Optimize Blood Sugar With Smart Monitoring Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and Guest Background

Hello. Welcome to another episode of Reversing Type 2 Diabetes Summit 2.0. This is your co-host, Dr. Will Hsu. Today we're going to be talking about self glucose monitoring.

And I'm glad to have one of the experts in the field, Dr. Elizabeth Holt, who is a certified board, certified in chronologies and now works for a company that makes glucose monitoring strips and smart meters.

And, Dr. Holt, welcome to the show. Thank you. I'm happy to be here. Yeah. So just like my cells, your and in chronologies, we used to practice medicine, and now you're working for a manufacturer of very novel technology.

Maybe a little bit. Tell us a little bit about your journey. I always love kind of the human story. Why? Just like myself. We used to practice medicine for myself 20 years, but I don't know how many years you practice.

What was kind of the motivation that got you in a way out of medicine, but into a parallel field? Giving patients more tools to manage their diabetes?

Thank you, Will. So I practiced endocrinology in North Carolina in a private practice for 28 years, and so I was able to touch the lives of a lot of people, many, many of whom had diabetes.

And it was very satisfying. And I really enjoyed the work that I did. But I touched the lives of a limited number of people. I during that time, I also worked on speaker bureaus and advisory boards for pharmaceutical companies and medical device companies, educating health care providers.

And so they could go provide better care for their patients. So I touched a few more lives indirectly that way. Then I had the opportunity in 2019 to join a pharmaceutical company, and I realized I could touch even more lives.

And so I took that opportunity. The FDA did not approve. They're product, but I really enjoyed my time working with them. And so I looked for another opportunity and ended up with life skin.

We make, as you said, the OneTouch blood glucose meters and the digital app OneTouch revealed that people can use to help better manage their diabetes.

Role of Blood Glucose Monitoring vs CGM

So. So I can certainly identify with that. The concept of scalability. You know, we as physicians, I also wanted to touch more lives, one more impact.

So let's talk about this very, very important technology, glucose monitoring. So if you don't monitor, if you don't check, you don't know your numbers, you know what?

You don't know what direction your glucose level is, and then you kind of aim once, right? So it's a really important technology. Now, this field has evolved quite a lot now over the last two decades.

You have you have many what's called smart meter, right? That that not only gives you a reading of the glucose, but also compiles the data and analyze the data for you and also has meter now has memories and so on so forth.

So that's one aspect that many of our listeners also have heard about the coming of the era of, of continuous glucose monitoring as kind of a commodity.

A lot of people are looking for that. So so I'm going to throw out a question there for our listeners. This is what they

wanted to understand is that in the age of CGM continuous glucose monitoring, what is the role of a blood glucose monitoring with episodic meter?

I think this is an important discussion point. Right? And I think the CGM certainly gives a much more detailed insight into every few minutes during your day and you can see things that might previously have been hidden if you were not doing a fingerstick blood glucose during that time.

And for people who are taking insulin and especially on an intensive insulin regimen with multiple injections or an insulin pump, it's very important to be able to have that degree of granularity and insight into what is happening throughout the day and night.

But for people who are not taking insulin and even for some people on just a basal once a day long acting insulin, they don't necessarily need that full degree of insight.

And with monitoring at particular times what we call structured monitoring, where you have a plan, you know, when you need to check your blood sugar and you time it to be before and after meals or after a physical activity or things that you think might impact your blood sugar.

And you check at those times to see what the impact is. And you can get a great deal of knowledge out of that with a much more cost effective system using periodic monitoring with a blood glucose meter, then with a continuous glucose monitor.

So you're talking about up a cost is a major issue, right? So CGM is much more expensive than a glucose meter, Right. And there is also the reimbursement issue where most people with type 2 diabetes are not on insulin.

We know that. And then if you're not on insulin, there's very little coverage for continuous glucose monitor. But what about the glucose strips and meters?

Are they covered by insurance. Almost all the time? They are, yes. And even if they're not covered, the out-of-pocket cost, even if you're self-pay, is generally very affordable for most people.

And a lot of the meters, I'm not sure if it's still the case that they're given for free for by many of the offices. Is this true or. There are sample meters that can often be obtained for free?

That that is correct. They're also they're not in in the United States, at least they're not prescription items. You can go into your local pharmacy or the chain store Amazon, and you can buy the meter and test strips.

And oftentimes when you buy a meter, you get a supply of test strips with it. The cost of the meter is is nominal. So even if you can't come across a free meter, the cost of the meters is usually not an issue for most people.

So our our listener is a we're going to a pharmacy, they walk down the aisle, they see the glucose meters. There's so many different kinds of them. Are they all the same?

How do you tell the power what's important in picking a glucose meter system? What what, what characteristics, what qualities are you looking for? Right.

And most importantly, you want a meter that's accurate. You're you're using it to the data to learn about yourself. So you need to know that the numbers you're getting are going to be accurate.

So you want to look for one of the major brand manufacturers don't necessarily buy just based on price. And there's generally not that big a price difference between the best meters and ones that may not be quite as good.

And then you want to look at the features. Do you want a meter with memory so you don't have to write all your numbers down? Do you want a meter that has a diabetes management app?

Choosing a Meter and Using App Features

So you want a meter with a Bluetooth connection? And then if you have a smartphone, you can put the app on your phone or on your desktop and have the meter transfer the readings automatically so you don't have to write them down at all.

And then that the app can give you reports, it can organize your data, give you some interpretation, tell you, for example, what your average blood sugars have been, how much they've varied from day to day over the time period.

You're looking at. And then some of the apps can even do some pattern analysis. Our app is able to look for patterns that you're having highs or lows some meters have features that are optional for you.

For example, you can tag your meals that you're eating before a meal, but you can also tag a glucose that it's after a meal and so I talked about structured monitoring.

You want to see the impact of the meal if you're able to tag certain readings before meals and other readings of that as after meals, then when you go to analyze your data, you'll be able to tell that instead of trying to remember which readings will read more later.

So remember when, you know, back in the nineties or when and when I started my practice, patients used to come in with these bloodstained monitoring booklets. Right?

And that was kind of the badge of honor, like, look at all my readings. But on the other hand, the whole booklet was, was heads bless spot spots all over the places I think those days and blood.

Sweat and tears literally all over the book. Yeah. So yeah the in it in addition to the pain of the patients to collect that data. Yeah it was also painful for health care providers to look through it.

It took a lot of time, a lot of concentration and the human brain is not optimized to be able to look through a log book, you know, over 14 days or 30 days or 90 days and look at patterns and come up, Oh, your your every time you had a pizza meal, you're going home now.

It's kind of classic. You can't it's really hard to pick that kind of pattern up out of a manual review of a logbook. So the the software allows you to generate reports and some of the software even allow the health care provider to have a professional version where they can look at their panel of patients who have given permission and opted in to share their data.

And so when you go into your office visit, even if you forget your have a log book because it's all digital, but even if you get your meter, it's all in the cloud.

So the health care provider can just log in through their portal and pull up your report right there in the office. Or even if you're not there or having a virtual visit, they can look at your data and help.

So this is really important that what you're talking about is, is you helping your health care providers to make sense of the data that you have. Right. So our patients have gone through all our listeners have gone through the effort of monitoring blood glucose, but let those data count, right, by getting on a digital platform to go into the cloud so that the physician, when the physician sees the data, can make sense out of it.

The pattern recognition is really key. There are out of the hundreds of numbers, if you took the effort to to to monitor the blood glucose, how do we make sense of that?

And now we've got computer to help us with that with the analysis is so important. And so help us understand a little bit the the many factor that you work for.

It's called live Scan. Right? And it has now several different media platforms. Walk us through a little bit about the options. What are they? You know, because our speakers are I'm sorry, our listeners are very intelligent.

They they want to take control of their own diabetes. So they want to be they want to understand what available the available options are there. I'll do it for them.

Thank you. So our platform is is our brand is one touch. So we have the probably the most popular meter in the United States is the one touch Verio flex meter.

And that's a meter that has a memory. It has Bluetooth capability to go to the OneTouch reveal app and on the housing of the meter. On the meter itself, there is a color range indicator.

We call it our color for technology. And whenever a number comes up on the screen, there's also a little arrowhead that points at a color segment. So we use color to indicate whether you're in range or not.

For most people, they set their range to be 70 to 180 milligrams per deciliter, but it's customizable in the meter and in the app.

OneTouch Meter Options and Color Indicators

And when your blood sugar number is in range or indicator points in the middle at green to show that you're in range, if you're below range, the indicator points at blue and if you're a bug range, it points at red.

And so instantly when you just look at the screen, you can tell whether you're in range or not, even if you're not exactly sure what your numbers should be or maybe you don't have a good understanding of numbers, you can just look at the color and know if you're in range or not. Now.

Our most sophisticated, most advanced meter is the one touch verio reflect meter that. Lets that. And that has a full, full color screen that will actually have aa7 segment color range indicator.

So in addition to the blue for low and red for high, we have five segments in green for in range. So you can tell if you're nearing the bottom or nearing the top of your personal target range so you can take action before you even go out of range.

And then the Verio reflect meter as a feature called the Blood Sugar Mentor, which does some of the pattern interpretation for you. And we'll tell you right on the meter without even having to go into the app if a pattern is detected so that you can see, you know, the last few days you've been low at this time of day, is anything different.

So you can think about what's going on in your life and reflect on it. That's why we gave the meter the. Plaque. And and make changes to get better management of your diabetes.

And then we still have the the OneTouch Ultra meter. Oh, yeah. Classic meter. Yeah. Oh yeah I remember that it's out there and available. Does not have Bluetooth so it cannot connect to our app.

But a lot of people still love their ultra meter. And the apps are it's free right on the absolute. Are available on Google play or in the app store OneTouch OneTouch reveal.

You know this color scheme is always interesting debate right so red versus blue is that low or of a high I mean there's not this is seem like a universal scheme right It doesn't what's.

It's not universal that that's a personal pain point for me. But when we developed our color scheme there was not a popular color scheme out there. We went to health care providers who went to patients we tested and the color scheme we came up with was based on basically a temperature scale.

So blue for low, cold, red for a hot high and it's intuitive and people understand it and it was very popular and very

easy to understand when we came up with that and developed it and put it throughout our one touch product line.

The interesting, interesting. Yeah, yeah. You know, I think a lot of people I mean, coming back to the point you made a little bit of earlier about accuracy, I'm surprised that some of the meters out there, they have variability is that that's beyond ten 12% and and certainly a peak that right meter is important it can mean a a difference in your response your action.

Right. So so I think the key point here is is what is an actionable data, a lot of times where you have all these numbers but you don't know how to act, you don't know how to respond.

It sounds like the the live scan platform has now digested the information and make it actionable for you, interpret it, interpret the data for you so you know how to respond.

Right. It's a kind of fair to say, hmm. We're we're trying to make life simpler for people with diabetes so that they can do a better job managing. We get them insight and encouragement and guidance with our meters and apps to better manage your diabetes.

And as you if you just get the numbers and don't act on them, they're not going to change and get any better. So you might check your blood sugar faithfully.

And every time the doctor says you should check it and you bring it, you have a log book that's full of numbers, but you don't interpret it yourself and analyze it.

Your health care provider doesn't look at it and nothing changes. And your agency doesn't get better, your management doesn't get better, and then you're at risk for complications.

So it's important to act on the data. Yeah. So one of the literally the pain point, right, is that the finger price actually hurts, right? So for a lot of the patients, they, they still they don't like the the pricking right.

We call the pricking so.

Pain Reduction, Testing Technique, and Future of BGM

So you know and technology is actually advanced in that area as well and we have a lancing device that we have shown as is practically painless and the lancets are smaller they're coded for easy gliding in and out of the skin that the automatic lancing device with the spring loaded but now has less reverberation, less up and down.

So it just it hits your finger once and doesn't keep whacking at your finger, doesn't wobble from side to side so that the hole is more precise and smaller and it's less painful when you do a finger stick.

A hand for you is if you touch your two fingers together, the finger pads where my fingers are touching. That's where the most nerve endings are. Don't go there.

Go off to the sides of your fingers where there's less nerve endings and it won't be quite as painful. And make sure your fingers are warm. Wash with soap and warm water so that the blood vessels are open and the blood will flow more easily rather than a cold finger, which you'll have to sit and squeeze and milk.

And that makes it more pain. Yeah. Is the alternate side to testing still a thing? Is this still recommended? Or if people are moving away from that. People are moving away from that.

So like testing the side of the hand or the back of the arm, there's generally a a bit of a time lag between when the glucose changes in blood from those sites versus from the fingertip.

And again, with the new lancing devices that are much less painful, it's less important to have to go to an alternate site. But I hope our listeners are very forward looking.

They always want to know what's coming on the horizon. You know, for technology, which has been around for decades now, these, you know, checking the finger for blood tests, where is the industry going?

What are you do is sort of the forerunner in the technology. What are you looking for? What are you looking to develop? How are you going to help more patients with better technology?

Right. So the meters have advanced a lot over the years. It takes much less time to get a reading, just a couple of seconds. Now the accuracy is better.

The amount of blood needed is much smaller. All those things are advances that make life easier for patients. A lot of the future advances are going to be in the digital realm.

How we manage your data, how you have access to your data, how we're interpreting the data, you know how much AI or machine learning might be involved in helping analyze the data for you. And so that's a lot of where we're moving in the future.

We do have we just added to our web app or web version, not the one on your smartphone, but the one that you can get on your desktop or that the health care provider has access to the AGP report.

So the AGP report is a standardized report that it doesn't matter who the manufacturer is, the data is always presented in exactly the same format, so it's easier for the health care provider to it doesn't matter what brand the patient is using.

The reports all look the same. It's easier to interpret. And we've added the AGP report for blood glucose monitoring. AGP for BGM is what we call it. And so it's it's a report that health care providers can look at and they're used to looking at that for CGM continuous glucose monitoring data, but it's also available for blood glucose monitoring.

Yeah. What is this also? So our listeners. Ambulatory glucose profile report. Very good. AGP And so it's it's a it's a one page report that has three segments to the page.

The top segment has important glucose statistics like the average glucose, how many glucose checks you've done, the date range that the report covers, how much your glucose varied from day to day, and then you're in range.

You're in range above range and below range. And then the middle section of the report has a 24 hour timeline and takes all the data from all the days of the report and lays them on top of each other as if they all occurred in a single day going from midnight to midnight.

And so then it's easy to look for patterns because it's all layered on top of each other day after day. And then the bottom section of the report as the most recent 14 individual days.

So you can see how things are by day of the week.

Future of Diabetes Care and Closing Remarks

So you can see if there's a certain day of the week maybe where things are different depending on weekends versus weekdays, for example. Now. So it looks like a lot of the future effort is all around the data.

But how do we process the data? How do we make sense of the data? And so Dr. Holt it was a fantastic session and you've been in medicine for a long time.

Now you're in, instead of sort of this scientific development to come up with next generations of of tools to help our, our, our, our people with with living with diabetes.

Now know, when you look into hindsight and look forward and knowing all the availability with the new tools, new drugs, new lifestyle medicine, approaches to to diabetes, do you have any kind of a personal dream about how the

field is going well?

What do you look forward to in the diabetes field? What do you think? If you have a crystal ball, where is the field going? Because it's a big question, right?

So I'm going to give you a few seconds to think about that. Right. It's a big idea. But but are our listeners are people living with type two diabetes for various lengths and a they they want to get rid of That's right.

They they want to they want to know what's coming in the pipeline. And so how do you read the book? Yeah. So it's interesting. My crystal ball is not as clear as maybe I'd want it to be.

Yeah, but, you know, trying to guess at what's coming, I think for, for every but it's very widely known about the obesity medications and they're very popular in the news nowadays And people with type 2 diabetes generally often also have obesity or overweight.

And that's a a contributing factor to elevated blood sugars and to why they have diabetes is not the only factor. And they're certainly overweight and obese people without diabetes and people with type 2 diabetes who are not overweight.

That's right. But but for for many, many of them, it's tied together. And if they can be successful with weight loss, they can find their diabetes at least easier to manage and perhaps they can get it into remission.

So that's a focus for us. And we're now having medications that can get to the degree of weight loss that's similar to surgery for weight loss. And that's really important, but it's you can't stop the medication and expect to maintain the well.

So that's often the challenge. Yeah. Yes. Just like high blood pressure. If you take medicine and your blood pressure comes down, you stop the medicine, your blood pressure goes back up, same kind of thing for weight.

And so in the future, I think we'll learn more about what drives obesity. There might be what we call endocrine disrupting chemicals in the environment, maybe from the plastics that we have that are changing the set point in our brain for where things are.

Body weight should be. But they're everywhere. These plastics, they're microplastics, they're nanoplastics, right? Yeah, yeah, yeah. I'm just learning that a lot of it comes from our laundry.

Oh, my goodness. About that. But anyway, back to your question. I think we're going to learn a lot from science in the coming years, and that will really help us better target how we manage diabetes.

But we're always going to need to come back to measuring the glucose because that's how we're one of the ways that we're monitoring, how we're managing.

Those really basics one on one. Right? So but Dr. Holt, thank you so much for this conversation. If our listeners are interested to find out more about the technology you describe, what website should they go to?

Sure. It's onetouch.com. onetouch.com. That's simple there. Dr. Holt. Thank you so much and our listeners and thank you again for spending time with us for this episode of Reversing Your Type 2 Diabetes Summit 2.0.

Thank you Will.