At diagnosis, you may have been taught how to check blood glucose levels with a blood glucose meter and give insulin using injections. While those are perfectly good methods for managing diabetes, there are technologies available that are great alternatives.

Continuous Glucose Monitoring

A continuous glucose monitor (CGM) is a tiny device that is inserted under the skin to measure glucose levels. It's also sometimes called a "sensor." The sensor is connected to a transmitter that sends the information wirelessly to a display device like a smartphone.

CGMs give you information about your glucose level every five minutes and have alarms that can be set to warn of highs and lows. They can also tell you which direction your glucose levels are going. CGMs have been associated with improved diabetes outcomes.

Insulin Pumps

An insulin pump is a small device that delivers insulin. Insulin pumps use only rapid acting insulin that is delivered through a small tube placed under the skin. Some pumps have tubing and others do not. The pump can be programmed with settings specific to your insulin needs, like your glucose targets, correction factor, and insulin to carbohydrate ratio.

Once you enter your glucose level, all pumps now have a built-in calculator that uses your settings to calculate insulin doses. The dose can be delivered at the touch of a button. Insulin pumps have also been associated with improved control and fewer lows.

The latest advancements in pump technology are insulin pumps connected to a glucose sensor that provide automated insulin delivery.

Automated Insulin Delivery

It's probably hard to imagine a device that can manage type 1 diabetes for you. We are not there yet, but the Medtronic 670G system (a combo insulin pump and CGM) will partially automate insulin delivery and adjust insulin doses to keep glucose levels at a target of 120 mg/dL. Other insulin pump companies, including OmniPod and Tandem t:slim are conducting clinical trials to test similar systems using the Dexcom CGM. You can read more about the progress of automated insulin delivery systems here.

Data Sharing Apps

There are now apps and other software programs, such as Glooko, Clarity, and Carelink,

that allow you to share data from your meter, CGM, or insulin pump with your diabetes team. Research has shown that sharing information with your diabetes care team in between visits can lead to better glucose control, so getting in the habit of uploading data is a great addition to your diabetes management.

If you are interested in incorporating technology into how you manage your diabetes, talk to your health care team.

Research

If you are interested, you could be one of the first people to test one of these new devices. You can start by looking for studies near you online at clinicaltrials.gov, or talk with your diabetes care team.

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Disclaimer: This document is not intended to take the place of the care and attention of your personal physician or other professional medical services. Our aim is to promote active participation in your care and treatment by providing information and education. Questions about individual health concerns or specific treatment options should be discussed with your physician.

Recommended

Glucose Monitoring

Insulin Delivery

Emerging Technology

Living with Technology

Glucose Monitoring Options

Sources

Consumer Guide – American Diabetes Association

Artificial pancreas – NIDDK

NightScout Foundation

Automated Insulin Delivery – Diatribe