Sawbones 595: Glucose Monitors

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[theme music plays]

Justin: Hello everybody, and welcome to *Sawbones*: a marital tour of misguided medicine. I'm your cohost, Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: And Sydnee, I have been so excited about our high-tech future that we are—

Sydnee: I'm not.

Justin: Yeah, no, it was just a contrivance. But I— I— Speaking of the high-tech future, here's the one that I'm gettin' pretty jazzed about. In 2025, as wild as this seems, it was a— just last year.

Sydnee: Mm-hmm.

Justin: Believe it or not.

Sydnee: A lot has happened. Things are comin' at us fast, these days.

Justin: RFK said that— RFK Jr, pardon. [chuckles] RFK Jr said that— He's the Secretary of Health and Human Services, if you can believe that. Yeah, that guy!

Sydnee: Yeah.

Justin: If you haven't been paying attention, believe it or not.

Sydnee: He was the guy who, what, he left a dead bear in Central Park, or something.

Justin: Impossible to remember out of all—

Sydnee: It was something.

Justin: — of the incredible, incredible scales.

Sydnee: He had a worm in his brain, but it died, don't worry.

Justin: In 2025, he said that he wants every American wearing a wearable health device within four years. And in this case, I think, he was specifically talking about a continuous glucose monitor.

There are a lot of different wearable health devices that people are using to like track stuff, and I'd like to continue to talk about it, because there's a— Like there's a device that shocks you regularly, there's a device that measures oh lots of different stuff. There's—

Sydnee: Wait, what to do you mean a device that shocks you regularly?

Justin: Okay. Don't worry about it, we'll talk about it next time. Some other time. So there's also uh uh rings, which are very big. Rings, Aura rings, health rings, whatever.

Sydnee: Well, and does that count my watch?

Justin: Yeah, for sure!

Sydnee: Because I have an Apple Watch.

Justin: Sure sure, yeah.

Sydnee: And—

Justin: There you are.

Sydnee: Well see, now that's a dumb— Like yes, I— I think that most of us will have a wearable of some sort within four years, if you count an Apple Watch, because a lot— Or some other kind of watch that tracks your steps, so many devices are— You know what I mean?

Justin: Yeah. No, I—

Sydnee: Like—

Justin: But he wasn't making like a futuristic prediction about it. [chuckles] He's talking about how he's going to make it happen with the government. It's not like "I think everybody'll have watches someday," you know what I mean. Like he's— he really was pushin' this. But less— But wha— wha—

Sydnee: [chuckles]

Justin: But what is it? Well, it's— I know it's important, and it's great for everybody.

Sydnee: No.

Justin: How do I know that? Because since Ju— [chuckles] In June of 2026, the FDA allowed over the counter continuous glucose monitors, which we're gonna be talkin' about, in kids as young as two. Even if they're not on insulin. So we gotta monitor, continuously, the glucose.

Now I know what you're thinking. "I thought that was just for people with diabetes." And you're wrong, and you sound stupid. I've been reading a lot, and it turns out everybody needs to be monitoring glucose all the time.

Sydnee: No.

Justin: Okay.

Sydnee: No. We're gonna talk about why not, right.

Justin: Oh, okay. Yeah.

Sydnee: Yeah.

Justin: Well yeah. But like, it's just a thesis statement.

Sydnee: And wh— And why I think— I think there's— there's— Okay, first of all, what a continuous glucose monitor is, and what the real uses are for it. Why— Why we have them.

Justin: Mm-hmm.

Sydnee: And then I wanna talk about why this claim, that they're good for everybody.

Justin: Mm-hmm.

Sydnee: And then why in the world are we having this conversation.

Justin: Okay.

Sydnee: Wh— Why are we all talkin' about continuous glucose monitors.

Justin: Let's take it— Let's talk about monitoring glucose. Now I know that we talked about this in our diabetes episode.

Sydnee: Yes.

Justin: We probably talked about peeing on a stick, and then the ants come and get the sweet pee.

Sydnee: Yes, and there was a time where we tried to figure out if somebody had diabetes or not by tasting their urine, right. To see if there was sugar in their urine, because if you can't process sugar it'll spill out into your urine—

Justin: Be deliciously sweet.

Sydnee: — and then your urine'll be sweet. So we don't do that anymore. We can check your sugar now in a variety of ways, but— So first of all, we've done episodes on diabetes, and so I won't get into the weeds about diabetes. I do think it's really important—

Justin: The weed-abetes.

Sydnee: — for [chuckles] for this—

Justin: The dia-weed-es.

Sydnee: [chuckles] I think it's really important for this episode to understand the difference between Type One and Type Two diabetes.

Justin: Yes. Yes. I still struggle with this.

Sydnee: Yeah.

Justin: And so I'd like to— like to— Let's go over it again.

Sydnee: So, generally speaking, and there— and diabetes— Every year I feel like we get better and better understanding of diabetes. There are more and more treatment modalities, so ever— like our understanding, even since I've started medicine, our understanding of the types, so to speaks, of diabetes have changed.

Justin: Mm-hmm.

Sydnee: And the causes. But some things remain the same. With Type One diabetes, it usually— The onset is in youth, typically, so younger.

Justin: Mm-hmm.

Sydnee: Which makes you think that it's a genetic thing. I think we assume that it must be a genetic condition if it— if it starts in childhood.

Justin: Mm-hmm.

Sydnee: It's not. Type Two is actually the more highly genetic condition. But Type One, usually onset in youth, and it typically is because your body is attacking your own pancreas, specifically the beta cells that make insulin.

Justin: Mm-hmm.

Sydnee: And so you are no longer making insulin. Without insulin, you can't take glucose into your cells and use it effectively, and your glucose runs very high, and then you get all of the symptoms associated with that. So you get— Typically you lose a lot of weight, you're very hungry, you're very thirsty, you're peeing all the time, but you start to have wasting, and you can get very, very sick.

Justin: Mm-hmm.

Sydnee: And patients certainly before the invention of insulin that we could inject into people became very, very unwell. So Type One diabetes needs to be treated with insulin, inherently because you don't have it, so we gotta give it to you.

Justin: Yeah, you have— you gotta get it.

Sydnee: The goal, someday, would be that we give you a new pancreas. Wouldn't that be incredible.

Justin: A cyber-pancreas!

Sydnee: Yeah, we give you a cyber-pancreas, and then we don't have to give you insulin 'cause the cyber-pancreas makes the insulin. We're not there yet, but that day will come.

Justin: But I— I am—

Sydnee: That day will come.

Justin: — going to trademark "cyber-pancreas."

Sydnee: Type Two diabetes, the usually onset is later in life, typically, and it is not because you don't have the insulin, you're making the insulin still, it's because you have resistance in your cells to taking— using the insulin to take glucose in. So the problem is on the other end.

In Type Two diabetes, the more we have learned about it is more closely related to metabolic syndrome in general. It— It is closely linked to our— our weight, it is linked to— Firstly, it's very genetic, and we see correlation with— with Type Two diabetes with a lot of other metabolic syndrome.

Justin: You said somethin' interesting before we started recording. You said wouldn't be surprised uh someday if we use actually different names for those two conditions.

Sydnee: Well, I do— I think that it would be useful because they… The treatment is so different between the two. Although I— I will say,

obviously you can use insulin in Type Two, and there are many Type Twos who do end up needing insulin. But there are a lot of other medications that we can use to treat the insulin resistance. And then you have the insulin, so you don't need it. Whereas Type One, you— we have to give you insulin.

Justin: Type One— Type One diabetics have to have insulin, right?

Sydnee: Yes. They have to have insulin.

Justin: Okay.

Sydnee: So I think— I think because the etiology is different, and the treatments often are very different, I— it is weird to me that we still use the same terminology. I think it's confusing to people. I don't know, this is me in the medical world. I'm not— I'm not saying I'm confused by it. [chuckles] I'm saying I— I feel like sometimes it's confusing terminology.

Justin: Alright.

Sydnee: And I think sometimes we throw 'em in the same bucket, other than you both get high sugar and you can get similar symptoms. For sure, for sure. And there can be similar complications. All that is true.

It is really important, es— for any diabetic patient on insulin, and this especially applies to Type One, since they're going to be on insulin. It is very important that they are able to check their glucose. For many, many years, even after we understood diabetes, we understood the import— importance of insulin, you couldn't necessarily check your insulin level at home, right.

Justin: Mm-hmm.

Sydnee: You would have to go to a doctor and get blood drawn. To check your glucose level. Can you imagine how inconvenient that would be? If you think about, you know, there are Type One diabetic patients who have to give themselves multiple injections of insulin during the day, and it— depending on how they manage it for themselves individually, it might be based on what their glucose is at that moment, or it might be based on how many carbohydrates they've eaten in a certain meal.

Justin: I mean.

Sydnee: Having to adjust for that without the ability to check your sugar was incredibly difficult.

Justin: Mm.

Sydnee: For many years.

Justin: Wow.

Sydnee: It wasn't until the '80s that we start seeing the invention of a home meter. Something that you could actually take home, and— and probably many of you are familiar with these, even if you are not diabetic yourself. It's a meter that you can have at home, you prick your finger, it needs the teeniest, teeniest drop of blood, and it can tell you your sugar in a few seconds. So.

Justin: Bing bang boom.

Sydnee: And over the years they've become better and better. We have smaller ones that are more reliable, that need less blood, that you can use on other— You don't have to do a finger stick, you can use on like your arm, yah know. So that it's—

Justin: Thanks, science. Why would you— Why a finger stick in the first place?

Sydnee: Uh, we have a concentration of little capillaries there, and it's like—

Justin: Oh, it's just— It's like an easy, fun place.

Sydnee: It's easy to squeeze and, I don't know, easy access point. [chuckles]

Justin: Easy access, yeah.

Sydnee: Fi— It just, yeah. Finger sticks have always been the—

Justin: Mm.

Sydnee: An easy access point for that.

Justin: Yeah.

Sydnee: But it's also it can be painful, especially if you have to do it multiple times a day.

Justin: For, yeah.

Sydnee: And so the freedom to be able to use another access site is nice. And then finally we have in the— Like in the beginning of the 2000s, we start to see continuous glucose monitors. The first ones were only like something that you would wear, and then give to the doctor for them to be able to like download basically and review.

Justin: Right.

Sydnee: So it wasn't real time.

Justin: Sort of like the heart monitors—

Sydnee: Yeah.

Justin: — that you like wear for a bit and then you send back.

Sydnee: Exactly, although even in those cases, you would— In like the heart monitors we wear, it's sending data to somewhere, where they can review it.

Justin: That's true.

Sydnee: 'Cause it will alert if something really— If you're wearing one of those heart monitors, or if you've ever seen one of those ones that stick on your chest and you wear around for a while, it is sending data somewhere. And if something really wild happens, they will call you. [chuckles]

Justin: [chuckles] "Too wild."

Sydnee: And like, "Are you okay?"

Justin: “Hey, are you doin’ alright?”

Sydnee: “Are you okay?”

So they refined the continuous glucose monitor so that it could be something that would give you real-time data.

Justin: They— They don’t pretend to be angels, by the way. The— They got in trouble for that once or twice, like “Hey, this is your guardian angel, so we just wanna make sure you’re okay, ‘cause you seem a little stressed out." And people would get freaked out, like really bad freaked out. And then they had to explain it’s like a whole…

Sydnee: [chuckles] You would get in trouble if you did that.

Justin: Big trouble.

Sydnee: Big trouble.

Justin: They got in huge trouble, I think. There was a whole legal kerfuffle.

Sydnee: [chuckles] So we— So we have in the early 2000s monitors that you can wear all the time, can give you real time data. Um we continue to refine those throughout the 2000s and even up to now, where we get implantable continuous glucose monitors.

Justin: Yeah, those you can wear for like a year. The rest of these I think are more like two to three week kinda deals.

Sydnee: And it— Just to— Just to say what is this continuous glucose monitor if you’re not familiar with it. So, it is something that you’re actually going to wear on your body. There’s a tiny little filament, so it does go into your skin. And it doesn’t need to go into like a— a blood vessel, it doesn’t have to go into a vein, or even a capillary, it’s just gonna be in the interstitial fluid.

Justin: Mm-hmm.

Sydnee: That’s the fluid between your cells. It will sit there and give you real-time glucose readings… about every five to 10 minutes. And then you can also like ask it to check.

Justin: Okay.

Sydnee: You can ask it like what’s— what’s a— “I feel bad, what am I doing right now?" Um most sensors you have to change about every couple weeks.

Justin: Right.

Sydnee: There is the implantable one that you can change once a year now. You— You shouldn’t have to, you know, stick your finger now if you have one on, so you can see the advantage there.

Justin: Yeah.

Sydnee: Um there are ones too that can communicate with, if you are someone who wears an insulin pump.

So if you have diabetes and the best way to manage your diabetes is to actually have a pump that, again a tiny filament goes into your skin and you can set it for like a basal rate, where it’s consistently releasing some insulin into your body. And then you an bolas yourself with doses after meals, or based on carb count, or however you manage your diabetes.

And then it can communicate with your continuous glucose monitor, so it’s like— Which is cool because this is approaching the cyber-pancreas now. Because if the two, you know, if one is sensing your sugar and the other is adjusting your insulin level for it, that’s kinda what your pancreas did. So—

Justin: Right.

Sydnee: So that’s pretty cool, we’re getting closer. And all of this technology was really meant for diabetic patients who use insulin. Again, a real focus on Type One diabetics, because they have to use insulin. There are the patients that the continuous glucose monitor was— was made to benefit primarily.

Justin: Mm-hmm.

Sydnee: Does that make sense?

Justin: Yes.

Sydnee: Like this— this is why this technology was invented. The— For these patients, especially if you think of how many of these patients are diagnosed as children. Typically it is onset of— in youth. This is such an easier way to manage diabetes, if you get used to the use of a monitor and a pump, or multiple injections, whatever works best for you. That is an easier way than, yah know, having to check your sugar multiple times throughout the day.

So, and we have evidence that says in Type One diabetics, continuous glucose monitoring, especially those that might be prone to hypoglycemia, low sugar episodes, continuous glucose monitoring is helpful, can help manage disease better, can help keep your average sugars lower.

And then, you know, I think a lot of patients— I've had a lot of patients who've had that combo, will say their quality of life is improved. I don't— That was not in the studies I was looking at, but you know, they don't have to think about it as much, they don't have to stick their finger. That they appreciate this sort of like um automation of it.

So that is why we have continuous glucose monitors, that's who they were made for, that's who they benefit. That's where the— the thrust of the research as to why we need these exists.

Justin: It's really important, I think, to understand all this, and why we wanted to do all this first. You really have to understand what these things are, and that they are useful.

Sydnee: Mm-hmm.

Justin: And that some people do need them. And we needed to establish that now, so that in the second [chuckles] half of the episode, we didn't have to keep saying it every couple of minutes.

Sydnee: Yes.

Justin: Because there are a lot of people that have taken this very useful thing and have pretty profoundly perverted it.

Sydnee: I— I think— That's— That absolutely. And I think it is natural to say it works really well in Type Ones. Would it work as well in Type Twos? So expanding the research to that makes sense. But then I think that's the next question. So should all of us be wearing a continuous glucose monitor? Especially since March of 2024, when they made the first over the counter continuous glucose monitor available.

Justin: Mm.

Sydnee: And then just this past June, when they made the first over the counter [chuckles] uh continuous glucose monitor for children two and up. And again, these are not for— necessarily for diabetic patients, these are just for everyone.

Justin: Everyone. Does everyone need to monitor their glucose all the time? Don't answer, because what I was thinking was…

Sydnee: Let's go to the Billing Department.

Justin: Let's go.

[ad break]

Justin: So what happened was this.

Sydnee: [chuckles]

Justin: When we got this great technology, in you know, the late 20-teens, you had a couple of different um entrepreneurial uh companies that— that said "Hey, wait a minute. You're— There are these things that you can get this data from. Maybe if you had someone to help you to process it, even people without diabetes could— could— could use this." Or at least that's the pitch, right? The company that uh one of the— the main ones that I think has been kind of leading this is Nutrisense?

Sydnee: Mm-hmm.

Justin: And they were founded in Chicago in um 2019. Now when they started, it was still a prescription thing. So the original pitch with most of these companies was "You sign up with us, and then you get the prescription from a physician that we've partnered with, and then we will help you to monitor your glucose. We'll help you to understand this data that you're getting from this thing, because there's a lot of it."

And the way I understand in my layman's— I'll try my layman's approach here. These things are very useful, but they're good at tracking the kind of swings in— in glucose that people with diabetes have. And there's a little too much noise, or maybe a lot of too much noise in that signal to detect useful information in people without diabetes.

Sydnee: Well, and I think it— it's—

Justin: Does that—? Is that—?

Sydnee: Yes.

Justin: First, is that right-ish?

Sydnee: Yes, because that is— that is why— I mean if you read even the literature that supports their use for Type One diabetics, the intended audience, will caution that there are things that can make the readings wrong. For instance, this is a really easy example, they can be sensitive to— to compression.

Justin: Huh.

Sydnee: So if you sleep in a position, if you roll into a position where you're laying on top of your continuous glucose monitor, there's a chance that you can press the skin around it, which will decrease blood flow to the monitor, which the monitor may interpret then as low sugar. So there are reasons why it can be wrong, even when it's used appropriately in the right patient.

Justin: Mm-hmm.

Sydnee: And now we are deploying it to everyone. And you've gotta think too, a Type One diabetic patient who has seen their physician who

prescribes this to them, who helps them manage it, who helps their diabetes, who helps educate them about diabetes.

Justin: Mm-hmm.

Sydnee: And about what to eat, and what to do, and what medicines to take. They are getting all of their questions answered constantly, and they have somebody— they have an expert to consult with if something seems off.

Justin: Mm-hmm.

Sydnee: As soon as you introduce it to the general public, what expert will all of these people talk to? I mean, they don't have any education about diabetes or glucose or what any of this mean because they don't have diabetes.

Justin: Right.

Sydnee: So why would they know?

Justin: So why would they know, yeah.

Sydnee: Right.

Justin: Well. Good news. [chuckles] There's Nutrisense, and Levels, and other companies like Stelo. Some of these companies provide the devices themselves. Some of them are uh… just providing the like education— edu— [in a gruff voice] "educational." Educational part.

Sydnee: Educational.

Justin: Of the, uh.

Sydnee: Mm-hmm.

Justin: Of the uh thing. So uh.

Sydnee: [chuckles] Can I say, just real quick, I feel— I have mixed feelings about this aspect of it. First of all, I obviously, this is gonna be

gross and I'm not gonna enjoy this. But the fact that they are offering the educational piece, it is gonna reduce the number of visits.

I— I see you out there, primary care physicians just like me, where your patients are gonna come in with this monitor they bought over the counter, and they're gonna have 50 questions for you about it. And you're gonna be sitting there going "Why are you meas— You don't have diabetes. Why are you doing— What? Why are you doing this?," and [chuckles] I'm certain you're having those appointments. And so I guess they're trying to cut back on that?

Justin: Uh, I— I guess, yeah. It— It's really pricey. I mean, to use another company as an example, right. Just the— the main pitch is weight loss, obvi— I mean, like no surprise.

Sydnee: That's their pitch?

Justin: That's the—

Sydnee: Monitor your sugar to lose weight?

Justin: I mean, if you look at this company, Signos, a lot of people like cloak it, but I— that's— that is the— I mean, if you look, you don't have to read—

Sydnee: "A smarter way to reach your weight goals."

Justin: "— your weight goals." I mean that—

Sydnee: It's right there.

Justin: That's signos.com front page, like that's how they bill it. I mean, if you look at other companies, like Nutrisense takes a bit more of a like "control your health, take control of your weight, take control of your health." It's still "take control of your weight," it's about weight.

So, the— the— what the— what the pitch is this. You've been trying to lose weight for such a long time. The problem that you've been having, the one thing that's been missing, is… Now if you've heard any of our weight loss episodes in the past, you should know that this sentence. [chuckles] Has ended hundreds of different ways for millennia.

Sydnee: Yes.

Justin: And this is the latest one. The idea is that your problem is that your body processes glucose in all of these wild ways [chuckles] that you can't even—

Sydnee: You have no idea.

Justin: It's like your body is going wild with the glucose, you have no idea. You gotta get one of these monitors and gives— Well, Signos, we're gonna give… Their most popular plan, if you get the six-month plan, is gonna be $127 USD per month for this tracking [chuckles] service.

Sydnee: This is—

Justin: And it's— it's really— It's legitimately you wear the continuous glucose monitor, and then someone's like— And then, but the other ha— the other component is you're meeting with a dietician who's helping you to understand what this means. And then so that is the— that's what it's— that's probably— [wheezes]

Sydnee: And it— it—

Justin: You're meeting with a dietician and they're like that the idea is like the dietician is looking at this data and saying "Ah, I've got some special— some special stuff that you don't understand that I get— I've got the keys, thank— thank goodness you've been wearing this monitor."

Sydnee: Two thoughts. One, yah know, this inherently… I— I hate this kinda stuff because it inherently undermines patients' relationships with their own providers.

Because if you have talked to your provider about "Do I— You know, should I be concerned about diabetes?," and you've had that conversation, maybe you've been screened based on family history or symptoms or whatever. And your provider has said "No, you don't. We don't need to get you a glucose monitor. I've done the appropriate work up and it was not indicated. It would not benefit you."

And then you've got these commercials that are saying "No no no, you do need it. It is the secret to your health and weight loss." It feels very similar— I sometimes see this rhetoric around hyperthyroidism. "Your doctor may have tested you for it, but they don't know all the right tests. Come see me and I'm gonna order 10 more tests that aren't covered by your insurance, cost tons of money, are not validated for this condition, but it's because your doctor's not telling you the truth."

I feel like that's always inherent in this, which really fractures the relationship between a— a patient and a trusted provider. The second thing is do we have evidence that monitoring your sugar all day will help you lose weight?

Justin: Um… Interesting question, Syd. I— I mentioned this study from Signos. This is one of the companies and this is their best, uh… I don't know how I found their journal before— They have a journal. But how compelling did you find their study? The— Them sort of explaining how this worked?

Sydnee: Justin showed me a study from— This is just from August 11th, wow. Okay, so this is very recent. This year.

Justin: This has happened—

Sydnee: Yeah, this is brand new.

Justin: Yeah, this is all happening now.

Sydnee: Uh, so obviously this was a— this was funded by Signos, I belief.

Justin: Mm-hmm.

Sydnee: And they took— It was a retrospective observational study, so they're looking back on reported data from these patients. So that's— I think it's important to understand that those studies, I don't mean that they can never be worthwhile, sometimes they can, but it's important to understand the limitations of that.

We are looking back at something that happened in the past and asking questions, and trying to figure out what it could indicate. That is not as

strong of a study as a, you know, one where we are— we are initiating those changes and watching them in real time.

Um, so it's like 3000 adults, and basically they were tryin' to see did they lose weight if they were engaged with Signos? And did higher engagement mean more weight loss? And they're saying that yes, at six months, 5% total body weight loss. If you were engaged and if you were higher engaged, it was 5.9%. And highly engaged with obesity, 7%.

So what they're saying is "There's a correlation between using our product and losing weight." But if you look through what that means, like being engaged with their product, yes you're wearing this continuous glucose monitor. But also you're constantly meeting with a dietician, you're logging your— Not just your glucose, but you're logging your exercise, you're logging every bite you eat. You're— You're logging all kinds of things about your life every day, in addition to meeting with somebody who's going to give you advice.

That— Whatever— Whatever method you're using, if you're that intensely monitoring and working towards losing weight, you're probably going to lose some weight. So I don't know that we can say wearing a continuous glucose monitor causes weight loss.

Justin: Mm. Now—

Sydnee: I— I— I don't think that study can say that. I think what it says is "We saw a correlation between using Signos and losing weight," and that probably is true for any— I mean, it— How many weight loss plans throughout history? Yeah, you probably, if you paid really close attention to it, did lose a little bit of weight.

Justin: Mm-hmm.

Sydnee: But was that necessarily healthy for you? And was it sustainable? And is that what a doctor would recommend? Not necessarily in any of those cases. On top of that Signos study, I just wanna call attention to um… There was so JAMA, the *Journal of American Medical Association*, internal medicine, published um just— This is from 2025— 2026! This is from this year.

Justin: So, yeah, very—

Sydnee: Very recent, very recent.

Justin: This happened right now.

Sydnee: Like this— Like a month ago.

Justin: For reasons that will become clear soon.

Sydnee: Yeah. Published uh a study, "Continued Glucose Monitoring for Persons With and Without Diabetes." In… In reaction, I think, to all of these over-the-counter glucose monitors suddenly being— continuous glucose monitors suddenly being available. They're routinely used by people with Type One diabetes, so what they said is should— One, should people with Type Two diabetes be using them? And then two, should people without any diabetes be using them?

And the TLDR is this. There is no evidence that using a continuous glucose monitor prevents any kind of secondary disease, like complications like heart disease or kidney disease or eye problems. The things we associate with unmonitor— or uncontrolled diabetes, there's no evidence that a CGM will prevent that for Type Two diabetes patients, or people without diabetes, okay? No evidence for that.

Uh for people with Type Two diabetes, it can detect if you have low sugar. But there's no evidence that it will reduce any reactions, like a seizure. Like if your sugar gets too low, as a diabetic, you can have a seizure. There's no evidence that this is gonna prevent that, and it's not relevant if you don't have diabetes.

Uh in terms of lifestyle, for a Type Two diabetic, seeing your glucose could encourage a lifestyle change. But it also may unnecessarily restrict your diet, and I think you really need to remember that. If you are hypervigilant about every bite of food you put in your mouth, and the effect it has on your sugar, it could lead to disordered eating, or— or to— or other unhealthy eating activities, so.

Justin: Which is a real risk.

Sydnee: Yes.

Justin: Of this pretend thing.

Sydnee: Huge risk. And in terms of patients without diabetes, there is absolutely no… reason to look at— We don't even know what these fluctuations in glucose mean. It doesn't mean anything for you, clinically. It's "Okay, well you ate something. Your sugar went up 'cause it does after you eat, and now it's back down and that's normal, and it doesn't matter." Obviously it can't guide any treatment decisions, if you don't have diabetes.

In a Type Two, it's possible that if you see your sugar throughout the day and it's routinely high, you go to your doctor and say "Hey, I think I might need to check and see if my treatment regiment needs to change," it's possible. But in terms of how it's gonna impact your Type Two diabetic control, the— the reduction in hemoglobin A1C, which is the average of your sugar over three months, was about on average about 0.3%. Which is extremely— It's a low effect.

So I— It may be, if you're on insulin, this could be, if you're a Type Two diabetic, an option for you, possibly. But right now we don't have strong evidence that it will be highly beneficial. And there's no evidence that a continuous glucose monitor leads to lower glucose levels, or the avoidance of any kind of disease process, in someone who doesn't have diabetes. Period.

Justin: Okay. So, why is all this happening, and why is it happening right now? Well, you know that expression "Follow the money"? The one thing I'll say for the Trump Administration is they make it really easy for you. It's really not hard to follow the money, in fact if pretty obvious. I— Here's the short version. It revolves around two people, Dr Casey Means, who was previously mentioned on *Sawbones* twice.

Sydnee: Mm-hmm.

Justin: In connection with measles. [chuckles] Aw no.

Sydnee: Yeah, she was the— You remember, she was the failed Surgeon General candidate.

Justin: Yeah, who was— couldn't get any traction because she woulda done a bad job at it.

Sydnee: Mm-hmm.

Justin: [scoffs]

Sydnee: ‘Cause they didn’t trust her to—

Justin: Didn’t trust her.

Sydnee: — to be the top doctor when she I believe never actually practiced medicine. Did she— She didn’t finish her training.

Justin: Uh, didn’t currently have it.

Sydnee: She didn’t finish all the training.

Justin: And then, I will say, has been— has expressed vaccine hesitance out the wazoo. But is a close advisor to RFK, as is her brother, Calley Means. Who is an— an HHS advisor, whose company TrueMed lets you use your health savings account to purchase wellness devices, like… these continuous glucose monitors.

Sydnee: Like continuous glucose monitors. It—

Justin: It’s just— It’s really that easy!

Sydnee: It’s—

Justin: It’s just like— It’s just that!

Sydnee: Well.

Justin: And so in 2024, we had ‘em. They’re no longer prescription. 2026, we’re givin’ ‘em to kids. [chuckles] Like it’s— it’s— that’s— that’s how it happened. That’s the short— That’s the extremely short version.

Sydnee: And it— I think— I think the thing about this grift is that it’s the insidious piece.

So, if you have RFK and his acolytes standing there saying “Listen, all these years, Big Pharma, Big Medicine, Big Whatever, has tricked you. Big

Doctor has tricked you into thinking that you need to pay money, and see a doctor, and be on medicine, and it's all— it's a racquet. They're tricking you 'cause they wanna profit off you, and they wanna keep you sick 'cause they make money off you. When it's as simple as eating healthy and exercising."

That's been his pitch, right? I mean, he said that, like pretty clearly. Like he—

Justin: Yeah.

Sydnee: "It's— It's cheap! It's free! Eat healthy, exercise, get sunlight," whatever.

Justin: Tan your taint.

Sydnee: But see the problem with that is you can't make money off that. So you gotta find the grift. So it's not as simple as "eat healthy." It's "Buy my continuous glucose monitor, and then subscribe to my AI dietician to interpret—"

Justin: Oh, we didn't even mention the AI part, that's a huge component of it. Like Signos has one, I think it's they— they— I think most of the companies are using this. Like an AI— an AI watching your glucose and giving you advice on like how to ask your questions about your— your whatever.

Sydnee: Because at the end of the day, what they're gonna tell you is that eating healthy is not the same for every person, which there's some— there's a grain of truth in that, right.

Justin: Yeah.

Sydnee: There's— There is a grain of truth in that. But what you'll need is an individualized nutrition plan. Whether or not it is feasible for you or you can afford it doesn't matter, you're gonna need one, and you can— you have to pay them to get all the data, and meet with the experts who are going to tell you what it is.

And then they're going to probably tell you you need certain supplements and vitamins, because all of these companies are tied in with the

supplements and the vitamins and the wellness community, who are gonna sell you a number of other things. So it is, at the end of the day, "It is as simple as eating healthy and exercising, and buying all of our wellness products, and prescribing— and subscribing to all of our wellness podcasts and wellness videos and wellness books."

Justin: I mean—

Sydnee: "And wellness—" I mean.

Justin: Yeah. Even if you grant— Even if you grant the premise that there is some information that can be gleaned from wearing this continuous glucose monitor. And that like information is specific to you, and it is— it is information about how your body—

Do you really believe that after three months, or two months, or three months of wearing it, they're gonna say "Yeah, we've gotten all the information we need. I don't think you need to subscribe anymore. I think you've learned everything you need to do about your glucose."

No, I bet you're never gonna quite understand the problem. I bet you're never gonna quite get there. You know, I bet you're gonna probably stay on that monitor until the credit card [chuckles] defaults.

Sydnee: It— It's really important to remember that, at the end of the day, if research has not been translated into watching real humans interact with this in real time, and what is it doing to their health and safety long-term. If you haven't seen that study, then you can't really say for sure that anybody needs it, or that this is a good thing.

And I think that's the— that's— Underneath all this, there is the— this study that was done in, what 2015, about personalized nutrition. And the idea was basically different people can eat the same meal, and we can see different spikes in glucose afterwards. Like the very ability of glucose is different from person to person. Outside of having something like diabetes. And so the idea is we all need individual nutritional plans based on our gut microbiome, and I don't know, all kinds of things.

Um… Why? Why? I mean the— the— the thing that was missing, I read this thing and I thought "Okay, so my glucose will go higher if I eat the same meal as yours. And then I will… get sick? Have a stroke? Get

diabetes?" What— What— They have never shown that. They have never shown what the— what is the significance of that. I—

Justin: Mm.

Sydnee: I don't know how to interpret what they— what this study says, but they have now rolled that into an entire industry that's gonna convince you "Check your sugar all the time, and do something about it every time."

And I— I mean, all I can see this leading to is one, that you're wasting money. Two, it's going to erode trust in your actual healthcare provider, who is evidence-based and knows what they're doing. And three, could lead to disordered eating.

Justin: Yeah. So… there it is. Don't get a continuous glucose monitor unless you need it. [chuckles]

Sydnee: Yeah, I mean if you— Again, if you are working with a licensed healthcare provider who is telling you, "A continuous glucose monitor, I have evidence that shows it would improve your health, and quality of life, and safety, and help you manage your Type One diabetes," absolutely. That's a great idea.

Um but you should not— I see no compelling evidence that buying one of these over the counter and wearing them will improve your health in any way. That's— That has not been shown, and it's really important. That piece has to be there for any of this to make sense.

Justin: Thank you so much for listening to our podcast. We also want to thank The Taxpayers for the use of their song "Medicines" as the intro and outro of our program. Thanks to the MaxFun Network for having us as a part of their extended podcasting family, and thank you to you.

[outro music fades in]

Justin: For listening. I appreciate it. Until next time, my name is Justin McElroy.

Sydnee: I'm Sydnee McElroy.

Justin: And as always, don’t drill a hole in your head.

[outro music plays]

[ukulele chord]

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