REFRESHER COURSE

BLOOD GLUCOSE METERS

By Molly McElwee-Malloy, RN, CDE

In a way, people with diabetes are scientists, taking blood glucose measurements and logging the results. And the key to all of that is the blood glucose meter. Think of it like a powerful little laboratory that fits into the palm of your hand. Add a tiny drop of blood, and the device will determine your blood glucose level. How often you check depends on a number of factors, including your type of diabetes and whether you’re taking insulin, so talk to your health care provider for guidance.

CHECK IT OUT

According to the American Diabetes Association 2017 Standards of Medical Care in Diabetes, your medication regimen, in addition to your health situation and targets, suggests general guidelines for when to check blood glucose:

IF YOU TAKE MULTIPLE DAILY INSULIN INJECTIONS:
Check before meals and snacks, occasionally after eating, at bedtime, before exercising, when you suspect your blood glucose is low, after treating a low (until your blood glucose is back in your target range), and before activities such as driving.

IF YOU TAKE ONLY ORAL MEDICATIONS OR LONG-ACTING INSULIN:
Do blood glucose checks as directed by your health care provider.

SAMPLE SIZES

If you’re new to self-monitoring blood glucose, you may be leery of finger pucks. But automatic lancing devices make quick, shallow puncture wounds, and the amount of blood required for checks is tiny—between 0.3 and 1.5 microliters, depending on your meter:

<table>
<thead>
<tr>
<th>Blood drop size in microliters</th>
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<tbody>
<tr>
<td>1.5</td>
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<td>1.4</td>
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<td>1.0</td>
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<tr>
<td>0.8</td>
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Many meters store around 450 or 500 past results, though the number varies among meters and you’ll want to check your user manual. If you’re regularly downloading data from your meter, storage space shouldn’t be an issue. Be sure to download (or write it in a log) at least once a month so readings aren’t erased between office visits.

UNLIMITED STRIPS

If you test often enough, you may want to purchase a meter system that provides unlimited strips for a monthly fee.

3 METERS PLUG INTO SMARTPHONES TO DISPLAY RESULTS

88 METERS ON THE MARKET
FULLY CHARGED
When choosing a meter, consider the type of battery a device uses. Some take reusable batteries, while others use disposable ones. Not all stores carry less-common battery types.

BONUS FEATURES

LIGHT IT UP
If you do frequent nighttime checks or have low vision, consider a meter with a backlight. The screen will illuminate so you can view your blood glucose level without turning on the lights.

BOLUS CALCULATOR
Looking for a device that calculates a mealtime insulin dose so you don’t have to? Consider the Accu-Chek Aviva Expert (by prescription only), or a meter that’s part of an insulin pump system. Or look to standalone meters that use smartphone apps to calculate boluses, such as the Accu-Chek Connect.

FROM BLOOD TO GLUCOSE READING

1. WASH and DRY your hands.
2. INSERT a test strip into the meter.
3. PRICK the side of your finger with a lancing device. Gently massage your finger to form a drop of blood.
4. HOLD your finger to the test strip’s sample tip—it’ll drink up the blood.
5. WAIT for the screen to show your blood glucose level.
6. RECORD that number to discuss with your health care provider in order to make the best decisions about your medication, food, and exercise plans.

$9 TO $149.99
Retail price range for blood glucose meters. Most are around $20.