

Managing Your Child's Blood Sugar With Dexcom G5 Continuous Glucose Monitoring



If your child has diabetes, you have a lot to keep track of — what foods they eat, how much exercise they get, and of course, their blood sugar levels. Because blood sugar levels can change frequently — depending on the food, stress, time of day, etc — this can be challenging.

Dexcom G5 continuous glucose monitoring allows you to consistently measure your child's blood sugar levels — without any finger pokes.

Key features of Dexcom G5 continuous glucose monitoring:

- Provides continuous real-time readings that help you and your child manage blood sugars based on the current reading and the expected reading.
- Measures interstitial (tissue fluid) glucose every 5 minutes and provides information about changes in the glucose levels as they are occurring. Without a Dexcom G5, blood glucose monitoring should be done with a meter about 3 to 6 times a day. But this doesn't give a complete picture of where your child's blood sugars are throughout the entire day — or how and when they change.

- Indicates rising, falling, or stability of blood sugars according to arrows called “rate of change” arrows. This information can be used to make decisions about your child’s treatment.
- Helps decrease the number of low blood sugars and high blood sugars that your child experiences, and in turn, increases the time that their glucose levels are within their target range.

How Do I Use My Child’s Dexcom G5?

The guidelines below will help you use your child’s Dexcom G5 in order to make decisions about their insulin dosing using the current glucose values and how they are changing. You’ll do this by looking at the current glucose value, the direction of the arrows, and the number of arrows (rate of change of the glucose level) that are displayed on the Dexcom G5.

To use your Dexcom G5 for insulin dosing, do the following:

- Calibrate 2 to 4 times per day (minimum is 2 times per day)
- Look at the current glucose on the Dexcom G5
- Look at the arrows, which indicate glucose rate of change
- Determine what the expected blood sugar is based on the arrows and the current reading (see table below)

Calculations Table

You can determine your child’s pre-meal calculations for insulin doses according to the predicted glucose, which you can determine using the rate of change arrows.

Dexcom G5 Arrow	Anticipated glucose in 30 minutes (mg/dL)
Two arrows up ↑↑	Current glucose + more than 90 mg
One arrow up ↑	Current glucose + 60-90 mg
Angled arrow up ↗	Current glucose + 30-60 mg
Straight arrow →	Current glucose
Angled arrow down ↘	Current glucose minus 30-60 mg
One arrow down ↓	Current glucose minus 60-90 mg
Two arrows down ↓↓	Current glucose minus more than 90 mg

Remember, there are starting recommendations, and can be modified to be more individualized as needed.

For meals and other insulin doses, use your child's insulin to carbohydrate ratios, correction factors, and target ranges as determined by your child's physician.

Target Glucose Values

Age	Daytime	Bedtime/Overnight	Correction Target	Treat low when less than:
Younger than 2 years old	90-200	130-200	150	90
2 to 5 years old	80-180	100-180	150	80
5 years or older	70-150	90-150	120	70

If your child's sensor glucose is low, you should confirm with a finger stick blood glucose measurement and then treat the low with fast-acting carbohydrates as directed. Don't give insulin until your child's glucose has corrected based on their target values.

Do not return to using the Dexcom G5 for dosing until the rate of change arrow has stabilized (is straight) to prevent further lows.

Once you have treated the low blood sugar and the blood sugar has returned to a safe level in their target range, calculate the dose based on food and glucose. Give your child insulin for all the carbohydrates they have eaten after treating the low. Do not give insulin for the carbohydrates used to treat the low.

Look at the Dexcom G5 arrow and make the following adjustments to the glucose on the Dexcom G5 screen:

For current glucose on the screen with up arrows, add the following:

- Two arrows Up ↑ ↑ : add 90 mg/dL to current glucose
- One arrow Up ↑ : add 60-90 mg/dL to current glucose
- Angled arrow up ↗: add 30-60 mg/dL to current glucose
- Straight arrow → : use current glucose

For current glucose on the screen with down arrows, subtract the following:

- Two arrows down ↓ ↓ : subtract 90 mg/dL from current glucose
- One arrow down ↓ : subtract 60-90 mg/dL from glucose
- Angled arrow down ↘: subtract 30-60 mg/dL from glucose
- Straight arrow →: use current glucose

Here are some examples of Dexcom G5 readings and adjustments:

1. Dexcom reads 200 with single arrow up ↑ : Use anticipated glucose of 260 (200 + 60) insulin dosing.
2. Dexcom reads 125 with angled arrow up ↗: Use anticipated glucose of 155 (125 + 30) for insulin dosing.
3. Dexcom reads 195 with angled arrow down ↘: Use anticipated glucose of 165 (195 – 30) for insulin dosing.
4. Dexcom reads 105 with single arrow down ↓ : This predicts a glucose of 45 (105 – 60). Treat the low blood sugar following Children’s Hypoglycemia Guidelines and wait to dose until blood sugar is within normal age range
5. Dexcom reads 300 with two arrows up ↑ ↑ : Consider checking fingerstick blood glucose to confirm glucose rise. May use anticipated glucose of 390 (300 + 90) for insulin dosing.

Using Your Child’s Dexcom G5 With An Insulin Pump

If your child is wearing an insulin pump, be sure you enter their readings (the adjusted reading) into the pump at mealtimes.

High Alerts

- If you get a high alert during the day, make certain your child took their pre-meal insulin. If they didn’t, your child should take the amount of insulin they should have received for carbs and the correction
- If they did take their pre-meal insulin, make sure it has been 2.5 – 3 hours before taking a correction dose for the high glucose.

Low Alerts

- If you get a low alert, treat with about 7.5-15 grams as instructed by your child’s physician based on glucose.
- If a low is predicted, treat with 7.5-15 grams of carbohydrate-based on anticipated glucose.

Getting Accurate Blood Sugar Readings From Your Dexcom G5

For the first 2 weeks of using the sensor, you should check your child's blood sugar with a glucose meter anytime a high or low alert goes off. This will help ensure you are comfortable with how the sensor is working.

For lifetime use of the Dexcom G5:

- Always check your child's blood sugar with a fingerstick if their symptoms are not consistent with the Dexcom G5 sensor reading.
- A fingerstick blood glucose meter reading should be used to make insulin dose decisions if the Dexcom G5 is not showing both a glucose reading and a directional arrow.
- Do a fingerstick blood glucose if the CGM reading is not rising 20 minutes after treating a low.

If your child is using the Dexcom G5 and taking acetaminophen (Tylenol), use the fingerstick blood glucose meter readings to make insulin dose decisions. Remember:

- Acetaminophen (Tylenol) will artificially raise Dexcom G5 readings.
- Use the fingerstick blood glucose meter readings to make insulin dose decisions for at least the next 4 to 6 hrs. Make sure the Dexcom G5 correlates with the fingerstick glucose after this time period.
- You may need to re-calibrate the Dexcom G5 after the 6-12 hour period.

Additional Tips To Get The Most Out Of Your Dexcom G5

Calibration Of Your Dexcom G5

A calibration of the Dexcom G5 sensor using a fingerstick blood glucose reading needs to be done every 12 hours to ensure the accuracy of the sensor.

Remember, you should always check a blood sugar with a fingerstick if symptoms are not consistent with Dexcom G5 reading.

When you calibrate your Dexcom G5:

- Use the same meter for each calibration as each meter has a different accuracy.
- Wash your hands before every fingerstick calibration.

- Only calibrate when the trend arrow on your Dexcom G5 is stable (horizontal).
- Do not calibrate more than 2-4 times a day as this can lead to inaccuracy.
- Calibrate when the trend arrow is straight →.
- Dexcom G5 accuracy (with fingerstick blood glucose) is generally within:
 - 20% if glucose is over 80
 - 20 points if glucose is under 80
 - If a fingerstick blood glucose is out of this range, enter it if you are sure your hands are clean and you have not taken acetaminophen (Tylenol).
- If you have a reading that is very different from the Dexcom G5 reading, you can re-set the Dexcom G5 by entering three fingerstick blood glucose readings 15 minutes apart (such as at 6 PM, 6:15 PM, and 6:30 PM). This should help improve the accuracy. If that doesn't help, call Dexcom G5 to report that the sensor isn't working to try to get it replaced.

Insulin Stacking

Avoid stacking of insulin. Corrective doses of insulin should not be given any more frequently than every 2.5 to 3 hours — unless ketones are present. If ketones are moderate or large, additional insulin may be needed up to every 2 hours based on your child's physician's instructions.

Dexcom G5 Phone Application

The phone application for the Dexcom G5 needs to be open at all times on the phone in order for it to transmit information. If your child is using the receiver, followers and Clarity will not be able to see your child's blood sugars automatically.

Need Additional Help With Your Dexcom G5? Contact Dexcom CARE.

The Dexcom CARE team of trainers and certified diabetes educators (CDEs) are available to help you learn more about your child's Dexcom CGM system. They provide live, interactive support as you discover the value of CGM. They can provide advanced learning education at your convenience.

You can call them using their toll-free phone number: 877-339-2664. They are available to assist you Monday through Friday from 8 a.m. to 8 p.m. PST and Saturday from 8 a.m. to 4 p.m. PST.

Do you still have questions about your child's Dexcom G5? Contact the diabetes team at Children's Diabetes Center, Children's Hospital & Medical Center at 402-955-3871 for more information about managing your child's blood sugar levels with Dexcom.

Visit us online at www.childrensomaha.org/diabetes