Blood Glucose/Sugar Monitoring

What is a glucose meter and do I need one?
A glucose meter is a small battery powered machine. Meters measure your blood sugar and your blood glucose level is then shown on a small screen. There are a variety of meters to choose from.

How do I select a meter?
Check with your insurance to see which meters are covered by your plan. Some insurance companies may have you get your meter and supplies from a certain supplier and others may give you a set amount to cover the expenses. Most insurance plans and Medicare will cover at least part of the cost of the meter and strips. If you are having trouble, ask for help.

Your doctor, diabetes educator, other nurses and your pharmacist can talk with you about the meters available. Many pharmacies have the meters on display so you can see them to compare features.

Diabetes Forecast magazine has an issue each fall that reviews the different products available for diabetes management, including meters, lancets, and lancing devices.

How much will it cost?
Strips may cost 75 cents to over $1 each and this is going to be an ongoing cost. Be sure the strips you buy are for your meter because they are not all the same.
What supplies do I need?

- Glucose test strips
- Lancets
- Glucose meter
- Lancing device

What are lancets?
The lancets are the needles used to stick your skin to get the drop of blood for testing.

What is a lancing device?
A lancing device holds the lancet and gives you a controlled stick to reduce pain and prevent skin damage. Most devices let you adjust the depth of the poke.

Do test strips expire?
Yes, each bottle will have an expiration date. Never use strips if the date has expired. Check product insert for details.

How do I store my test strips?
Make sure the cap fits snugly on the glucose strip bottle. Sunlight and moisture can damage the strips. Store at room temperature in a dry place.

What is coding?
Some meters require “coding”. If so, you will find the code with each new bottle of test strips.
What is control solution?
This is a special liquid to test if your meter is working properly. The liquid reacts with the chemicals in the strip to give a reading. Your test strips will have a range marked on the bottle or on a paper in the box. If the reading falls in the range, the machine is working correctly. The control solution often expires several months after it has been opened.

Where can I get a drop of blood?
You can get a drop of blood from:
- The side(s) of your fingers / thumbs and palm of your hand.
- Your earlobe.
- Forearms or top of legs can be used with alternate site meters, but should not be used when blood sugar is changing quickly or if you think you are having a low blood sugar (BG).
- Most people use their fingers.

What problems might happen with glucose testing?
Sore fingers
- Use only the sides of the fingers or thumbs.
- Always use a lancing device.
- Use a different finger or thumb for each test.
- Lightly place the lancing device against the side of your finger.
- Consider alternate site testing.
- Adjust the depth on the lancing device.
**Blood drop too small**
- Shake your hand and lower it below heart level before lancing your finger.
- Do not use lancets without a lancing device.
- Adjust the depth on the lancing device.
- Wash your hands with warm, soapy water before testing.
- Squeeze / milk your finger until it turns pink before using the lancing device.
- Squeeze your finger after using the lancing device to get a bigger drop of blood.

**What is on your hands?**
- Hand sanitizer (like Purell) or other things on your hands can affect the reading. Make sure your hands are clean and dry before checking your blood sugar.

**When should I test?**
When to check your blood sugar depends on your situation and what medicine you take to manage your diabetes.

You and your doctor will figure out the most useful times to check your blood sugar depending on your medicine, daily life and insurance.

Blood sugar goals vary from person to person depending on many things, so it's a good idea to check with your doctor to find out what your personal goal will be. Here are the target ranges from the American Diabetes Association:

<table>
<thead>
<tr>
<th></th>
<th>Before Meals</th>
<th>2 Hours after Meals</th>
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</thead>
<tbody>
<tr>
<td>Fasting</td>
<td>80-140 mg/dL</td>
<td>Less than 180 mg/dL</td>
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<tr>
<td>80-120 mg/dL</td>
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Keeping your blood sugar in these ranges will help you reach and maintain an A1C less than 7%

**Fasting:** First thing in the morning before you eat or drink anything.
*Bedtime and Fasting blood sugar numbers should be almost the same number.

**Before meals:** Before you eat but at least 3-4 hours since you last ate or drank anything (other than water).

**1-2 hours after meals:** This can show you how the meal affected your blood sugar and/or how well your medicine worked.

**Bedtime:** Before going to sleep. (Be sure to write down if you snacked in the evening.)

**3 am (or your middle of the night):** Checking in the middle of the night can help you see how your medicine or insulin is working with your body while you sleep.

**Anytime you don’t feel “right”:** Rule out if it might be your blood sugar.

**What do I do with this information?**
We learn a lot from a few small drops of blood:
- How different foods affect your blood sugar
- How exercise affects your blood sugar
- How your medicine is working for you
- Think of one thing to change and see how it affects your blood sugar.
- Testing in pairs: checking your blood sugar before and after things like meals, snacks, exercise, medicine, and stressful events can help you learn how those things affect your blood sugar.
• You may want to check your blood sugar more often about a week before your next clinic visit and write down your results to discuss with your doctor or diabetes educator.
• Use what you learn to make a plan and set goals to help manage your diabetes.

Example 1. Before and 2 hours after a meal such as lunch.

Monday: Ate cheeseburger and fries fast food for lunch: BG before 126, after 202.

Tuesday: Ate a small sandwich, salad and an apple for lunch: BG before 132, after 146.

What did I find? Wow, what I choose to eat really makes a difference in my blood sugar.

Now what? I set a new goal to eat lunch at home at least 3x per week.

Example 2. Before bed and first thing in the morning.

Monday: Watched TV all evening: BG 162 before bed and 204 in the morning.

Tuesday: Watched TV all evening: BG 127 before bed and 166 in the morning.

What did I find: My blood sugar rises overnight.

Now what? Call my doctor and discuss how my medication is working.
Example 3. How does exercise affect my blood sugar?
Went for a 30 minute walk 3 days in a row and checked my blood sugar before and after.
What did I learn? My blood sugar goes down an average of 35 points after walking.
Now what? I'm going to try and take a walk 3 days a week after lunch.

Poking your fingers is not fun, so get the most out of it!