

The concept is simple, it allows people with diabetes to discretely monitor their blood sugar levels on a real-time basis via a small device attached to their abdomen. If the monitor indicates a high blood glucose and short-acting insulin medication is prescribed as a therapy for you, an injection is required to bring the high BG level down. If the monitor indicates a low blood glucose, you may want to consume quickly absorbed carbohydrates to bring your BG levels back up.

Always confirm with your healthcare provider about how or when to treat a high and low blood sugar from your CGM reading.

Advantages

Another advantage is that a CGM device replaces the large number of skin pricks that some people with diabetes, especially type 1s, have to administer to themselves daily. The devices have small sensors placed under the skin that provide glucose readings on a continual basis. Those embedded sensors eliminate the use of blood glucose meters and the discomfort of multiple daily finger pricks (although users are recommended to do some daily finger pricks to calibrate their devices' accuracy).

Another feature is trend spotting, where a CGM not only shows current blood sugar levels but detects trends, up or down, in patients' blood glucose levels. These data can be stored and later used to show users' levels over the long-term.

For several years now, CGM devices have been joined with insulin pumps on some diabetes patients to create a closed-loop system—virtually an "artificial pancreas"—where CGM measurements of low blood sugar cause the insulin pump to inject a corrective dose. Such systems are both expensive and not thoroughly reliable—the ideal situation where people don such devices and go weeks or months without worries about malfunctions is not here yet.

Manufacturers

Update: Abbott recently jumped back into the CGM marketplace with its FreeStyle Libre® device.

The three CGM manufacturers are Dexcom, Medtronic, and Abbott. The competition among them has resulted in the quick evolution of CGM size, design, and capabilities. CGMs' ever continuing reduction in unit size is prized by users who want a device that The units' unobtrusiveness is a major feature that CGM users especially like, as well as the units' ability to stand up to active lifestyles that include fitness training, running, and most sports. All of their CGMs offer users the ability to monitor their blood sugar levels via their smartphones and send data of their blood glucose trends via wifi to their doctors or endocrinologists, as well as spouses and loved ones.

Another feature that each manufacturer touts is that its CGM replaces the use of fingersticks to verify what the CGM is reporting. In earlier CGM designs, monitors' readings often had to be confirmed and calibrated via a fingerstick reading. While earlier CGMs worked well to report trends, users and healthcare providers routinely needed to double-check their readings. Today CGM sophistication and accuracy have reached the point where users can rely on CGMs alone to provide blood sugar readings—fingersticks have been successfully banished.



Black G5 Dexcom Receiver 202



iPhone G5 transmitter



Medtronic MiniMed



Abbott's FreeStyle® Libre

For a comprehensive chart with product and product specifications, go to our website at www.DiabetesHealth.com/charts.