

Continuous Glucose Monitoring: Expert Answers to FAQs



Vivian A. Fonseca, MD, FRCP, and Pamela Kushner, MD, FAAFP, answer common questions from the *Diabetes Medical Minute* series on continuous glucose monitoring (CGM)

<https://www.clinicaloptions.com/CGM>

WHAT IS THE EVIDENCE OF BENEFIT OF CGM?

Although early trials simply demonstrated a reduction in hypoglycemia and were mainly in type 1 diabetes (T1D), more recent randomized trials have demonstrated a range of benefits including improved glycemic control with less hypoglycemia, and some trials have demonstrated benefit in type 2 diabetes (T2D).

Recent CGM trials include:

- *DIAMOND* and *GOLD*, which showed improved glycemic control in patients with T1D receiving multiple daily injections
- *IMPACT* and *REPLACE*, which showed significantly less hypoglycemia in patients with flash (intermittently scanned) glucose monitoring in patients with T1D and T2D, respectively
- *CONCEPTT*, which showed improved pregnancy outcomes

FOR WHICH PATIENTS DO YOU RECOMMEND CGM?

CGM is appropriate for all patients receiving diabetes medication. It allows patients to play an active role in their diabetes care, which is so important in shared decision-making. CGM teaches patients how their medications, specific foods, exercise, stress, work, and other factors influence their daily glucose results.

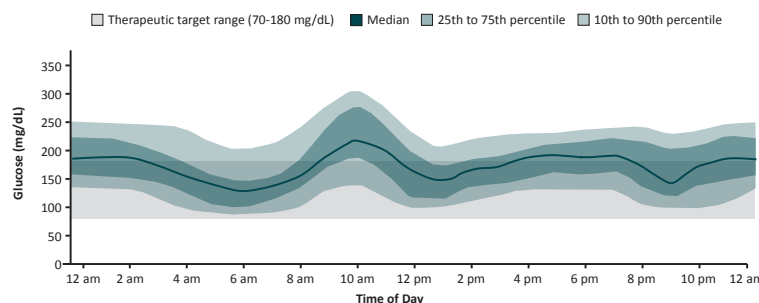
CGM can help motivate patients to make positive lifestyle changes. Identifying the individual patient needs will ensure that appropriate expectations for the clinician and patient are met.

HOW ARE PPG, TIR, AND AGP IN CGM HELPFUL?

The *ambulatory glucose profile (AGP)* is a visual report, common to all CGM systems, that converts readings into a waveform. It lets clinicians and patients quickly assess glucose variability and time above and below the desired time in range (TIR).

TIR is the percentage of time that patients' blood sugars are within the target set for their glucose control.

Seeing *post prandial glucose (PPG)* 1-2 hours after meals allows patients to determine both when their mealtime insulin is working and the effects of specific foods, activities, and meal sizes on glucose levels or response.



HOW DO YOU TEACH PATIENTS HOW TO USE CGM DEVICES AND WHAT TO DO BASED ON CGM RESULTS?

Most CGM devices have excellent online patient support videos and other materials from the manufacturers to help with a smooth start. However, clinicians play a key role in patient satisfaction and adherence.

- After initial CGM sensor placement, patients should be advised to keep a *detailed profile* of meals, exercise, medication administration, alcohol, and sleep. They should be given a follow-up appointment to review the data, and they should be advised to continue with any therapy changes until that follow-up.
- At the follow-up visit, patients and clinicians can work together to recognize *hypoglycemia risk*, evaluate patterns of *low or high readings*, uncover any *obstacles to monitoring*, and consider potential *therapy changes*.
- For personal-use CGM devices, *trend arrows* allow patients to see the rate and direction of their glucose changes, allowing patients to adjust the insulin dose as needed to prevent potentially dangerous glycemic events.

DO YOU RECOMMEND AT LEAST 2 CGM STUDIES FOR ALL PATIENTS?

Use of CGM allows patients to make informed decisions regarding insulin dosing, the therapeutic plan, and lifestyle changes; *repeated* use increases the value of CGM. It allows patients and clinicians to compare glucose profiles before and after making a therapeutic change so they can see the effect of the change.

Unfortunately, not all patients have the same access or ability to use CGM repeatedly because of financial or social barriers. But as clinicians adopt the use of CGM to guide treatment of this chronic condition, we will overcome this barrier to best practice.

HOW DO YOU EFFICIENTLY INCORPORATE CGM REVIEW INTO YOUR PATIENT WORKFLOW?

Particularly in primary care, the clinician needs to schedule adequate time to use CGM effectively, making it clear that the focus of the visit is to review CGM data. This makes it a priority over other issues that often are brought up in a primary care visit.

As an active participant, the patient is urged to scan as much as possible and ideally upload the data to an online portal.

Alternatively, the clinician can use professional CGM where there is no patient-initiated scanning. To be most efficient, data can be downloaded prior to the clinician entering the room. This allows the patient to review daily graphs that include AGP and TIR and better understand the concepts.

Having more detailed profile sheets kept by the patient also helps save time by making it simpler to recognize patterns.

IS CGM BILLABLE IN THE UNITED STATES?

Yes, the CPT codes require at least 72 hours of data.

- 95249/95250: Sensor placement, calibration, training
- 95251: Analysis, interpretation, report

For more information, consult current CPT ICD-10-CM and HCPCS manuals and follow the *Documentation Guidelines for Evaluation and Management Services*.

ARE THERE SITUATIONS WHEN ONE FORM OF GLUCOSE MONITORING IS PREFERRED?

Cost, social support, hypoglycemic risk, motivation, and the level of glycemic variability can help decide whether a real-time or flash (intermittently scanned) glucose monitoring system is best.

In addition, closed loop and “hybrid closed loop” systems can use data from CGM to change infusion rates in insulin pumps. This is a highly effective way to control blood sugar and is particularly useful in preventing hypoglycemia—it can predict likely hypoglycemia and suspend the infusion.

However, the system requires compatibility between the separate CGM device and insulin pump; CGM devices cannot be used interchangeably with incompatible pumps, and flash glucose monitoring cannot be used in closed loop systems.

CAN CGM BE USED IN ICUs?

CGM devices are generally not approved for ICU use. However, the FDA has approved use of one specific flash glucose monitoring system in the hospital setting during the COVID-19 pandemic only, allowing for remote monitoring of glucose levels.

In patients who are hemodynamically unstable or who are on medications that may interfere with measurement, CGM results should be interpreted with caution. In such situations, confirmation of a very abnormal reading with capillary blood glucose monitoring is appropriate.

DO YOU RECOMMEND CGM FOR PATIENTS WITH PREDIABETES?

CGM is able to demonstrate to patients the consequences of lifestyle choices on glucose control and, theoretically, this even applies to people with early diabetes who are not taking insulin.

However, the technology is expensive. In patients not conducting capillary blood glucose (ie, “fingerstick”) monitoring, the addition of CGM may be cost prohibitive. Most insurance will not cover it.

One role for CGM in prediabetes may be in research. In studies comparing various diets, CGM makes it easy to monitor PPG.

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