diet. And she reversed those numbers by 70%, something we'd never done in ten. So that was step one.

And then I later go on to, you know, help her for over the next year and a half for some other. It wasn't the end of the problems. It was just that was such a revelation that this could be a lever to pull, that I am.

I actually then lost a bet with my husband about a year ago, who said, or a year later, who said you should write a book about that? And the book really has been her story.

How? I was really skeptical. And then how did we go through that story? How how do I think what do I think was happening? Behind the scenes. And honestly, it sold over a million copies.

I, I am so thankful for losing that bet. And it gave me the confidence of the number of people who also used that information to say, you don't need a doctor to lead you through a ketogenic diet, but it is this dogma in our world today that says it can do a lot more than what most people are talking about.

I don't I try not to overpromise what it can do, but it's it still leads me to say, I would have never seen what we see with intermittent fasting or, you know, how do we shift somebody's chronic problem that they've been practicing?

It's a bad way or, you know, the the way that's killing them for 30 years. And of course, you come in and within two weeks they say, why isn't it working?

And you're like, well, if you want it to work that fast, we have a couple of the things you're going to have to do. So that's that's where it started.

And I will tell you, it's the most satisfying, chapter of medicine I've done. I do not wrote Lee. Phil. I write medications and charge the office visits.

We solve what are definitely gooey problems. That's hard. And they don't all have happy endings, but it is sure satisfying. Yeah. So I mean, that's a fascinating story.

And I think that the, you know, there's a lot of similarities between fasting and the ketogenic diet. You know, this forum is more, about fasting, but I think it's interesting to talk about the, the diet because again, it's it's similar.

So ketogenic diet is a very high fat diet. Fasting basically forces your body to burn your own body fat. So you're burning your own body fat. So in in the same way it's very much a sort of a high fat diet, if you will.

It's just, endogenous fat versus exogenous fat. So I think, you know, a lot of this, a lot of the, the lessons go with it. And I I'd love to come back to the cancer question because we get asked that a lot.

And, there's not a huge amount data, but I think the, the science is actually fascinating, in there. But I think you have, you have some, some slides that you wanted to go through just in terms of the basics of ketogenic diet, why they might be useful, why they might be a very, well, honestly, important thing to think about.

It really, is that what gets you speaking about fasting again? That this tool, it's a lever that you can pull. And when people write in saying, can you take care of my mother, who's got cancer?

The first places we start out as well, it's this is an advanced level of discussion. Some of the basic things are what happens when you go from eating in a way that you've been taught to just changing a few rules and then watch what your watch, what your body does for itself.

The slides really help to kind of get us to why fasting is. I mean, first of all, I don't use that F-word until it's at 36 hours. I think the word intermittent fasting is used in the space a little more liberally where you spend at least.

How do you define intermittent fasting? What's your. I usually define it somewhere between 24 and 36, because there really is no official definition. I mean, obviously you can't fast forever, so it's obviously going to be intermittent.

But I think to me it was sort of, just a distinction between the, short or fast, like 16, 20, 24 sort of fast and the long stuff because fasting, you know, if you look back at the history, I got a really bad, bad name in the 60s because they used to do crazy stuff like, you can't even believe some of the crazy studies they did.

Like there was clearly no, you know, research ethics boards and stuff. But, I mean, it was it was they take people who were not fat and they'd fast them for like ten days straight.

And then I don't remember one, one study, they just gave them a whack of massive whack of insulin. And I'm reading this study and I'm thinking, why. So they they forced the glucose down to 0.9, which is about I think 40 or 50, like super low, like any doctor, including myself.

And you probably would be like super like shaking our boots with glucose that low. And it's like they did it just to see what would happen like that. Now, it is a very instructive study, I have to say, because the body, actually the 3 or 4 people, they did this to actually were fine, they actually didn't feel anything.

So glucose is so low that I don't think I've ever seen glucose is that low. And they were just doing them just to see what would happen. Right. And so crazy.

So anyways, so they do crazy stuff, stuff like that in the, in the 60s and 70s. And then a couple people actually died, and that's where fasting sort of got a really bad rap.

So intermittent fasting, so right as it came back, was more focused on the shorter stuff because it's, you know, long, long files are great, they're more powerful, but they also have more risk.

That's just inherent, right? Just like if the nicest sharp, you're more likely to cut yourself. But it's a better tool. So it's the same sort of idea.

But the whole the whole thing about intermittent is, is that push towards shorter stuff. You can get a lot of the benefits. So that's, that's. Yeah. And you've got, great examples that I've heard you teach through that.

When you take a diabetic who's sugar's in the 400 and you say fasting for four days is going to do a lot of good for you, but that that that message out on to YouTube, I, I think both you and I would be like, why don't you.

Yeah. A nurse help you with that part. And so I really look for what are the places where you can teach a process that doesn't require a doctor, that if you do this in steps.

And again, I'm not talking about some of the 400 sugars. I'm talking about people like my mom who had 50 pounds, 50 to 60 pounds that she had tried to lose in a many ways, and because she couldn't because her insulin never went down.

She grew things just like insulin told her body to. It was always happening. And I think when you can point out that whisper of hormones that are happening in the background, specifically the hormone of insulin, people will say, I know what I have to do.

I can see where I have to go. So the slides really show. How do you start with somebody that's a mess? I mean, not by mess. I mean standard American diet, putting on weight, following all the rules.

And how do you quickly say, here's what happens if you measure a couple of things that you don't need to have me around to look at, like blood sugar? Yeah.

Serum ketone. So let me should we show those I'll take about. Yeah. Yeah. Let's go for that. That'll be great. I think it's only a few minutes, but it gets, it leads to a great discussion afterwards.

So here's, here's a couple of.

Fasting, ketosis, and tracking glucose and ketones

This can be a little bit, intimidating if I don't explain what I'm pointing to. So we've got glucose along this side, ketones along the side, and you've got time along the bottom of a 24 hour period.

And when most people come into a practice or come in to, say, hey, doc, can you help me? They're doing this. They're eating three meals a day. And when you look at blood sugars, they are spiking up way higher than they should.

They wake up in the morning with blood sugars, you know, closer to 100. And they say, isn't that normal? My doctor doesn't say it's so bad. And we say, well, why don't you try to cut down those carbs?

Let's just see what happens if you lower those carbohydrates to 20 or less. And although it doesn't really change fasting as quickly as we'd like, within days we can see that they don't spike up as high for that blood sugar.

And if we could get them to check ketones, it really did cause a stress that reduced blood, sugar, blood glucose and said, hey, buddy, you've got this other source of, of energy called called fat.

Why don't we use some of that energy to help help supplement? And so they do get a pretty good number of their ketones. Now, we took glucose ketone index because, you know, we Americans have a mixed up, metric system.

You guys in Canada keep it straight, and do it all in mammals. But, I was trying to teach my mom how to do a glucose ketone index, and her brain was not working.

She's a really. She was the a county auditor, but could not could not get this, you know, get the ratio to get it to normal, reduce this to one. And so, you know, my take the big number, divide by the little number.

And we're just going to I'll do the conversion for you. So that was when the doctor bars ratio was born. So if you had a blood sugar of 150, a glucose of 1 or 2, that'd be a doctor mass ratio of 125.

And although you'll you might find a few people that could lose weight with that kind of a ratio, it probably isn't going to do much. You might be losing weight at bedtime, though, where the blood sugars drop down to that 100 and the ketones went up a little higher.

Now, we say that doctor odds ratios in the two digits, which is really a reflection that the insulin has dropped, that the effect of insulin has a drop.

It's not just measuring insulin, but when you look at glucose and ketones, the those are what insulin, really has an immediate impact on. But then this happens over the course of I doc, I'm following you're 20 carbs or less.

And I eat them three times a day, and within about four weeks, they're ketones really sink down, their body adjusts. They don't need, you know, the impact of insulin is less.

They have been insulin resistant, and they do a few things a little better. But that blood sugar of 150 is about the same as it was three weeks, 3 or 4 weeks prior.

But their ketones are no longer that well produced because the stress is over. Their body got used to that, and I you will not be losing weight with a doctor about ratio of 300 even at night.

That doctor boss ratio is still in the triple digits. I'm probably not going to lose weight for that. So as much as they do that, it does sink. The problem.

If we added something like ozempic, you can see that blood sugar go even lower, and not everybody would lose weight if they were, you know, forcing meals that three times a day with Ozempic even if you, got them at bedtime.

Well, what, of course, happens with those, because they don't have that many meals. They do maybe something like this where two meals a day are what we asked them to do.

I, I do, watch to see in the mornings. We still let them have this part. Right here is morning coffee with some cream so that can send the sugars up. You know, about ten points, we think, maybe, maybe 15 if they've got real insulin resistance, even though it's all cream.

Or it's all fat. It's a bulletproof. You can sometimes see those sugars go up in the morning. And that is a result of what's happening that isn't textbook.

That's not what a healthy person would do. But if you've been making excessive insulin for years, you can see that happen. So now they, have again, after about five weeks of two meals per day, those ketones go down.

And these two places where you're drawing energy, one is where you, you know, swallow the energy for glucose and the other one is you, you get it out of your fat.

The only way you can mobilize those ketones, you know, is to tap into the fat, which means the insulin had to be less in the recent days. It had to be better than it was.

The average of the last three days. And when we. This is where we bring in, intermittent fasting. So if you look at, this is, you know, about noon, and this meal here is about, you know, 7:00 at night.

So you've got this window here that's much less, in how it, and in the time that it in the time that they eat. Now, the part that I always like to point out is look at how long ago your, your sugars were elevated.

And I think that's the part that people sometimes miss when they're saying, well, why isn't it working? Why isn't it working? So you got these two meals and the other part that we try to do, once they figure out how to eat two

meals a day, is how can you slide it closer to sunrise?

How can you get how can you incorporate your eating into that, into that morning cortisol part into this section where, now your blood sugars are still in that 140.

They're a little better than they were before, but the ketones drop as soon as they eat. But now you have an extended period of time really, from like, this is, say, maybe 10:00 at night till that first thing in the morning where you could be losing weight, you can be mobilizing fat.

And when we continue to say what happens if we tighten things up even a little bit further or you stay the course? We know that, blood sugars get even better.

This is again, postprandial right after they eat. How high does their blood sugar get? Ketones drop, but glucose really does, come out of that lofty one 50s, one 60s down into the one 2130s.

And I think this is this is the ultimate place where when people say, what's what does it look like to have, the best, answers for long term weight loss in people who are really looking to intermittent fasting.

What are the levers they haven't pulled yet? This is going to be the the eating window still of 6 a.m. till noon. So a six hour eating window, maybe it's at one.

So seven hour eating window. But the beauty is, over time, you'll even see us make this red. You'll see that the the blood sugars don't do the pathology.

I mean, those blood sugars lasting that long really is what's that's normal to see in somebody with insulin resistance. And the longer we spend saying less stimulus for the insulin to be made, we start to see, you know, ketones will rise faster.

And now you look at the area where you are, you know, what I would call uncoupling a, a glucose, uncoupling a mitochondria, where it acts kind of like brown fat would, meaning it doesn't.

It can have a burn of energy without without eating. That that uncoupled mitochondria is highly linked to fat burning. And you get numbers like this for a couple months in a row, and it's amazing how many things go right.

This is the last two slides where when you look at the mitochondria, if I think they are glucose dependent, I like to point out the glucose when they come in, they're very highly.

I mean, what are we trying to do on a cellular, microscopic, some cellular level is we want that those mitochondria to put out energy even when the glucose isn't, they're there to stimulate.

This is normal. This is what most people this is what my mom had is every cell burn glucose. It took all these little chains. It made some energy. But it was a hot burn of that mitochondria.

It it was a motor that burned hot. And it made mistakes, especially with years. I mean, decade. Of high insulin. Now I can start talking. So if you look at the mitochondria that has been practicing how to turn fat into ketones or how to burn ketones, and you look at the amount of energy that flows into that ATP production and less into that lactate.

And, succinate pathways. But more importantly, this is what a decoupled mitochondria does, is it's constantly churning out a little bit of energy. In the form of fat.

I made the reference that it looks it's a it's what brown fat cells do. They really are able to just purr along, producing heat. And, you know, that's really how babies, survive, and keep their bodies warm is to keep, a little bit of fat burning through our mitochondria.

As we age, that's less and less and less. And so if you said the theme of what we're trying to help you figure out in,

in taking intermittent fasting or taking time or at least eating, getting it tighter, getting it more towards morning, and then maybe helping you get the 36 hours and God forbid, the 48 hours.

And I, I love it when patients really get to 72 hours who've had chronic inflammatory problems, because it just takes so long for their insulin to finally shift out of the stratosphere that it's been in forever.

And you know, when when it's my job to check on you every three months, progress is slow. But you do not need me to do this. You can check your own morning fasting glucose, you can check your ketones.

And when you look at these two levers of here's a formula that, you know, in a ketogenic diet, we talk about being in ketosis, but you're going to be in ketosis when the glucose runs down and your body says, what's next?

So some people don't like that word and they don't want to say, I'm not on the keto diet. Well, okay. But if you use intermittent fasting and you want to know when it's working, these two point of care things save you from having to come to me or anybody who says, well, why isn't it working?

What hormone am I missing? Well, your hormone of insulin was buckets, higher than it should have been. And the time it takes you to reduce it is different.

I mean, the studies were in the in those folks with body mass index is greater than 35, and they don't make a, a robust ketone for 14 days who fast for 14 days.

No one I mean that's not a sustainable plan. So teaching them how you can get results by pockets of your attention and your, you know, you know, because as much as you can find the narrative of just like that woman did not want to come in for her thyroid prescription, she wanted to do her life, but she was willing to come in when she has a problem.

Why insulin matters more than blood sugar

When you look at people who come to you for weight loss, they, you know, the the sloth, gluttony, you know, syndromes that people say. Well, it must be that I find that not I mean, almost the opposite of true today, that the number of things that they have tried to get that weight to come off and nobody whispered the rules of here, measure these, follow these, and now use your intermittent fasting.

Now use your time restricted eating. And if you're under the you know, if if you're doing it in a way that your body says, oh, now I can now I can mobilize both of these fuels that you've got for me, well, then you're going to win.

But I had a patient this past week who her. Her puberty. That was not fair. You know, before puberty, anybody's got a little bit of that, you know, punch.

That's normal. Your body is going to use that resource for this growth spurt. It's it's not a design flaw. It's what happens before puberty. And from that, you know, personal trauma for her, for being pudgy when she didn't want to in the scoldings she got from her family.

And then a major life event that happened right around puberty. Her body did it a strange thing, and just shot insulin up to a nightmarish level. Like.

And she has been there for 30 years. The amount of weight your body will put on because you overproduce insulin until you figure out how to measure and get it out of that.

You're, you're going to have all of these lists of problems, including, you know, the autoimmune problems and the cancer that's grows faster and the the brains that don't work well.

And, you know, you know, set aside just the cardiovascular stuff. Yeah. Maybe we can step back a bit and maybe you can explain why insulin is sort of this thing we need to focus on.

Because, I mean, honestly, it's it's not just about nearly enough in medical school. Like, it's it's I think it's crazy, but, most, most people like, you know, maybe doctors get it a little bit, but certainly any of the allied health professionals and nurses and the dietitians and stuff, they just don't really clue in, like, why?

Why is, this hyperinsulinemia that is excess insulin really a critical factor for, for well-being? Oh, you know, it's such a great, like the curtains that opened or when I said, oh, my God, it's due to insulin.

And you start saying, what can I hang on the evidence that we have that that abundant insulin was always causing problems? You know, so I think it is this whispered problem that is now, I think, coming more towards the forefront.

But if you go back to when we graduated from medical school, you would have studies associated with high A1, C or that the blood sugar was elevated. And so our eyes were focused on get the blood sugar down.

Of course, one of our levers was to use insulin to do that, not knowing that. Well, that might be that, you know, that cause and effect. It looks like it's high blood sugar. That's the cause.

But the cause is in many ways, it has been that insulin that was doing the pathology for a decade before anybody noticed. And I, I was very guilty of this, saying, yes, we can use insulin to get the numbers down.

And I have the study that says you're going to have a stroke if you're a one sees this, you're going to have this phase one season. So the focus on blood sugar, it took it took my, you know, like humble pie saying, well clearly we've got something wrong here because I've been lowering the blood sugars and they're not getting better.

And it's not just me. They're everywhere around you. I can't get them in quick enough. And when and then when I was again. My mom is a great example. Single mom.

Like, let's just get you some fasting insulin. And so when it's your mom, you can talk the lab guy into saying, we're going to check her insulin every hour like a craft test would have been, which is ridiculous to try and get in the real world because of its price. And it's just.

Yeah, I don't know if you've ever tried this to try and say, let's take let's get their fasting glucose in and insulin, give them some glucose and get it every 30 minutes for, you know, three hours.

Oh, it's like a nightmare. But when it was my mom, I could do it. And the insulin was I mean, her blood sugar was not that bad, but the infamous, like so far off of normal.

And I'm like, well, how long would you have to go before it would get anywhere close to normal? And we were at like four days and she's like, are you trying to kill me?

I'm like, maybe. And maybe because I haven't ever thought that it was this powerful. And so when the part that was forefront on the center of the stage was that sugars needed to be lowered.

But what was causing that for especially when when I look back at, you know, the George McGovern, I'm a South Dakotan for 50 years before I moved to Tampa. And, George McGovern was a senator who when I was a kid, he lived 30 miles from where I grew up.

And his whole policy was that the grains needed to be the bottom of that food pyramid. And when you look at that grain, it wasn't, you know, raw grain and wasn't you know, the kind of sprouted grains.

No, no, no, it's processed and it's powdered. And now you've got these tiny little particles. And who knew in 1971 that if you put a little tiny particles of that flour in, it was so much more stimulating for insulin.

And I think that that particle size of something where processed foods, people say, well, isn't a hamburger or a hot dog, processed foods, I'm like, you're missing it.

Think of particle size and how much that carbohydrate and even powdered protein can give you a stimulus of insulin. When you're in the pathologic side of it.

And I contend nearly all of us are on the pathologic side of it because we've been eating this food that is processed. So the demons that I stomp on are, well, all the subsidies that probably went to my relatives in South Dakota because of George McGovern and wheat farmers and, it did save the Midwest, but it it ruined the waistlines across the country because of how much insulin is stimulated.

And we weren't looking at that. We were looking at blood sugars. Well, that's not going to be. Yeah, I think that's that was, you know, this whole glucose sort of centric way of looking at things.

It was pretty standard. And it really blinded us, I think, to the Hyperinsulinemia problem, which is basically, you know, I say much more important because the problem was, I think that we had this sort of boogeyman called insulin resistance, and they just kept saying, well, it's the insulin resistance which is causing the hyperinsulinemia.

So it's not the hyperinsulinemia, it's not the high. And that's a problem. It's this insulin resistance. So then you might say, okay, then what causes the insulin resistance.

And they're like, I don't know. It's like okay for for 50 years of research, you know, and being honestly one of the most important health problems in the world today in this sort of so-called insulin resistance because it affects so many people. Right?

So if you look at America, it's like 50% pre-diabetic or diabetic, right. And that's insulin resistant. So 50% of the population. So you're telling me that all of medical research, with its billions of dollars, something that affects 50% of Americans and they're just like, what causes insulin resistance?

Because I've asked medical students this, right? I'm like, what causes it? They're like, I don't know. And like, okay, well, that's a problem right there.

Like, because you don't think it's a problem. You know what I mean? Right? It's it's so so they kept blaming this sort of mysterious boogeyman like okay, we can see we can measure that these people with obesity, with pre-diabetes, with diabetes, insulin levels are high.

So instead of saying that's the problem, they say, well, that's not the problem. It's this other problem. It's the resistance that we don't know what causes it.

So forget about this high insulin level. You can go ahead and not worry about it. You can eat refined carbohydrates which spike up your insulin right.

Which seems to me a really stupid way of looking at things like, honestly, if you come back to thyroid, you know, thyroid level too high, bring it down, thyroid level too low, bring it up and type one diabetes into the level too low.

Give insulin okay, I get it. Type two diabetes, insulin level too high. Oh, you should just ignore that. It's not a problem. It's like like what are you talking about?

Like how does every other hormone, you know, high parathyroid hormone bring it down. Low parathyroid hormone. Bring it up. You know, it's the same in every single hormonal system.

Too high equals bad. Bring it down to low as equals bad. Bring it up. Yeah. For the problem of too much insulin. Instead of saying also too high, bring it down now.

And I can remember like that cognitive dissonance that everybody's going to have when the authorities tell you this is how it's done. These are the test questions. You take.

This is how you pass your boards. This is how you treat patients. This is when you get scolded that you didn't do

that protocol under the, you know, mentorship of your leaders.

And so you get to this place where I can remember in this, you know, early stages like 2015 saying, okay, mom, I, I'm sorry that I've, you know, made you not eat for four days when we look at your insulin.

But there's there's got to be other people out there that are allowing the space to get the insulin down. And honestly, it was one of the first lectures from you.

Work was I had the patient fast for four to 3 or 4 days. I can't remember, but it's like, oh, he's got the same idea I do. That's exactly how we're getting there.

Is you the undo button. There's no there's no dialysis to pull off insulin. It's that you got to stop stimulating the hormone and oh, that is chewing.

Oh, that is swallowing. Oh, that is especially refined carbohydrates. And when you've got the 400 blood sugars saying, look what we've done, we stole your life, we gave you these medications in the name of we're going to help you.

And we made it worse. Yeah. And that was a lot of it was to boost the lot of that. So not only did our drug. So here we had a situation which was honestly just mind blowing when you actually started to look at it, because you and I both had practice under this regimen.

So we did this, which was sort of, you know, what did we know? Right. But. Right. You had a situation and a patient, 50% of Americans where their insulin was too high and the drugs we were giving them would raise it further in the diets that we are prescribing, which was the low fat eat all the time sort of diet, was also raising it further.

Right. And it's like, okay, we weren't simply making this problem of too much insulin. You know, it wasn't neutral. We were actually making it worse. We are certainly not making it better.

Right? You had to do the opposite. You had to take away the insulin. You had to get them to fast. You had to get take away all the carbohydrates. Which of the macronutrients stimulated the insulin most.

And the thing was that's strange, is that this two high insulin problem very, very clearly led to all these other problems. We knew that 100%. So insulin resistance, which is what they was the boogeyman, sort of they called the high high two high insulin.

They're actually the same thing actually. That's the problem. Right. So they just said ignore the two high insulin problem because it's the other boogeyman called insulin resistance, which we don't know anything about despite, you know, 50 years of research.

We just don't know anything about it. And we don't know any more about it now than we did 50 years ago, which is silly. But if the if the problem of too high insulin and insulin resistance, which is essentially the same thing we knew and led to heart disease, strokes, blindness, obesity, we it led to amputations and led to infections and led to kidney disease that the cancer we knew it did all this stuff and yet we did nothing about it.

If anything, we made it worse. And it wasn't until sort of, people started talking about ketogenic diets and intermittent fasting, which were interventions to lower insulin, right?

Insulin to high. Let's lower it. How are you going to do that? At the time, there's no drugs. You know, something at this point we'll do that. But, at the time, there's no drugs.

It was above diet. You know, it's based on a very simple idea. Insulin is too high. Let's get it down. Because the too high insulin leads to all these huge other problems.

And it was sort of, you know, it wasn't the doctors who led the charge, which was good frenzy as part like, you think

the doctors would be out front saying, oh, this makes sense.

Let's do it. There's amazing case studies. You know, people are getting off their insulin, their diabetes right now. The medical institution was like, oh, this is dumb, right?

I'm like, okay. And it was regular people who said, you know what? This is actually super powerful, right? Crazy. That was crazy. I can remember one of the first times, I don't know if you know who Thomas Dayspring is the flip at all.

Okay. Yeah, yeah, but when I was in, he would do a talk for a drug company on how obesity I think it was, on how cholesterol could be lowered with this.

You know, at the time, new drug of Zia. And I was still like three years into practice having all these things. Like, I put that diagnosis of two, seven, 7.7 on a lot of people's charts.

That's, syndrome. It's now blended with metabolic syndrome, insulin resistance. You know, they kept merging them as time went on. And there's this one thing of the high triglycerides that I can't I can't get to go down until, with any of the things that are doing.

So all of my, you know, partners were in the you know, we don't we don't go to drum up things. They're the enemy. And I'm like, look, if this guy can answer the questions and I go to this lecture and there's like three doctors there, and I get essentially private lessons from this lipid ologist.

He came to town like three times a year. And honest to God, it was one of the most refreshing teaching things where he's saying, yes, the way all of this pathology that's happening behind behind the scenes, it is from excess of insulin.

And at the time Dayspring was, you know, 150 pounds overweight. So he was, you know, he was suffering from having the education yet not having the exit of how do you fix it.

And, I remember as, you know, as a young doctor saying what? Gosh, he is so smart about how this works. Why isn't it working for him?

Cancer, growth signaling, and practical dietary guidance

I mean, like the advertisement of a dentist, but it's like super smart guy, and he's still is super smart, and I think, you know, but you you start to see, well, what's the power of being hypnotized under these extreme hormone changes is that it doesn't matter how smart you are, that ability to lower the the hormone of insulin and, you know, God bless that ozempic in an incredible way that says, guess what?

They do? They don't eat for like two days without insulin. This was. Yeah, the the whole thing is, is I mean, I think it was epic is a separate story because.

A lot of people write it. Like I think it's actually lowering the insulin and therefore causing some good effects. And it does this through nausea and stuff, whereas all the calorie people are saying that's all about calories.

People eat less calories and like, there's there's a huge conflict confounding there. But I think that that message that you talk about, though, is, again, it needs to stay in this discourse that yes, the calories ended up last, but it was the hormones that had to it was. The hormones that have.

Yeah. And I think this is the thing about the, the LDL, which is, you know, again, to me it's, it's, it's crazy because it's like, okay, if you have two high insulin, what's going to happen is your triglycerides are going to go way up.

Their HDL is going to go way down. Okay. If you talk about the metabolic syndrome, which we all agree is a very, very, very important, health marker, LDL is not part of metabolic syndrome.

It's high triglycerides, low HDL, in other words, that high triglycerides, low HDL, it's just driving, which is driven by the insulin is way more important, like way more important because it's part of the metabolic syndrome.

Then the LDL. I'm not saying LDL is nothing, but it's like very small potatoes. Eat, right? Absolutely, exactly. And we've known this forever because I remember in medical school in the 1990s, everybody was like, hey, HDL low HDL is a much, much, much more powerful predictor of heart disease than high LDL.

In other words, that HDL was way more important. Now there's no drug. They did actually make a couple of drugs to lower age to to raise HDL didn't work, of course, because it wasn't.

The fact that HDL was low is the fact that insulin, which is driving that low HDL was heart rate and it didn't do anything for that. So but people forget that now.

And so now we all we talk about LDL because it's all the people they pay to give drug talks for the statin. Yeah. So this is you know, we get hijacked.

Our medical education is hijacked by these, sort of pharmaceuticals that pay doctors a lot of money to go on these road trips. You know, I think there's a bit of a conflict of interest there.

Like, honestly, it's it's it it's, you know, I think it. Play playground now is Twitter. So if you want to blow your mind in a couple of days, trying to understand all of the advanced lipid ology, which I honestly have studied, several of the pictures going, it's been two hours.

I just need to move on. I don't understand, but yeah, like there are you know, there is a, a place where the education it did, it did squelch the voices of the people curious, saying, how do we fix this?

And like, Avenue to get that out there in 1998? It hasn't. Because if you think about it, okay, so low HDL versus sort of high LDL, which was the sort of thing.

Right. Everybody knew low HDL is way, way more important. But how much teaching do you get in medical school after medical school about how do you raise HDL because it's driven by too much insulin.

If you lower insulin, HDL will go up like that's that's what happens, right? Versus how much teaching do you get on how to lower LDL, which is you know, there's lots of drugs, statins study others, you know, Pcsk9 injections, right.

So you get hundreds of hours on how to lower LDL and zero on how to raise HDL. Yet the more important factor was HDL. And that that's me is like, there's there's something wrong in the whole picture here.

And, you know, that's that's the problem. So let's just finish on this, this last thing, which I think is super interesting and probably not, there's not too much data, but this hyperinsulinemia and cancer, which is, you know, we're going a little bit out on a limb on that when we talk about longevity, of course, it's really important, but where's the link there.

Right. So I think it's, it's it is a really powerful connection where you say what is the evidence behind, you know, growing cancer. And well, let's go back to the sugars.

You know, you look at what blood, what cancers are, found with an associate and linked to, higher hemoglobin illnesses. You've got breast cancer, you've got prostate cancer, you have pancreatic cancer, you have, colon cancer.

I mean, we're that's that's those were never taught to me. But when you say, let me be curious. Has anybody else looked at this? And you, do you know, I asked you find me the studies for the ones that link high blood sugar to cancer.

And that's there. Now, just like the next step is. All right. So, why why would that do that? And then to look at the

stimulus where, you know, some of the fun thing is over the last it's now been almost ten years since I've been teaching patients how to do a ketogenic diet.

Some of the fun things that they come and say, I can't believe this got better. I can't believe this happened. It has to do with the insulin's, mimicking of growth factor.

So an insulin like growth factor is one thing, but insulin in excess stimulates the growth factors of several things. The easiest one for patients to see is the moles.

And this skin takes. And so you get this advanced, you know, crop of skin tags under their armpit. And they say, can you just cut them off and like, you know, be a lot easier if you just quit the carbs for about a month and they don't.

Yeah, yeah. But my goodness, the growth factor is less. So just showing you places where in clinical practice I don't need a randomized controlled trial to say, hey, guess what?

You lower insulin, and the stimulus for the skin to keep dividing when it shouldn't hold it. Mole or skin tag. They got also the, my mind is blanking, you know, the hypertrophy of the dark patches, the.

Explosive nigra Gans, or they. Can't those is micrograms. Yeah. That's right. Yeah. I haven't thought of that at all. Yeah. All linked to that growth factor that is is present when insulin is chronically high.

Yeah. Know you look at the pathology saying I do not say oh my gosh you're going to cure your cancer with the ketogenic diet. But I do say you're going to help your doctor do a way better job if you quit making so much insulin while they're trying to treat you.

And it has a lot to do with the steps. So we just went through saying, I can't have you fast for six days. I know that you are in a panic mode, that you have cancer in your body, but it's been there for a decade.

We need to get you safely to the other side in a place where you don't. Well, I call them my ass over apricot patients where they come in and they just do everything that you want, hurry up and get it done.

And then they blows their whole life up and they can't sustain it. Like, here's step one, here's step two. And what we're doing is we're lowering the amount of insulin that you are telling your beta cells to produce.

This is a new thing, and you get the responsibility of being here. I apologize on behalf of medicine that we didn't teach this sooner, but now you got a cancer and you got.

Yeah, that's the problem, I think, like, you know, the insulin issue is that there's always this, you know, you get these sort of doctors and you think, okay, they're smart, but there's a block there because it's like, okay, they get this block that insulin is not a problem.

Right? But it's like, okay, here's what we know okay. Here's what's not controversial. Insulin is a growth factor. That's not controversial. Everybody knows it.

Cancer is a cell. Where is a is a disease where things are actually growing a lot. Right. That's a lot controversial okay. So if you are giving a growth factor okay, it's like putting fertilizer on a field of weeds.

The stuff that grows fastest gets the most okay. So that's not controversial. Breast cancer. You can look at a breast cancer cell and there are like 6 or 7 times the number of insulin receptors on that cell.

So if you give insulin you have this breast cancer cell which is going to suck in like 6 or 7 times the amount of insulin that your normal cell does. Your your normal breast cell doesn't have much insulin receptors, but that breast cancer cell does.

When it takes all that insulin, it's going to take all the glucose because that's what it's like. Does that breast cancer cells is going to take the insulin.

Then it's going to take all that glucose to drive growth okay. That's not controversial either. So it's like okay so what. Part I think you have not what's your fifth grader at a science fair yet?

But how can we lose half of our colleagues at this part of the school? I'm like, what part don't you get that? If it were me or my parents or anybody I know, I'd be like, this is the biggest no brainer.

Right? In all of medicine, practically, because we know all these things and yet somehow it's not supposed to make any difference at all. What diet I follow is, you know, because a diet I follow will dictate how much insulin I produce.

And I have a cancer cell here that loves glucose and loves insulin. And again, it's the same thing, this Warburg effect, which has been known since the 30s, where cancer almost exclusively, not totally, but almost exclusively runs on glucose, whereas our cells can do glucose or fat.

So it's like, okay, well, I'm not sure how much more you want. Like, yes, there's no studies that say, you know, you can cure cancer and stuff, but. That I've lost colleagues in this conversation is they'll say, I checked the insulin.

It was fine and said, no, wait a minute. You checked their insulin when they were fasting and they've already lost 25 pounds due to this cancer they're suffering with.

Guess what? Their insulin is going to be. You're in the middle of treating it now, keeping it there. Don't eat too many times to stimulate any more than you have to.

Insulin is short lived. It's volatile that that process is not is not what you just looked at. And I, I mean, so just looking back and saying, well, I checked it, it's fine.

And like, no, we're looking at area under the curve over the last ten years, first of all, and especially in the last five weeks, if you've got a rapid weight loss happening due to cancer, it's not pretty.

It's really. And again, I just want to emphasize, we're not saying that changing your diet will cure cancer. That's not what we're saying here at all.

What we're saying is that all we're trying to do is this is a terrible, terrible disease. Yeah, you need to do the treatment, but you can help yourself.

Tips the odds by following a good diet, which includes limiting things like refined fluids, refined carbohydrates, sugars, and perhaps adding intermittent fasting that that's a little bit less so because obviously there's there's a lot of, you know, advanced cancer patients have a lot of issues with weight loss and stuff.

So it's a little bit more complicated. But, you know, certainly in the early stages when you're talking about prevention of cancer, again, I don't know how like the the World Health Organization has like 14 cancers that are obesity associated cancers.

So therefore, you know, we know Hyperinsulinemia is very highly associated with obesity. You lose weight. That insulin almost always comes down. So if you get that insulin down, you can likely reduce your risk of these cancers because they're they're associated we know they're associated.

That's not controversial. Everybody accepts that. Right. So it's like, you know, somewhere along the chain of loss, we get to the point that, oh, you have cancer and you should enjoy yourself.

So eat whatever you want. I get that in the palliative stage, maybe. But if you're not palliative, then you want to tip the odds in your favor, not tip them against you.

So anyway, I'd love to, I I'd love to continue, but, you know, our time is up, so thank you so much. Thanks for these questions. Yeah. This is a it's a great place where when I send physicians that are saying, how do I learn about this?

It's, programs like what you're doing here that I am so happy to be a part of. Thanks for asking me. And I hope what we contribute offers, education to the patients and maybe a few providers.

Thank you so much. All right. That.