

HOW TO TEST YOUR BLOOD SUGAR

When it comes to managing diabetes, it is all about blood sugar. If your blood sugar (or blood glucose) levels get too high or too low, it can drastically alter your mood, your well-being and even your long-term health. There are many ways to monitor blood sugar. Some people use glucose meters with test strips and blood drawn from their fingertips for instant measurements. Others use continuous glucose monitors (CGMs) that are either implanted in their bodies or attached to them. There are also hybrid monitors called “flash glucose meters” (FGMs) that can monitor blood glucose continuously and offer instant readings. Each person is different, so your doctor will review your unique case and recommend the right solution to help you monitor your blood sugar effectively.

WHEN TO TEST BLOOD SUGAR

Checking your blood glucose as recommended can help you see how your meals, medications and activities affect your blood sugar. The American Diabetes Association (ADA) recommends that you routinely test blood sugar levels to aid in managing your diabetes.¹

Routine or daily blood glucose testing

For people using an insulin pump or insulin injections throughout the day, the ADA recommends testing multiple times daily. If you take another kind of medication, test your blood sugar level as often as your healthcare team recommends.

You and your healthcare team will determine when you should check your blood sugar based on your current health, age and level of activity, as well as the time of day and other factors. They may suggest that you test your blood sugar at any of the following times:

- Before each meal
- 1 or 2 hours after a meal
- Before a bedtime snack
- In the middle of the night
- Before physical activity, to see if you need a snack
- During and after physical activity
- If you think your blood sugar might be too high, too low or falling
- When you're sick or under stress

Gaining insights from routine blood glucose testing

Day-to-day blood sugar checks can give you a good idea of how you're doing at this moment, and they can be reviewed overall to see trends. They can help answer questions such as:

- Are your medications working as they should?
- How does the type or amount of food you eat affect your blood sugar?
- How does activity or stress affect your blood sugar?

Structured blood glucose testing

Structured testing supports your routine or daily testing by giving you deeper, more targeted data to work from. It can help you determine if you're in a safe range and problem-solve around how the things you do are connected to your blood sugar. You simply perform additional tests over a short period at specific times of day.

Structured blood glucose testing can help you:

- Discover how to best use your numbers
- See how certain activities can affect your blood sugar levels
- Problem-solve around highs and lows
- Identify blood sugar patterns
- Work with your healthcare team to decide if any adjustments are needed in your insulin therapy or other areas of your diabetes management

Pattern management: If you find that your [A1C result](#) is rising in spite of your best efforts, or if you don't feel as well as you'd

like, talk with your healthcare professional about the [Accu-Chek 360° View tool](#). This simple paper tool helps you track your blood sugar over 3 days, so you and your doctor can quickly identify patterns that can guide adjustments to your treatment plan. As a result, you may be able to feel better and lower your A1C.²

Before-and-after testing: You may also decide to try the [Accu-Chek Testing in Pairs tool](#). This easy-to-use, printable tool helps you see changes in your blood glucose with before-and-after testing. In just 7 days, you can see the effect a specific meal, exercise or other event has on your blood sugar.

HOW TO TEST YOUR BLOOD SUGAR

To check your blood sugar level, gather your blood glucose meter, a test strip and your lancing device. See how to prepare the meter and test strip, lance your finger and get a reading using the Accu-Chek® Guide Me system by following the steps here:

The steps are similar for many meters, and generally look like this:

1. Wash and dry your hands — using warm water may help the blood flow.³
2. Turn on the meter and prepare a test strip as outlined in your owner's booklet. Many Accu-Chek meters turn on automatically when a strip is inserted.
3. Choose your spot — don't check from the same finger all the time. Using the side of the fingertip may be less painful than the pads.
4. Prepare the lancing device according to the user guide provided, then lance your fingertip or other approved site to get a drop of blood.⁴
5. Touch and hold the test strip opening to the drop until it has absorbed enough blood to begin the test.
6. View your test result and take the proper steps if your blood sugar is high or low, based on your healthcare professional's recommendation.
7. Discard the used lancet properly.
8. Record the results in a logbook, hold them in the meter's memory or download to an app or computer so you can review and analyze them later.

HOW TO CHOOSE A BLOOD GLUCOSE METER

There are many blood sugar meters to choose from, so start by thinking about what's most important to you. Ask yourself a few questions.

- Are you concerned about accuracy? Make sure you're using a meter and test strips that provide accurate results. Roche quality control processes ensure consistent accuracy. Find out more about our [accuracy commitment](#).
- Do you use blood glucose results to dose insulin? The [Accu-Chek Guide meter](#) sends results directly to a smartphone app that includes an insulin calculator.⁵
- Do you feel like you're always short on time? A system that syncs your data wirelessly, without manually entering results, can save time with every test. You may also want to consider a blood glucose meter that gives results quickly, makes it easier to handle test strips, doesn't require coding, or simplifies lancing or dosing.
- Would you like to reduce the pain of testing? Choose a system with a lancing device specifically designed for comfort, such as the [Accu-Chek FastClix lancing device](#). Precision-guided technology minimizes the lancet's painful side-to-side motion, and thin-gauge, bevel-cut lancets help ensure smoother entry. Plus, 11 customizable depth settings make it easier to get the right amount of blood the first time.
- Will you track results in the blood sugar meter, with an app or on a computer? Most blood sugar monitors have built-in memories, and many can beam or transfer data directly to your computer or an app on your smartphone, such as the [mySugr App](#).

HOW TO REDUCE THE PAIN OF BLOOD SUGAR CHECKS

Nobody gets excited about pricking their fingertip. In fact, studies have shown that it's one of the main reasons people refrain from regularly checking their blood glucose.^{6,7} So how can you make this less of a hurdle in your self-care?

Select a less-painful lancing device

Naturally, one factor that can contribute to the pain is your lancing device. That's why we've worked hard to ensure that [Accu-Chek lancing devices](#) keep discomfort to a minimum. For example, our lancing devices feature:

- Technology that minimizes side-to-side motion, so there's less skin tearing
- 11 customizable depth settings to help match your skin type

- Precisely manufactured, beveled, thin-gauge lancets to ensure smoother entry

You can reduce pain by using a fresh lancet for every test. Today's lancets are so tiny that just a single use can bend or dull the tips. This can make them hurt more as you reuse them.

5 tips for reducing fingertip pain

You can make testing more comfortable and help ensure that you get a good sample on the first try by following these 5 easy steps.

- Make sure that your hands are clean and dry. Washing your hands with warm water and hanging your hand at your side for a few minutes may increase blood flow.³
- Lance on the side of the fingertip rather than the pad. The pad of your fingertip — where your fingerprints are most visible — are some of the most sensitive parts of your body.⁸
- Keep the skin taut by pressing the lancing device firmly against the skin.
- Don't go deeper than necessary. Select the shallowest penetration depth that allows you to get a large enough blood sample for your meter. Fortunately, most of today's meters require just a tiny drop.
- Alternate fingers daily, so each one gets a chance to rest.

You may also want to consider testing beyond the fingertip. If you and your healthcare professional agree that it's right for you, you may experience less pain if you use [your palm, forearm or upper arm for routine testing](#).⁴

WHAT IS THE NORMAL RANGE FOR BLOOD SUGAR?

In general, the American Diabetes Association's (ADA) recommended blood sugar levels are⁹:

- Between 70 and 130 mg/dL before meals
- Less than 180 mg/dL after meals

Your range is yours alone — based on your health, age, level of activity and other factors. And remember that your target is a range you'd like to stay within, not a single number.

HOW TO USE BLOOD GLUCOSE TESTING RESULTS

It's not unusual for your blood glucose results to be out of range now and then. But if you see a pattern of highs or lows outside your target range, you may want to ask yourself:

- Did I eat at an unusual time, have a larger or smaller portion, or try a new food?
- Did I have more or less physical activity than usual?
- Did I forget to take my medication, take it at the wrong time, take too little or too much?
- Am I taking a new medication?
- Am I stressed about something?
- Do I have an infection or an illness?
- Did I drink alcohol?

Any of these can have an impact on your blood glucose numbers. If you're making changes to your lifestyle, or if you can't figure out why you've been out of range, talk to your doctor, nurse or diabetes educator.

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¹American Diabetes Association. Standards of medical care in diabetes—2016; Abridged for primary care providers [position statement]. Diabetes Care. 2016;34(1): 3-21. Available at: <http://clinical.diabetesjournals.org/content/34/1/3.full.pdf>. Accessed April 26, 2019.

²Polonsky WH, et al. Structured self-monitoring of blood glucose significantly reduces A1C levels in poorly controlled, noninsulin-treated type 2 diabetes: results from the Structured Testing Program study. Diabetes Care. 2011;34(2):262-267. Accessed April 26, 2019.

³Joslin Diabetes Center. Tips for more pain-free blood glucose monitoring. Available at: https://www.joslin.org/info/tips_for_more_pain_free_blood_glucose_monito... Accessed April 26, 2019.

⁴Talk with your healthcare professional before deciding if alternate site testing is right for you.

⁵The Bolus Advisor feature requires setup and activation by a healthcare professional.

⁶Sahnan A, Simpson SH. Effect of an experiential exercise in diabetes management on pharmacy students' fear and perceived pain of injection and fingertip lancing. Am J Pharm Educ. 2015;79(1). Available at: <http://www.ajpe.org/doi/full/10.5688/ajpe79105>. Accessed March 14, 2016.

⁷Burge MR. Lack of compliance with home blood glucose monitoring predicts hospitalization in diabetes. Diabetes Care. 2001;24(8). Available at: <http://care.diabetesjournals.org/content/24/8/1502.full>. Accessed March 14, 2016.

⁸New Scientist. Fingertips and forehead are most sensitive to pain. Available at: <https://www.newscientist.com/article/dn25688-fingertips-and-forehead-are...> Accessed March 14, 2016.

⁹Tight Diabetes Control. <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/tight-diabetes-control.html>. Accessed April 26, 2019.