

# Checking Blood Glucose

**Checking your blood glucose (also called blood sugar) is important.** You can use the results to make decisions about food, physical activity, and medication. These decisions can help you feel better day to day and delay or prevent diabetes complications such as heart attack, stroke, or blindness.

## How do I check my blood glucose?

Many people use a blood glucose meter to check their blood glucose several times a day. A meter is a small device that tests a tiny drop of blood and then displays your blood glucose level at that moment. A lancet is a device used to prick the skin to get the drop of blood.

## What are the blood glucose targets for people with diabetes?

The general targets recommended by the American Diabetes Association are listed below. Talk with your health care team about whether these targets are right for you.

### ADA targets:

- When you wake up and before meals: 80 to 130 mg/dL
- 2 hours after starting a meal: below 180 mg/dL

## When are the best times of day to check blood glucose?

Many people check blood glucose first thing in the morning before they eat (called “fasting”) as well as before other meals. You also may want to check after meals (called “postprandial”) when your blood glucose is likely to be higher.

### Other times to check include:

- When you’re having symptoms of high or low blood glucose
- When you’re ill, especially if you’re vomiting or suffering from dehydration
- Before, during, and after physical activity
- Before you drive
- Before you go to sleep

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## How often do I need to check?

If you’re using your blood glucose results to decide how much insulin to take, you’ll need to check several times a day. You will probably need to check more often if you’re pregnant or you make changes to your medications, activity, or meal plan. Talk it over with your doctor.

More recent technology has led to continuous glucose monitors (CGMs) that check your blood glucose at regular intervals. These work by using a sensor attached to the skin. This sensor uses a transmitter to send your blood glucose levels to a receiver, which tracks if your levels are trending up or down. This gives you a more complete look at how your blood glucose levels are changing throughout the day and night.



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## Can I get a blood sample without sticking my finger?

Some glucose meters can check blood samples from areas other than the fingertips. This can be the fleshy parts of the hand, the forearm, the outer thigh, the calf, or the abdomen.

Sometimes, to get the most accurate results, experts recommend that you use your fingertips instead of these other sites.

**If you're seeking ways to keep your fingertips from getting sore, or you can't get blood from alternative sites, talk with your health care team**

### These times include when:

- Your blood glucose is low or likely to be low
- You have trouble realizing that your blood glucose is low
- It's less than two hours after starting a meal
- You've been physically active

If you're seeking ways to keep your fingertips from getting sore, or you can't get blood from alternative sites, talk with your doctor about different types of lancets or other techniques that can help.

## How can I make sure that my meter provides accurate results?

Follow your meter's instructions for the most accurate results.

### This includes:

- Keeping your meter clean
- Making sure your test strips haven't passed their expiration date
- Storing your strips as recommended
- Coding (setting up) your meter for your strips if necessary and using the control solution as recommended
- Making sure your blood sample is big enough

If your meter isn't working at all, it may need new batteries. Check the back of your meter for the meter manufacturer's phone number in case questions arise.



**Once a year, talk with your doctor or diabetes educator about how you use your meter.**

# Low Blood Glucose (Hypoglycemia)

**Hypoglycemia, also known as low blood glucose (blood sugar), is when your blood glucose levels have fallen low enough that you need to take action to bring them back to your target range.** This is usually when your blood glucose is less than 70 mg/dL. However, talk to your doctor about your own blood glucose targets, and what level is too low for you.

## When can it happen?

Low blood glucose can happen if you've skipped a meal or snack, eaten less than usual, or been more physically active than usual. If you don't take steps to bring glucose levels back to normal, you could even pass out.

## What are the symptoms?

Each person's reaction to low blood glucose is different. It's important that you learn your own signs and symptoms when your blood glucose is low.

### Signs and symptoms of low blood glucose include:

- Feeling shaky
- Being nervous or anxious
- Sweating, chills, clamminess
- Mood swings, irritability, impatience
- Confusion
- Fast heartbeat
- Feeling light-headed or dizzy



- Hunger, nausea
- Color draining from skin (pallor)
- Feeling sleepy
- Feeling weak, having no energy
- Blurred/impaired vision
- Tingling or numbness in lips, tongue, cheeks
- Headaches
- Coordination problems, clumsiness
- Nightmares or crying out in sleep
- Seizures

## What should you do?

**The 15-15 rule—have 15 grams of carbohydrate to raise your blood glucose and check it after 15 minutes. If it's still below 70 mg/dL, have another serving.**

Repeat these steps until your blood glucose is at least 70 mg/dL. Once your blood glucose is back to normal, eat a meal or snack to make sure it doesn't lower again.

### This may be:

- Glucose tablets (see instructions)
- Gel tube (see instructions)
- 4 ounces (1/2 cups) of juice or regular soda (not diet)
- 1 tablespoon of sugar, honey, or corn syrup
- 8 ounces of nonfat or 1% milk
- Hard candies, jellybeans, or gumdrops—see food label for how many to consume

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Make a note about any episodes of low blood glucose and talk with your health care team about why it happened. They can suggest ways to avoid low blood glucose in the future.

Your doctor may refer to different levels of hypoglycemia. These include:

- **Level 1**—blood glucose between 54 and 70 mg/dL
- **Level 2**—blood glucose less than 54 mg/dL
- **Level 3**—when you need help to treat your low blood glucose.

## Severe hypoglycemia

When low blood glucose isn't treated and you need someone to help you recover, it is considered a severe event.

### Treating Severe Hypoglycemia

Glucagon is a hormone produced in the pancreas that stimulates your liver to release stored glucose into your bloodstream when your blood glucose levels are too low. Injectable glucagon is used to treat someone with diabetes when their blood glucose is too low to treat using the 15-15 rule.

Glucagon kits are available by prescription. Speak with your doctor about whether you should buy a glucagon kit and how and when to use it.

The people you are in frequent contact with (for example, friends, family members, and co-workers) should be instructed on how to give you glucagon to treat severe hypoglycemia.

### Steps for treating a person with symptoms keeping them from being able to treat themselves.

1. Inject glucagon into the buttock, arm, or thigh, following the instructions in the kit.
2. When the person regains consciousness (usually in 5-15 minutes), they may experience nausea and vomiting.
3. If you have needed glucagon, let your doctor know so you can discuss ways to prevent severe hypoglycemia in the future.

**Don't hesitate to call 911.** If someone is unconscious and glucagon is not available or someone does not know how to use it, call 911 immediately.

### Do NOT:

- Inject insulin (it will lower their blood glucose even more)
- Provide food or fluids (they can choke)
- Put hands in mouth (they can choke)