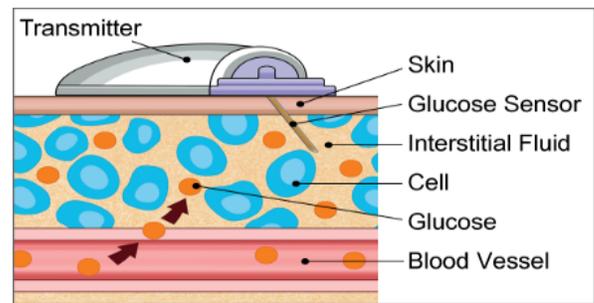# Starting a Continuous Glucose Monitor

Dexcom G6

What is a CGM?

A Continuous glucose monitor is a device that measures glucose under the skin every 5 minutes. There are three components:

1. Sensor
2. Transmitter
3. Receiver/phone

The sensor under the skin communicates with a phone or receiver. Receiver/phone displays a graph of the glucose and can display direction and rate of change.

The Benefits of a CGM:

- **CGMs can help you learn more** about how stress, illness, food, and exercise may affect glucose levels and can help identify glucose trends

- CGMs can help you learn **how to reduce after-meal glucose spikes**

- CGMs can help you **learn overnight patterns**

- CGMs are **good "educators"** (you really see why pre-dosing 15 min before meals is important, why not to over-treat lows, etc.)

CGM Function:

- Arrows on CGM devices show direction and rate of change and can predict high & low BGs, but the actual CGM value displayed will not usually match your finger stick value

- CGM values may lag behind true finger stick blood glucose levels, especially when glucose is rapidly changing (exercise, after meals, etc.) because the CGM reading is in fluid and not your blood.

Importance of Placement:

If you are having large discrepancies between CGM & finger-stick values (more than 15%), consider changing the location of the sensor. Many people have more accurate readings when sensor is placed on the upper buttocks area.

- You can place your sensor on the stomach, thigh, back of the arm and top of your glute.

- Do not place it where you will sleep on it regularly or where your clothes can get caught on it.

- Clean the area with alcohol and apply adhesive wipe if needed leaving a circle where the sensor catheter will be placed.

- Apply the sensor and make sure it is in place.

- Add extra tape if necessary.

- Allow two hours for warm up.

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How to Secure the CGM:

1. <u>**1.**</u> Dexcom G6 tape. If the Dexcom falls off, please call Dexcom and let them know. They will send free tape. Make sure to state the Dexcom has only been placed on the stomach.

2. <u>**Skin Tac H(not covered by Kaiser):**</u> Available over the counter, you need to leave a "hole" without the Skin Tac where the sensor will be inserted. This is because the accuracy can be affected if the sensor gets inserted through skin that has anything aside from alcohol (IV Prep should also be avoided in the "hole" where the sensor will be placed).

3. <u>**IV 3000/Transparent Dressing (this is covered by Kaiser):**</u> You can place this directly over the transmitter in one large piece, or alternatively cut the IV3000 lengthwise and use the 2 pieces as an "X" across the sensor and transmitter.

4. <u>**Grif Grip/MediAlert:**</u> Sold online and come in assorted colors and shapes, can be placed around or over the sensor and is water proof. GrifGrip Discount Code: GREAT for 10 percent off

5. <u>**If any skin allergies**</u> use a skin barrier wipe or thin duoderm or speak with your doctor for more ideas.
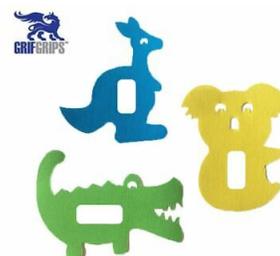
Alarms:

To start, most people choose wide alarm threshold values (then tighten as variability decreases):

80mg/dl for LOW alert with a 30-minute snooze

300mg/dl for HIGH alert with a 2-hour snooze

Calibrating: (For the Dexcom G6 you do not need to calibrate, but I recommend it if the numbers are not matching often)

Calibration Do's:

1) Use the same BG meter for all calibrations.
2) Use only finger-stick BG values for calibrations.
3) Enter BG into CGM quickly (preferable within 5 minutes of checking finger-stick).
4) Always wash hands before taking a finger stick or when hand washing isn't possible, use a alcohol wipe. Make sure the finger is dry before poking.
5) Wipe the first drop of blood and use the second drop.
6) When the CGM and finger stick meter values are very different, wash hands and take another finger stick to confirm the BG meter is correct (especially if dosing insulin).

Calibration Don'ts:

1) Don't calibrate when "out of range" or "???" is in status bar.
2) Don't calibrate if BG value is higher than 400 mg/dL or lower than 40mg/dL.
3) Don't calibrate when you see double arrows going straight up or down

Reading your CGM:

Here are some helpful tips about what all these graphs mean. You do not need to change your dosing by yourself. Contact your diabetes team for help if needed.

Trend Arrows

LBL015820 Rev 001

Trend Arrows show the direction and speed of glucose change. Catch highs and lows before they happen.

Constant
0-30 mg/dL up or down in ½ hour

Slowly Rising
30-60 mg/dL up in ½ hour

Rising
60-90 mg/dL up in ½ hour

Rapidly Rising
90 or more mg/dL up in ½ hour

Slowly Falling
30-60 mg/dL down in ½ hour

Falling
60-90 mg/dL down in ½ hour

Rapidly Falling
90 or more mg/dL down in ½ hour

- **You might see more high BGs than you are used to when you start on the CGM**

- Remember you are now seeing the numbers between your finger sticks. **These are your spikes.** Usually this means you are seeing highs that were previously occurring but not seen (common after meals)

- Take the first few weeks on the CGM and try to **learn before reacting** to the highs you see

- **Do not "Rage Bolus."** Do NOT give a huge dose of insulin, more than prescribed, in response to hyperglycemia fears.

- **The numbers can be scary, but remember** a major advantage of CGM use is working with food and insulin timing to minimize post-meal spikes, but don't overreact…

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- If BG spikes up quickly after meals but is back down by 3 hours (without you doing a correction dose): this is not a dose problem, it's a spike problem! (Read Strike the Spike 2)

- If BG rises quickly after meals and is still high 3 hours later, usually your carb ratio needs to be stronger

- If the BG steadily rises or falls more than 30 points over time without eating, basal/Lantus usually needs to be changed

Entering in Events

- Enter in events to allow your Kaiser team to make better decisions on your insulin plan.

  - Carb entry

  - Insulin

  - Exercise
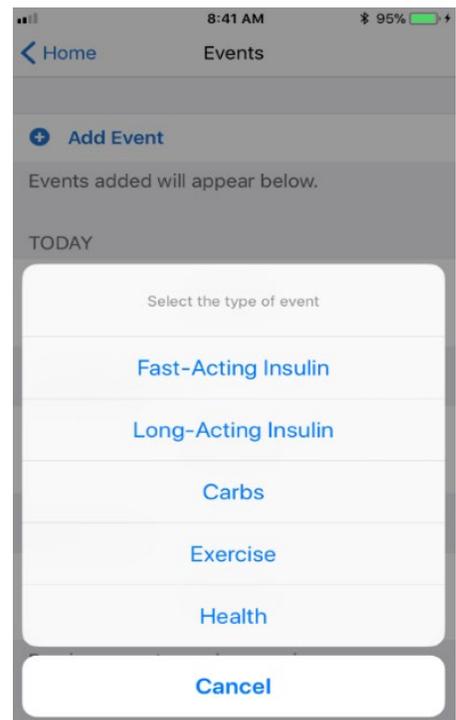
Losing Signal

If you are losing signal here are some ideas to try.

1. Delete the old G5 Dexcom App if it is still on your phone.

2. Keep Wifi On

3. Turn off and back on your Bluetooth. (simple but can be all your G6 app needs)

4. Reset NETWORK settings.

5. Do not go into low battery mode

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Settings > General > Reset (2nd to the last button) > Reset Network Settings

- After your phone turns back on from the reset, it will ask you to rejoin your current interment network, next tap on your G6 app. It should then immediately try to pair with the transmitter that is currently connected with the sensor you are wearing. If it is unable to pair, know that this issue is more than bad signal, but it is a bad sensor. Call Dexcom Tech Support to get a new sensor (individual sensors are valued at $164).

IMPORTANT NOTE: Always. Let me repeat, ALWAYS keep your sensor code (the 4 digit code next to the QR code on that you peel off your G6 sensor).

Resources: Better Signal Ideas for the Dexcom G6
https://www.arielwarren.com/single-post/Steps-to-Fix-Signal-Loss-Alert-with-Dexcom-G6

Other Tips
- **CGM has a lag time so… rechecks 15 min after a low BG should be with a fingerstick**

- It's possible there can be fake "compression" lows overnight (when you lay on the sensor); try to put the sensor in a place where the child/teen won't sleep on it

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- If there are down arrow(s) and BG is under 100-150 mg/dL, it's possible the fingerstick is already at or near 70 mg/dL—check fingerstick. Remember the CGM is 10 to 15 minutes behind your body.

- If you notice a **"roller coaster"** of highs and lows (steep mountains vs rolling hills), try not to over-react to lows with too many carbs, and try not to over-react to highs by being overly aggressive with insulin correction doses. Just stick to regular plan first week on CGM and talk to the diabetes team.

What Causes Blood Sugar Changes:

- **Insulin onset, peak, duration**

- **Meal composition, portion size, time**

- **Prior exercise, duration, and intensity**

- **Medications that raise glucose**

- **Stress level**

- **Hormone levels**

- **Dawn phenomenon**

- **Illness**

42 Factors That Affect BG

Food		Biological	
↑↑	1. Carbohydrate quantity	↑	20. Insufficient sleep
→↑	2. Carbohydrate type	↑	21. Stress and illness
→↑	3. Fat	↓	22. Recent hypoglycemia
→↑	4. Protein	→↑	23. During-sleep blood sugars
→↑	5. Caffeine	↑	24. Dawn phenomenon
↓↑	6. Alcohol	↑	25. Infusion set issues
↓↑	7. Meal timing	↑	26. Scar tissue and lipodystrophy
↑	8. Dehydration	↓↓	27. Intramuscular insulin delivery
?	9. Personal microbiome	↑	28. Allergies

Medication			29. A higher glucose level
→↓	10. Medication dose	↓↑	30. Periods (menstruation)
↓↑	11. Medication timing	↑↑	31. Puberty
↓↑	12. Medication interactions	↓	32. Celiac disease
↑↑	13. Steroid administration	↑	33. Smoking
↑	14. Niacin (Vitamin B3)		

Activity		Environmental	
→↓	15. Light exercise	↑	34. Expired insulin
↓↑	16. High-intensity and moderate exercise	↑	35. Inaccurate BG reading
→↓	17. Level of fitness/training	↓↑	36. Outside temperature
↓↑	18. Time of day	↑	37. Sunburn
↓↑	19. Food and insulin timing	?	38. Altitude

Behavioral & Decision Making	
↓	39. Frequency of glucose checks
↓↑	40. Default options and choices
↓↑	41. Decision-making biases
↓↑	42. Family relationships and social pressures

diaTribe

Meal Spikes:

- If you spike after meals, your insulin may need more lead time (15 min vs 5 min before first bite for example) for that meal and starting BG

- Identify patterns with certain foods (high fat meals may cause prolonged high BGs for 8 hours while processed carb snacks might spike BG very quickly)

- **Read strike the spike 2 to learn how to manage after meal spikes: https://www.diabetesselfmanagement.com/managing-diabetes/blood-glucose-management/strike-the-spike-ii/**

- Join the smart eating for better blood sugar class with Jagna Patel, our dietician. Ask for date!

School and CGM's:

- Parents are responsible for discussing with school:

  - When CGM is initiated or discontinued

  - Preferences around dosing/treating from CGM values vs. fingersticks

  - CGM has been inaccurately reading

  - **Please note school is not home!** Schools require very clear, black and white orders for CGM use. We cannot sign complicated CGM flow charts.

  - You can request the school use a CGM flow chart of your creation, but they can refuse.

  - Please familiarize yourself with our Kaiser high & low BG/CGM flow chart orders for schools.

  - Please ensure CGM alarms are not overly disruptive to a classroom setting. Some choose to turn off the high alert in schools (or make it 300 mg/dL) and/or use vibration alerts

Dosing off the CGM:

Do not rely on CGM for treatment decisions (insulin/food) if:

- CGM has been unreliable
- You are assessing if BG has risen after treating a low BG*
- BG is dropping rapidly* (such as with exercise).

*The CGM may not be able to "keep up" with rapidly changing blood sugars & you don't want to over treat a low or miss a low

- There is a lag time of about 10 to 15 minutes between blood glucose (from finger sticks) and interstitial glucose (from sensor). **Therefore, you must confirm BG levels with a fingerstick, and why CGM is good for trending not for exact matching readings**. Usually the CGM is within 20% of the actual blood glucose.

Sharing the data

- The main Dexcom Application should be on the patient's phone and will allow the patient to see blood sugar trends and hourly numbers. Delete the Dexcom G5 app and install the Dexcom G6.

- The Clarity application is used to share the patient's data with the clinic and should be placed on the patient's phone. Once added the patient will accept the invitation and enter a share code. Contact diabetes team to supply a Clarity share code.

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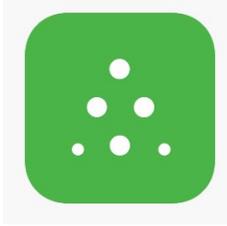
- The Dexcom Follow Application can be added to a compatible phone allowing another person to see the patient's data. The patient must send a share link from their Dexcom app to authorize the sharing.

Keeping your Child out of The Games

- **Step 1:** Locate the Settings icon in your iPhone. Tap to enter.
- **Step 2:** Select "General" and then "Accessibility."
- **Step 3:** Scroll to the bottom of the screen and tap "Guided Access."
- **Step 4:** Toggle Guided Access to on. *(TIP: You can also set up a password here to make it even more difficult for your child to accidentally turn off Guided Access. Tap "Password Settings" to input your preferred, four-digit password. Don't forget it!)*
- **Step 5:** Return to the home screen by pressing the Home button on your iPhone.
- **Step 6:** Tap into the app you want your child to use. Make sure the app is ready for your child. For example, if you wanted your child to only use Dexcom, you would need to select "Dexcom" to open the Application.
- **Step 7:** Tap the Home button three times to start Guided Access mode.
- **Step 8:** When your child is finished using the app, tap the Home button three times. You'll be asked to input your password if you set that up earlier.
- **Step 9:** Tap "End" to disable Guided Access. You now can use your iPhone and all your apps like normal.

Bonus tip: You can use your fingerprint instead of a passcode to turn off Guided Access. This is especially useful if you already use Touch ID to unlock your iPhone or iPad and hate having to remember passcodes. In order to use Touch ID with Guided Access, you'll need to first set up Touch ID on your device. Then, instead of selecting a passcode in the Guided Access settings, simply opt to use Touch ID.

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How to Reorder Your Supplies

Call before you run out of supplies! Call the Dexcom Kaiser supply line at 1-858-678-9423

- (if a sensor stops working before the 10 days please call Dexcom to get a new sensor)

Accessories:

SPIBelt's available online: http://www.trainitright.com/spibelt-and-diabetes-awareness-month/

Receiver Pouches at Too Sweet Boutique use code Kaiser15 for 15 percent off http://www.toosweetboutique.net/

PumpPeelz: stickers that go on the transmitter or receiver https://pumppeelz.com/ 50% off Use code: Julianne or Colella

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