

### 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/how-the-artificial-pancreas-can-help-diabetic-patients/16365/>

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## How the Artificial Pancreas Can Help Diabetic Patients

### Announcer:

You're listening to *Diabetes Discourse* on ReachMD. On this episode, we'll learn about the artificial pancreas with Dr. Stuart Weinzimer, who's a Professor and Interim Section Chief of Pediatric Endocrinology and Diabetes at Yale School of Medicine. Let's hear from Dr. Weinzimer now.

### Dr. Weinzimer:

So the artificial pancreas is a term that gets thrown around a lot, and it can provide some confusion because it's not actually an artificial pancreas. The artificial pancreas represents the integration of two separate devices: a continuous glucose monitor or sensor and an insulin pump. When you combine these two devices, what you now have is an insulin pump that, instead of providing the same rate of insulin delivery all the time, can dynamically adjust the insulin delivery based on what the blood sugar readings are. So, for example, let's say that I am a person with diabetes and I'm sleeping. Before these devices were available, my blood sugars could rise overnight, giving me an unwanted high blood sugar in the morning, or, more worrisome, I could be having a low blood sugar in the middle of the night and nobody would know. I wouldn't be able to take care of it until I woke up because I was feeling low or I had some adverse occurrence. Now, let's say I'm a person with diabetes, and I'm sleeping and my blood sugar is rising. The insulin pump will read those rising numbers and automatically start giving more insulin and bring my blood sugar back down into the target range. Or, on the other hand, if my blood sugar is falling into a potentially unsafe range, the insulin pump will know this and stop delivering insulin before I even get to a low blood sugar. This not only reduces my risk, but also provides me a better night's sleep and feeling fresher in the morning; I'm able to start my day having a better quality of life. That's just one example of an overnight.

During the day, there are additional advantages. Let's say I'm a person with diabetes and I'm eating a meal. I have to give a certain amount of insulin to cover the food in that meal, and I have to make those calculations myself. If I guess a little bit wrong and I don't give myself enough insulin, these automated systems will know that as the blood sugars are rising and give additional insulin to help bring my blood sugars back down into range. This provides me a little bit more comfort, a little bit more confidence in monitoring my diabetes, and also, again, gives me the ability to spend more time in that target range. This makes me feel better during the day, and, when you accumulate all that time spent in a tighter range, it will translate to a better long-term health outcome.

### Announcer:

That was Dr. Weinzimer talking about the artificial pancreas and how it can help patients with type 1 diabetes. 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!