

Monitoring Blood Sugar

Part of the *Learning to Live Well with Diabetes* Series

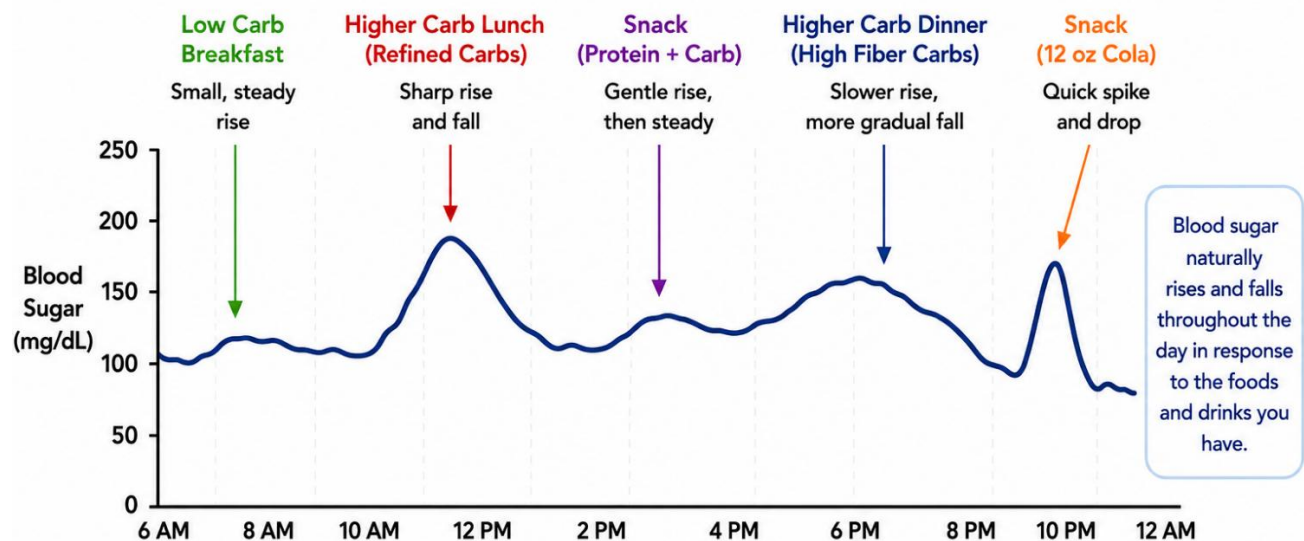
Welcome! A diabetes diagnosis can feel overwhelming. There is so much to learn and so much to do. The [Learning to Live Well with Diabetes](#) series was created to share clear, practical information and resources to offer support without adding extra stress. Setting small, manageable goals over time can help relieve stress and lead to lasting health improvements, and you don't have to do it alone. Please take what is helpful to you on your journey and leave the rest.

If you need help accessing or understanding this information, contact:

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Understanding Blood Sugar

Blood sugar, also called blood glucose, is the amount of sugar in your blood at any given time. Your body uses blood sugar for energy, but for people with diabetes, levels can go too high or too low because the body does not make enough insulin or cannot use it effectively. Food, physical activity, stress, illness and medication can all affect blood sugar levels. Understanding your blood sugar numbers can help you make informed choices and lower your risk of long-term health problems. The chart below shows one example of how blood sugar might fluctuate throughout the day.



Note: This is graphic was generated with the help of an AI tool and is an example only. Your blood sugar pattern may be different.



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The chart shows how different foods and food combinations can impact blood sugar. In the chart, we can see:

- Blood sugar rises modestly after a **low carbohydrate breakfast**.
- A **refined carbohydrate lunch** causes a sharper spike.
- A **snack with protein and carbohydrate** leads to a smaller, steadier rise.
- A **high fiber carbohydrate dinner** causes a slower, more moderate increase.
- A **sugary drink (cola)** causes a quick spike followed by a drop.
- Between meals, blood sugar returns closer to baseline.

One way that people with diabetes can support better blood sugar levels is by learning what types of food causes their blood sugar to rise and adjusting meals and snacks to slow or lessen unwanted spikes in blood sugar. Check out the handout “[Eating Well to Prevent or Manage Diabetes](#)” to learn more.

Know Your Numbers

It’s important to know when your blood sugar is too low or too high, and there are several ways to learn your numbers. The table below shows some common ways to test your blood sugar. There are strengths and limits to each, and your health care provider or diabetes care and education specialist can help you figure out which tests will be most helpful to you and how often you should use them.



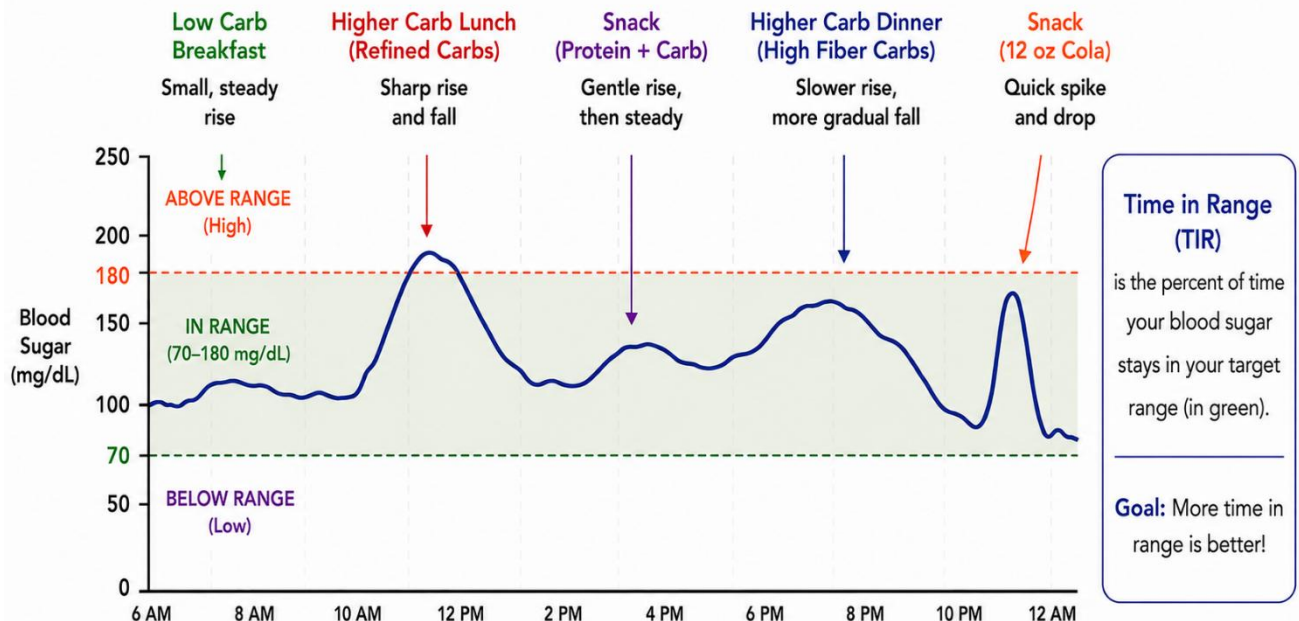
Method of Testing	Where it Happens	What it Measures
Fingerstick (glucose meter)	In home or health center	A fingerstick measures blood sugar at the exact moment of the test. It can be done after not eating for at least 8 hours (fasting), after a meal (postprandial) or at a random point in time.
Continuous glucose monitor (CGM)	Worn on the body	A CGM measures ongoing blood sugar levels and trends, recorded in real time throughout the day.
A1C (hemoglobin A1C)	Laboratory or health center	Rather than a direct measurement of blood sugar, A1C shows how much sugar has stuck to your red blood cells over the past 2-3 months. Your provider can use your A1C to estimate your average blood sugar level over time.

What Does it Mean to be “in Range”



Time in range is an individual goal. It is a target blood sugar range that you and your health care provider or diabetes educator set to help you keep your blood sugar level steady. It gives a big picture view of your blood sugar management over time rather than a single number. More time “in range” is better for your health and can lead to fewer complications over time.

You can think of time in range like trying to stay within the speed limit while driving on the highway. Sometimes you might go a bit above or below the maximum or minimum speed due to weather conditions, traffic, lack of attention, etc., but most of the time, you want to stay within the speed limits to be safer. **The chart below shows one example of how blood sugar might fluctuate throughout the day with the goal time in range shaded in green (between the dashed lines).**



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Things That Affect Blood Sugar and Time in Range

Many things can affect blood sugar levels throughout the day and therefore affect your time in range. Food, physical activity, stress, illness, medications and sleep can all cause blood sugar to rise or fall. Learning what affects your blood sugar's time in range can help you better understand your patterns and make informed choices about your diabetes care. The lists below include some common things that may raise or lower blood sugar levels too much and decrease your time in range.

Things that may raise blood sugar too much:

- ↑ Eating foods or drinks with carbohydrates, especially sugary foods or refined carbs
- ↑ Large portion sizes
- ↑ Skipping physical activity or being less active than usual
- ↑ Stress, anxiety or strong emotions
- ↑ Illness, infection or pain
- ↑ Certain medications, such as steroids
- ↑ Not taking enough diabetes medication or insulin
- ↑ Hormonal changes, including menstruation or menopause
- ↑ Poor sleep or changes in sleep patterns
- ↑ Dehydration
- ↑ Caffeine

Things that may lower blood sugar too much:

- ↓ Taking too much insulin or diabetes medication
- ↓ Skipping meals or eating less than usual
- ↓ Being more physically active than usual
- ↓ Drinking alcohol, especially without food
- ↓ Waiting too long between meals or snacks
- ↓ Some medications used with diabetes treatments
- ↓ Vomiting or diarrhea
- ↓ Breastfeeding

Everyone's body responds differently. Tracking your blood sugar can help you learn what affects your numbers most.

Physical Signs that Blood Sugar is Too Low or Too High

Blood sugar that is too high or too low can cause symptoms that affect how you feel and function throughout the day. Learning to recognize these symptoms can help you take action when needed and may help prevent more serious problems. Keep in mind that symptoms can vary from person to person. Some people notice symptoms right away, while others may have few or no symptoms at all. Checking your blood sugar is the best way to know whether your symptoms are related to your blood sugar level.

High Blood Sugar (Hyperglycemia)	Low Blood Sugar (Hypoglycemia)
When blood sugar is too high, symptoms may include: • Feeling very thirsty • Needing to urinate more often • Feeling tired or having low energy • Blurry vision • Headaches • Dry mouth • Difficulty concentrating • Increased hunger • Slow-healing cuts or sores • Frequent infections Very high blood sugar may also cause: • Nausea or vomiting • Stomach pain • Fruity-smelling breath • Shortness of breath • Confusion	When blood sugar is too low, symptoms may include: • Shakiness or trembling • Sweating • Feeling hungry • Fast heartbeat • Feeling anxious, nervous or irritable • Dizziness or lightheadedness • Headache • Weakness or fatigue • Trouble concentrating • Blurred vision • Tingling around the mouth Very low blood sugar may also cause: • Confusion • Difficulty speaking • Loss of coordination • Seizures • Loss of consciousness