

CONTINUOUS GLUCOSE MONITORING (CGM) #2: GETTING STARTED

Glucose monitoring with a meter provides the blood glucose reading at exactly the moment it is checked. For most people, this is 4-6 times a day. *CGM* provides much more information. It can "fill in the blanks" of what is happening between meals and how the body reacts to food, insulin and activity. It is important to look at this information regularly and use it correctly to help plan treatment decisions.

CGM has two main types of benefits:

- Reactive: setting alerts to catch the highs and lows before they happen
- Preventative: looking back at the upload for patterns and trends to make changes to prevent the highs and lows

Starting a *CGM* system is very exciting, but can also be overwhelming. Real-time glucose results will be displayed every 5 minutes. There will be a lot more information, and some of it will be surprising. The glucose may go up more after meals than you thought it did! Activity may lower the blood glucose for a lot longer than you thought it would. **Do not overreact to the sensor data.**

Suggestions for getting started with *CGM*:

- Read the user guide and watch the instructional video.
- Start with a wide range for the low- and high-glucose alert settings. Consider setting the low alert at 4.5 mmol/L and the high alert at 15 mmol/L to start. These can be tightened later, as you get used to the information the system provides.
- Do not set the rate-of-change alerts at first
- Do not expect the *CGM* results to be exactly the same as blood glucose readings! Results can vary by up to 20% between devices and still be considered accurate.
- Give insulin at the usual times. **Remember** it takes 3-4 hours for a dose of rapid-acting insulin to finish working. Do not add extra corrections when you see a high glucose reading after meals. Giving corrections too close together will cause insulin "stacking" which can lead to low blood sugar.
- Expect to see a spike after eating (glucose levels should be back under 10 mmol/L within 2 hours of eating).
- Download and review sensor information weekly to see if any adjustments to insulin doses or insulin pump settings are needed (this is preventative).
- If you are only reacting, you are only getting half the benefit of *CGM*.

Continuous Glucose Monitoring (CGM) #2: Getting Started (continued)

- To interpret CGM results, look at the graph and arrows **before** looking at the glucose number on the screen!

CGM data should be interpreted in a step by step format using what we call the **TAG** system: Trend-Arrow-Glucose (this is mostly reactive)

- **Trend**: view the graph on the screen to see where the glucose has been and is going
- **Arrows**: 1, 2 or 3 arrows tell you how fast the glucose is changing
- **Glucose**: the current glucose at that moment

Things to consider when using CGM:

- Confirm blood glucose with a meter before making treatment decisions (except with Dexcom G5®).
- Calibrate the sensor with a blood glucose meter every 12 hours.
- After treatment of a low blood glucose, use a meter to recheck the glucose. This is due to the time lag with the body's response to hypoglycemia¹.
- Acetaminophen (Tylenol®) will give a false high sensor reading for 4-6 hours
- Laying on the sensor site can cause "pooling" of the interstitial fluid, which may read as a falsely low BG.
- Always measure a BG with a meter when symptoms don't match the sensor reading.
- **"When in doubt, get your meter out!"**

Reviewing your sensor information:

- **Dexcom: Set up a Dexcom account**
 - Register at: <https://store.dexcom.com/user/register>.
 - Set up a Diasend® account if you don't already have one.
 - Register at <https://diasend.com//ca-en>.
 - Your diabetes team will provide you with their clinic specific ID to share your data.
 - Connect your G5® to your account: <https://support.diasend.com/hc/en-us/articles/211825489-How-do-I-connect-my-Dexcom-G5-Mobile-to-diasend>
 - You can view your results by clicking on the CGM tab at the top of the page.
 - If you are not on a pump and have logged carbohydrates and insulin doses into the Dexcom app, look at the *Comparison* and the *Day-by-Day* features
- **Medtronic Diabetes: Set up a Carelink™ Personal account if you don't already have one**
 - Register at <https://carelink.minimed.eu/patient/entry.jsp?bhcp=1>.
 - Upload your pump.
 - Click on Reports.
 - Click on *Sensor and Meter Overview*, *Logbook*, and *Therapy Management Dashboard with Episode Summary* reports (or the *How Does Mealtime Affect My Glucose?* bundle, which prints all 3).

¹ Scheiner G. (2015). *Practical CGM: A guide to improving outcomes through continuous glucose monitoring*. American Diabetes Association: Virginia. p. 11.