

## A guide to self-monitoring blood glucose (SMBG) and continuous glucose monitors (CGM)

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### A step-by-step guide on how to perform a blood glucose test

1.	Wash and dry your hands.
2.	Remove the test strip from the container and close the cap tightly.
3.	Insert the test strip into the meter until the meter turns on.
4.	Once a drop of blood is displayed on the screen, the meter is ready to use.
5.	Press down lancet its device until you hear a click.
6.	Place lancet device firmly on edge of finger and press release button for a blood prick.
7.	Touch the side or tip of the test strip (depends on brand) to the blood drop.
8.	The meter beeps when there is enough blood and blood sugar will appear on screen.
9.	Throw test strip in trash and lancets disposed in a hard plastic, puncture-free container.

### SMBG Counseling points:

- Lancet device should be dialed to a **lower number** to prick at a shallower depth.
- Lancets should **NOT** be used more than once.
- E3 = **Glucose too high for meter to read (400-500)**
- Control solution is used to **make sure glucometer is working correctly.**
- Alternative OTC glucometer option: **ReliON (~\$20 for all supplies)**
- For any glucometer issues: **contact manufacturer located on back of meter.**

### Reasons a test strip would not work

Strip stored outside of bottle	Not enough blood on strip
Expired test strip	Blood placed on wrong part of strip
Test strips are different brand from meter	Blood placed on strip before inserting in meter
Strip was inserted backward or upside down	Previously used strip

Real-Time CGM (rtCGM)	Intermittently Scanned CGM (isCGM)
Examples: <b>Dexcom G6/G7, Freestyle Libre 3,</b> Medtronic Guardian Connect and Eversense <ul style="list-style-type: none"> <li>Does not have to be scanned</li> <li>Includes alarms for extremely high or low blood sugar</li> <li>May require SMBG calibration</li> <li>Generally <b>higher</b> cost</li> </ul>	Examples: <b>Freestyle Libre 2,</b> Abbott FreeStyle Libre 14 Day <ul style="list-style-type: none"> <li>Scanned every <b>8 hours</b></li> <li>Optional alarms for extremely high or low blood sugar (<b>Libre 2 ONLY</b>)</li> <li>SMBG calibration not required</li> <li>Generally <b>lower</b> cost</li> </ul>



Freestyle Libre (2 and 3)	Dexcom (G6 and G7)
<ul style="list-style-type: none"> <li>Difference between Libre 2 and 3?  <b>Libre 2 is isCGM and Libre 3 is rtCGM</b></li> <li>30-day supply = <u>2</u> sensors (<b>14-day lifespan</b>)</li> <li>*receiver is optional, or patient can get phone app*</li> <li><b>Ascorbic acid (Vit C) 500 mg</b> can falsely <u>increase</u> blood sugar readings</li> </ul>	<ul style="list-style-type: none"> <li>Difference between G6 and G7?  <b>Sensor and Transmitter are SEPERATED (G6)</b></li> <li>30-day supply = <u>3</u> sensors (<b>10-day lifespan</b>)</li> <li>*receiver is optional, or patient can get phone app*</li> <li><b>No substances/medications</b> of concern that can falsely increase blood sugar readings</li> </ul>

### CGM Counseling points:

- Counsel patient to still utilize SMBG, especially for:
  - Calibrating certain sensors for the first time
  - If there is suspicion that CGM is inaccurate
  - If warning message appears
  - If glucose levels are changing rapidly (>2 mg/dL/min)
- Patient can sleep, shower and exercise with sensor on – use skin adhesive such as over bandage keep sensor on skin.
  - Note: Use skin tac after first applying sensor
- Want to aim for TIR (Target in Range) → **greater than 70%** which aligns for A1C of ~7%
  - Time below target and above target useful for **treatment decisions**
  - Below target = 70 mg/dL → **less than 4%**
  - Above target = 180 mg dL → **less than 25%**
  - Each 5% increase in range is considered clinically beneficial