

# BEST PRACTICES IN: Incorporating Continuous Glucose Monitoring Into Your Practice

Continuous glucose monitoring (CGM) offers a powerful tool for patients to track glucose level trends rather than relying on isolated data points generated by fingersticks.<sup>1</sup> It has led to sustained, significant reductions in glycated hemoglobin (A1C) in adults with a baseline A1C  $\geq 7.0\%$  over 12 months of daily use ( $P < 0.001$ ) and substantially reduced the incidence of severe hypoglycemia during that time.<sup>2</sup> There is a concern among some health care professionals that the quantity and interpretation of sensor data are barriers to incorporating CGM into practice. Another concern may be the time needed to train patients. This article outlines why these factors do not hinder my practice's use of CGM.

**Interpreting the Data.** Learning to interpret the data that CGM generates is an ongoing process. Although one may acquire the basics quickly, I find that the data always seem to have more to teach. After more than a year of reviewing sensor data, I still learn something new every day about what it can reveal and how to use that information to improve my patients' control.

The following example illustrates this point. Sensor data revealed that one of my patients was experiencing postprandial glucose spikes (Figure). Thinking that failure to administer a preprandial bolus would explain this finding, I questioned the patient about when she was injecting insulin in relation to meals. She said that she injected insulin before meals as instructed, but further inquiry revealed that she administered a bolus *after* rather than *before* meals. Her routine had changed because a provider had suggested moving to postmeal insulin administration immediately following a hypoglycemic episode. She had continued this pattern indefinitely. Once the patient switched to preprandial insulin injection, her postmeal glucose spikes flattened out. We did not know that the patient was injecting insulin after meals until after reviewing the CGM tracing.



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I scan the most important downloads into the patient records and dictate notes about my interpretation of that download. This keeps sensor data and transcription of clinical notes in one place for later reference. We ask patients to download the device at home the night before or the morning of their visit to save time at the office. A consensus statement has advised this practice and suggested asking patients to mark areas on which they would like to focus during a visit in advance.<sup>3</sup> Clinicians can do this as well.<sup>4</sup> This limits the time needed during a visit and concentrates attention on the most important findings.

**Training Patients to Initiate CGM.** The hallmark of our training is that we try not to teach too much at any given visit, which allows patients to acclimate to CGM use. This means that no one training session lasts more than 1 hour. About half of the training time is related to operating the device; the rest covers therapy-related education required to best use CGM. We are aware that some health care centers, practices and others send patients for a few hours of training prior to initiating sensor use. We have evolved a different system that is suited to patients' needs and works well for us. Patients, like all adults, can assimilate only so much information at one time. We find that shorter training sessions focused on specific aspects are more effective.

**Session 1.** Our situation may differ from those of some other practices in that we start patients with a 1-week-long trial using

hold 1- to 2-hour-long initial training.<sup>3</sup> Online patient training also is available for some devices. Alternatively, health care professionals can train patients on CGM and bill for the service using CPT code 95250 (check with individual payers). This is a reimbursable service with most commercial insurance plans.

We do not attempt to teach data interpretation until the first follow-up visit, when patterns of control have been established. Learning how to understand the data is an ongoing process for the patient as well as for the clinician. Some patients begin to analyze sensor data and change their behavior soon after initiating therapy.

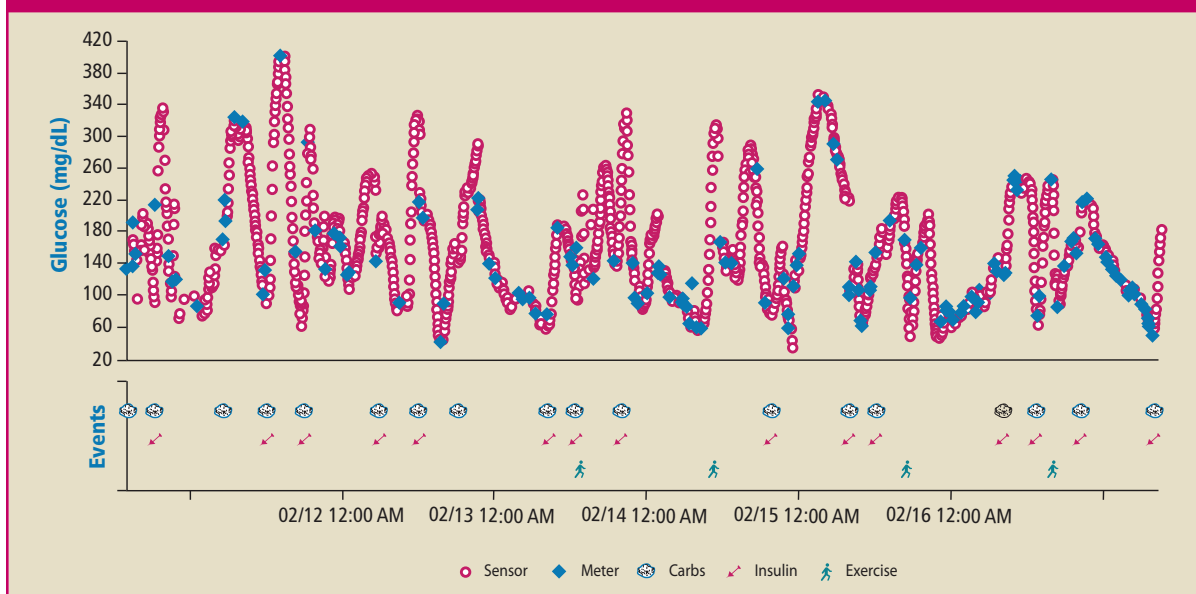
**Follow-Up Visits.** We re-evaluate patients a week or two after this training to answer any of their questions and ensure that they are following instructions. The consensus statement recommends some contact, whether Web-based or face-to-face, within 2 to 4 weeks after the second visit.<sup>3</sup> Once they are on standard follow-up, patients e-mail data between visits, and we discuss findings by phone. In our practice, the intervals for between-visit check-ins vary with the patients' needs.

**Summary.** I have found CGM to be an invaluable tool in my ability to manage patients. It allows me to see what is happening between fingersticks and sometimes sheds light on the reasons for seemingly intractable problems. With experience, interpreting CGM data takes no longer than reading a patient's diaries or other records and often less time as sensor output is concise and organized. Patient training is not daunting for our practice as we present patients with just what they need to know at a given time and reinforce it at follow-up visits. Every time that I can help patients improve their quality of life and improve their glucose control, I see the benefit of CGM. The technology has improved my ability to care for my patients and is an integral part of diabetes self-management.

## References

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**Figure. Glucose Trend Chart**



As this vignette illustrates, CGM data are most valuable when interpreted in combination with the patient history. The reasons for the patterns on a download may not be apparent from the data alone. The trends revealed by the sensor lead me to ask patients questions that I would not have raised otherwise. Their answers, combined with the data, may demonstrate that patients are not following or understanding some of the basics of diabetes management. Like all adults, patients forget things and may change behavior under stress or after frightening episodes.

**Time Needed to Interpret Data at Follow-Up Visits.** Clinicians may be concerned about how much time it could take to evaluate sensor data. However, all follow-up visits involve data analysis. A CGM download presents information in a more concise, organized fashion than do patient handwritten diaries or data from glucose monitors or pumps. With experience, it can require no more time or even less time to review CGM output than it does with other forms of data.

a loaner unit. Although not usually necessary, this is required by a major insurer in our area. We spend about 15 minutes training patients prior to the week-long trial, instructing them how to calibrate and charge the sensor. Given that we use a unit that can be worn for the duration of the trial (DexCom SEVEN<sup>®</sup> PLUS), the patient does not need to know how to change the sensor at this time. We put the transmitter and sensor on the patient. This trial period provides patients a practical understanding of CGM, allows us to use the data for medical management and yields data if needed for the insurance company.

**Session 2.** If the patient elects to continue with CGM, then he or she receives 1-hour-long training, which includes changing the sensor and downloading the data. The device manufacturers have clinical specialists who can support the health care professional in training on the mechanics of using the CGM device. This is very straightforward for patients to learn. Our 1-hour-long session is in line with consensus statement recommendations to

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