

Researchers test 'radically different' approach to managing type 2 diabetes

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Daniel Cox, a UVA professor of psychiatry and internal medicine, is testing a new approach to managing type 2 diabetes that relies on continuous glucose monitoring to help people understand how food choices affect their blood sugar. Credit: University of Virginia

A researcher at the University of Virginia School of Medicine is testing what he calls a "radically different" approach to managing type 2 diabetes for those who can't or don't want to lose weight.

Daniel Cox, professor of psychiatry and internal medicine, said his program "flies in the face of conventionality" in that it doesn't insist on [weight loss](#) as a key component of controlling [blood sugar](#). Instead, it combines continuous [glucose](#) monitoring with well-informed eating choices, to understand the effect of different foods on blood-sugar levels, and well-timed exercise, to reduce those levels as needed.

"The convention is 'lose [weight](#).' And if you lose weight, you lose belly fat, and if you lose belly fat, you lose adipose tissue in the liver. And that, in turn, reduces insulin resistance," Cox said. "That's all fine and good. And if you can, in fact, lose a significant amount of weight and keep it off for a

long time—a lifetime—you're golden. You can even put diabetes in remission. There's nothing wrong with that approach, and it's a very effective approach. But some people don't need to lose weight, and some people don't want to lose weight, and other people want to lose weight but they can't, or they can't keep it off for a lifetime."

A Different Take on Diabetes Management

Cox's approach relies on continuous glucose monitoring to help people understand how their food choices affect their blood sugar. Different foods may affect people differently, he notes.

Continuous glucose monitoring involves wearing a sensor on the back of the arm that continually sends a signal to a receiver that shows the person's blood glucose level, without the need for finger-sticks. Continuous glucose monitoring lets people see how a particular food affects their blood-glucose levels, whether it's a sugary slice of cake or a seemingly healthy bowl of oatmeal, Cox said. Understanding that lets them make smart choices to keep their blood sugar under control.

If they do choose to indulge in a sugar-spiking food, the program encourages them to use light exercise, such as walking, to help bring their blood sugar back into check.

"This is the innovation: One, you dampen how much [blood sugar] goes up by minimizing the amount of carbohydrate you eat, and, two, you hasten its recovery by becoming more physically active," Cox said. "Physical activity does two things: One, the skeletal muscle burns blood glucose as fuel, and, two, [physical activity](#) reduces your [insulin resistance](#) for a short period of time, about 24 hours."

"Instead of fixing supper and having a great dinner and then plopping in front of the TV for the rest of the night, the alternative is becoming more

physically active," Cox said. "Do your shopping after you eat, walk the dog after you eat, clean your house after you eat."

About the Diabetes Clinical Trial

Cox, of UVA's Department of Psychiatry and Neurobehavioral Sciences, is testing his approach in small clinical trials at UVA, West Virginia University and the University of Colorado. Each site is recruiting four people newly diagnosed with type 2 diabetes who have not yet begun taking medication. The participants will be provided with a treatment manual, continuous glucose monitors and activity/sleep trackers. Trial organizers will then check in with them virtually over several weeks to see how well the approach keeps their blood sugar under control.

The study is the latest in a series evaluating the approach. Cox said he has been encouraged by previous results but notes that "there's no one approach that works for everybody."

"In our 12-month follow-up study, slightly over half of participants—52% of people—we would still classify as responders, meaning they're having a significant benefit," he said.

For the right people, he said, the approach may offer a way to control blood sugar without medication or with less medication, while still allowing flexibility in dietary choices. "We're not asking for radical changes in lifestyle," he said. "We're asking for modest changes in lifestyle that directly impact [blood sugar](#)."

Provided by University of Virginia

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