

Continuous Glucose Monitor

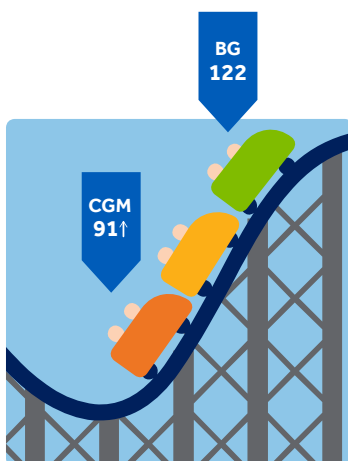
Getting Started

A Continuous Glucose Monitor (CGM) is a medical device that continuously measures glucose levels, which shows real-time information without poking a finger. It can alert you about current and predicted high and low glucose levels. It is worn on your body for 10-15 days based upon the brand.

What is different between fingerstick and using a CGM?

When you use a glucose meter, the meter is reading capillary blood at one point in time, while a CGM is reading interstitial fluid, or fluid between the cells, every 1-5 minutes.

Think of glucose readings as the carts of a rollercoaster. Because the glucose enters the blood stream first, fingerstick readings lead CGM readings. The CGM readings catch up to the fingerstick readings just like the last cart on a rollercoaster. This means a fingerstick reading and the CGM reading will rarely be the same, which is okay. It is normal for them to be different (see picture below).



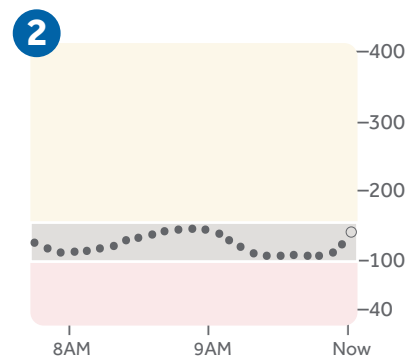
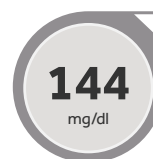
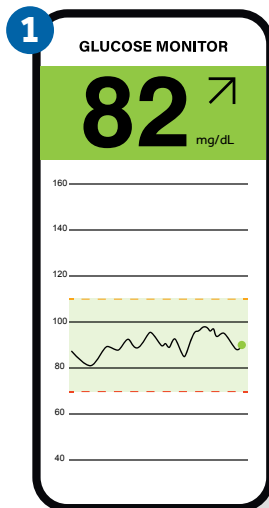
The diagram shows a rollercoaster track with several carts. A blue arrow labeled 'BG 122' points to the first cart (top of the track). A green arrow labeled 'CGM 91↑' points to the last cart (bottom of the track), illustrating that CGM readings lag behind BG readings.

	Fingerstick	CGM
What does it read?	Capillary blood	Interstitial fluid
How often it reads glucose levels?	Only when you poke your finger	Every 1-5 minutes (which is like 288-1440 fingersticks per day)
How high does it read?	500-600 mg/dL based upon the brand	400 mg/dL

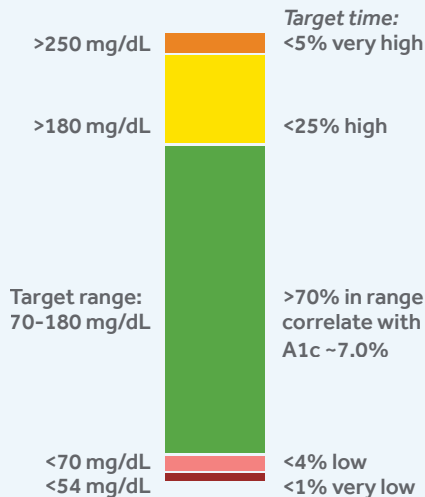
What are some things to know before starting a CGM?

A CGM will show more information about glucose levels than fingersticks (it takes readings every 1-5 minutes). What you will see on your end is:

- 1 A glucose value with an arrow showing the direction the glucose is heading and the rate of change
- 2 A graph showing where your glucose has been



Time in Range



What is time in range?

A CGM makes it possible to evaluate "Time in Range."

This is the amount of time that a person with diabetes has glucose levels between 70-180 mg/dL.

The goal for most people (per the American Diabetes Association or ADA) is to be in the target range 70% or more of the time with less than 4% low glucose levels.

This gives you and your diabetes team more information.

Calibrations?

Some sensors have an option to calibrate. Calibrating your CGM is optional. Calibrations can make the results more accurate or less accurate compared to the lab result. Refer to your user guide for more information.

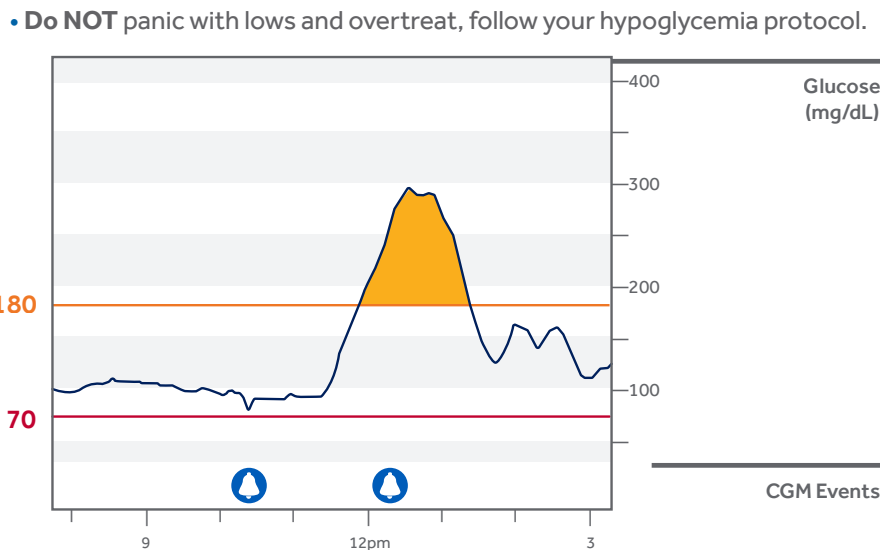
The only time you need to calibrate is if the system asks you to.

Keep in Mind

You are likely to see more high glucose levels (hyperglycemia) than you are used to when you start the CGM. It is normal for glucose levels to rise after eating.

- You are now seeing the numbers between your fingersticks. These are your spikes. You may be seeing hyperglycemia that was happening before using a CGM, but not seen.
- There WILL almost always be a rise in glucose levels after eating carbs, and this is NORMAL. The same rise happens with glucose meter checks, but you are not able to see it unless you check constantly after eating. This is not an emergency, and the doctor on-call doesn't need to be called.
- **Do NOT** give more insulin sooner than needed because of hyperglycemia fears.
- The goal is for the glucose level to return to target range about 2-3 hours after giving rapid-acting insulin; a correction dose for hyperglycemia is **NOT** given until at least 3 hours since the last dose of rapid-acting insulin, even if glucose levels are rising or are over the correction target.

In the example below, the glucose is in range, insulin is given for carbs and carbs are eaten causing a spike to almost 300 mg/dL, and the glucose returns to range within 2-3 hours:



- A false low can happen when you lie on the sensor (this is called a compression low). This is more common during the night when you may be lying on the sensor. If the CGM alarms with a low glucose at night, check glucose with a fingerstick.
- You only need to do a fingerstick check if the symptoms you are having do not match the CGM reading.
- Sensor readings are less accurate the first 24 hours and will normally improve.

References

1. American Diabetes Association (ADA) Guidelines: American Diabetes Association. (2024). 14. Children and Adolescents: Standards of Medical Care in Diabetes—2024. Diabetes Care, 47(Supplement 1), S258-S269.
2. International Society for Pediatric and Adolescent Diabetes (ISPAD) Guidelines: ISPAD Clinical Practice Consensus Guidelines. (2022). Diabetes technologies: Glucose monitoring. Pediatric Diabetes, 23(7), 872-887.