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TRANSCRIPT

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/diabetes-discourse/using-cgms-and-insulin-pumps-to-treat-pediatric-patients-with-t1d/16366/

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Using CGMs and Insulin Pumps to Treat Pediatric Patients with T1D

Announcer:
You're listening to *Diabetes Discourse* on ReachMD. On this episode, we'll hear from Dr. Stuart Weinzimer, who's a Professor and Interim Section Chief of Pediatric Endocrinology and Diabetes at Yale School of Medicine. He'll be discussing the various technologies used to treat pediatric patients with type 1 diabetes, like continuous glucose sensors and insulin pumps. Here's Dr. Weinzimer now.

Dr. Weinzimer:
The last decade has seen tremendous advancements in technology for people with type 1 diabetes, particularly children. I'll start with talking about continuous glucose sensors. I think these devices have radically changed the treatment of diabetes. They've allowed people to get away from having to test their blood sugars multiple times a day. Before we had access to sensors, parents or loved ones would have to test children's blood sugars 4, 6, even 10 to 12 times a day. And not only is that a little bit painful, but it also interrupts your daily activities. Whatever you're doing at the moment, you have to stop what you're doing and test the blood sugar, which could take 30 seconds or a minute, which to a child can seem like forever.

Continuous glucose sensors are devices that are placed through the skin, and there's a little filament that goes under the skin, and then it has a transmitter that can send the glucose information to anybody who is enabled to share that information. It can go to someone's cell phone. It can go to a receiver. And that information can be shared with a parent, a grandparent, a teacher, or a coach. Anybody who has that access can get the information of a child's blood sugar and thereby enable more safety for a person with diabetes. Children have fluctuations in blood sugars all the time, and for safety reasons, we want to make sure that kids' blood sugars are in a safe range—not too high, not too low—and these devices, in addition to providing the number and the trends in the blood sugar, also can provide some alarms. These are really important advancements and can enable children to spend more time away from their parents and more time involved in activities that are important for them while still maintaining excellent safety and targeted blood sugars.

The second thing I'll talk about are insulin pumps. Insulin pumps have been around for decades, and many children have already been using them to manage their diabetes for a long time. With the advancements in glucose sensors, now insulin pumps can receive that information from the glucose sensors and be automated. That means that whereas prior to the sensor development, you had to program insulin pumps to give a certain amount of insulin at all times, and that insulin delivery was not based on what the blood sugars were. They were just based on how they were programmed. The newer insulin pumps use that sensor information to adjust how much insulin is being given on a minute-by-minute basis, so that means if the blood sugars are rising, the insulin pumps will automatically start giving more insulin; the blood sugars are falling, the insulin pumps can stop the delivery of insulin. This enables people with diabetes to have more time spent in a safe range without actually having to do any more. The pumps work in the background as a little safety net to provide more control, more time and range, and fewer times spent having to think about diabetes.

This represents a tremendous advancement, and clinical trials and other studies have shown that the use of these devices not only provides more time spent in range and less time in dangerous hypo or hyperglycemia—that means low or high blood sugars—but also improved quality of life, less anxiety about diabetes, less distress about having to think about the numbers, and more time that people could spend thinking about the things that they want to think about, like their activities, their schoolwork, their family—all the things that people without diabetes take for granted.

Announcer:
That was Dr. Stuart Weinzimer talking about some of the latest technologies for the treatment of type 1 diabetes in pediatric patients. To access this and other episodes in our series, visit *Diabetes Discourse* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!