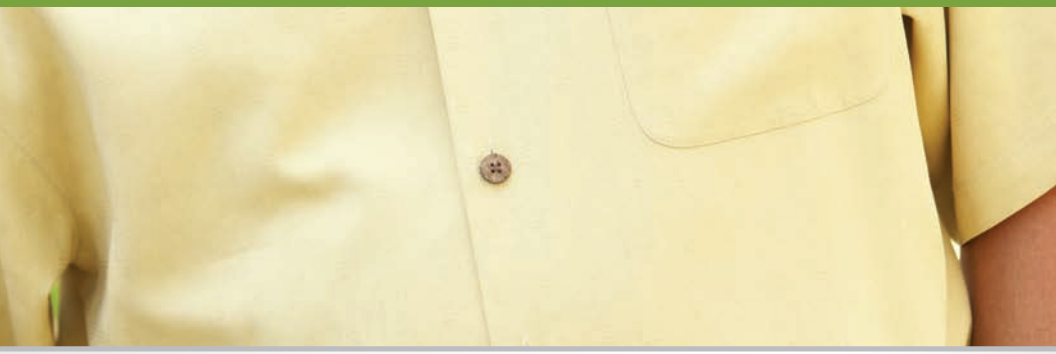
Blood Glucose

Staying In Control and On Target

An Omnis Health Guide to monitoring and managing your diabetes



OMNIS® HEALTH

Know *more.*
Feel *better.*
Live *well.*

If you have diabetes, an essential part of taking care of yourself is understanding what's happening in your body. It's not enough to trust how you think you feel in the moment. Good diabetes self-care includes monitoring a number of important health indicators, including your blood glucose (or blood sugar) levels. The more you track your numbers and keep tabs on your daily routines, the better you can learn to anticipate, prevent, and respond to potential complications with your diabetes.

Target Blood Glucose Levels

When your blood glucose is within your target range, you feel good. You're likely to have more energy, be less thirsty, heal more easily, and experience fewer problems with your skin, your eyesight, your feet, gums, and bladder.[1]

In general for people with diabetes, target blood glucose numbers fall here:[2]

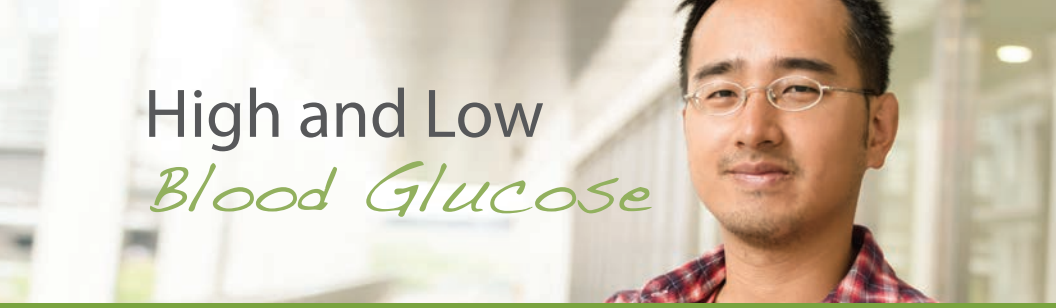
Before meals	70 to 130 mg/dl
1 to 2 hours after the start of a meal	< 180 mg/dl
Bedtime	90 to 150 mg/dl
A1C test	< 7%

If you are over 65, have other health conditions like heart disease, or your blood glucose often falls too low, your targets may be different. Be sure to talk with your healthcare team about the best target range for you.[3]

Your numbers paint a picture.

When you track your blood glucose, you arm yourself and your healthcare team with valuable information that can help you answer questions like these:

- How do my eating habits affect my blood glucose?
- What does stress or exercise do to my blood glucose?
- Are my medications right for me?
- Is my diabetes care plan working?



High and Low *Blood Glucose*

Hyperglycemia, or high blood glucose, happens when your blood glucose level is above your individual glucose target. In general, this level is at or above 160 mg/dl.[4,5]

What it could feel like …

- Increased thirst and frequent urination
- Dry mouth or skin
- Fatigue
- Blurred vision
- Frequent infections, and slow-healing cuts or sores
- Unexplained weight loss

Why it might happen …

- Overeating
- Too little physical activity
- Missed, inadequate, or spoiled medication or insulin
- Stress, illness, infection, injury, or surgery

What to do …

- Drink plenty of water.
- Exercise. Physical activity can often lower your blood glucose, but you should first check for ketones in your urine. If you have ketones, do not exercise.
- Work with your healthcare team to find the best meal, exercise, and medication or insulin schedule possible.

When to be watchful …

Hyperglycemia can pose health problems in both the short- and long-term, increasing your risk of eye and kidney disease, heart attacks, strokes, and other complications. If your blood glucose stays over 180 mg/dl for three days in a row, you may need to adjust your treatment plan.

If you fail to treat hyperglycemia, you could experience ketoacidosis, or diabetic coma. This is a life-threatening condition that develops when you don't have enough insulin and can't use glucose or fuel, causing your body to break down fats for energy.

Watch for these symptoms:

- Shortness of breath
- Breath that smells fruity
- Nausea and vomiting
- Extreme dry mouth

Hypoglycemia, or low blood glucose, is commonly defined as a blood glucose level below 70 mg/dl. Sometimes called an insulin reaction, it can also impact people with diabetes who take pills. Hypoglycemia is generally more inconvenient than dangerous, with mild and recognizable symptoms that are manageable if you treat them quickly and appropriately.[6,7]

What it could feel like …

- Shakiness, weakness, confusion, or irritability
- Increased hunger and fatigue
- Headache and sweating
- Pounding heart

Why it might happen …

- Too much diabetes medicine or insulin
- Too little food or a delayed meal
- Too much or unplanned physical activity

What to do …

- Have 3 to 4 glucose tablets, or an appropriate snack as determined by your healthcare team.
- Recheck your blood glucose levels and repeat until your blood glucose is 70 or higher, or within your target range.

When to look out …

Severe hypoglycemia is rare but extremely dangerous. While not fatal by itself, it can lead to mental confusion, unconsciousness, or seizures, and that can put you at risk while in traffic or walking down stairs.

Quick tips for glucose control:[8]

- Always treat high or low blood glucose immediately.
- Always carry water and some carbohydrate foods with you for quick treatments; serving examples include: 1/2 cup of any fruit juice, 1 tablespoon of sugar or honey, 4 hard candies
- Update your healthcare team regularly and ask how you can prevent future high or low glucose events.

If you feel any symptoms of hypoglycemia, stop what you are doing and treat them until glucose levels return to your target range.

Blood Glucose *FAQs*

What can I do to keep my blood glucose levels on target?

To help maintain healthy blood glucose levels, focus on making smart food choices, staying physically active, and taking medications as needed. For people taking certain medicines, it's helpful to follow a schedule for meals, snacks, and exercise.[9]

How do I test my blood glucose?

There are two ways to test your blood glucose levels. You should do both of the following:

Routine Self-Tests. Check and log your blood glucose levels on your own using a meter. People who take insulin may need to do self-tests more frequently.

A1C Test. Measure your average blood glucose level over the last two to three months to see how well your diabetes care plan is working. You need an A1C test conducted at least twice each year, but that should increase if your results are too high, your treatment changes, or you are planning a pregnancy.

When should I self-test?

People with diabetes typically test before and after meals and at bedtime, but you should determine your self-test schedule with your healthcare team. You may need to check at different times of the day, including in the middle of the night, to get a fuller picture of how your treatment is working.

Why should I practice routine self-testing?

Routine self-tests give you and your healthcare team valuable information about how things like your activity level, stress, medications, and diet can make your blood glucose fluctuate. Keeping a daily record of your results and talking with your team about them can help you make more informed choices as you go through your day, and understand if you need to make any changes to your treatment plan. In addition, keeping your blood glucose levels closer to normal can help you avoid serious health problems.[10]

Will I ever need to increase how often I self-test?[11]

You will want to check your blood glucose more frequently when:

- You are experiencing greater stress than usual, feeling ill, or undergoing surgery.
- You are pregnant.
- You are having low or high blood glucose symptoms.
- Your treatment program changes (e.g., a change in medication type or dose, meal plan, or physical activity).

Are there other numbers I should know?[12]

You will need to test and work with your healthcare team to determine the best targets for your blood pressure and cholesterol, too. Keeping these in check can help lower your chances for having a heart attack or stroke.

More From Omnis Health

For additional guides to managing your diabetes, visit:
Embracebettercare.com

Information sourced through:

American Diabetes Association, **diabetes.org**

The Importance of Controlling Blood Sugar. New York State Department of Health, January 2015. **www.health.ny.gov**

Joslin Diabetes Center. **www.joslin.org**

Know Your Blood Sugar Numbers. National Diabetes Education Program, July 2014. **www.ndep.nih.gov**

What I need to know about Eating and Diabetes. National Institute of Diabetes and Digestive and Kidney Diseases; National Diabetes Information Clearinghouse, June 2014. **www.niddk.nih.gov**

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1. http://www.ndep.nih.gov/i-have-diabetes/LearnAboutDiabetes.aspx 2. http://www.joslin.org/info/Goals-for-Blood-Glucose-Control.html 3. http://www.ndep.nih.gov/media/NDEP-10-508.pdf 4. http://www.joslin.org/info/high_blood_glucose_what_it_means_and_how_to_treat_it.html 5. http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/hyperglycemia.html?referrer=http://google.diabetes.org/search?site=Diabetes&client=diabetes&entqr=3&oe=ISO-8859-1&ie=ISO-8859-1&ud=1&proxystylesheet=diabetes&output=xml_no_dtd&proxyreload=1&q=hyperglycemia 6. http://www.niddk.nih.gov/health-information/health-topics/Diabetes/eating-diabetes/Pages/eating-diabetes.aspx#levels 7. http://www.joslin.org/info/is_low_blood_glucose_hypoglycemia_dangerous.html 8. http://www.joslin.org/info/high_blood_glucose_what_it_means_and_how_to_treat_it.html 9. http://www.niddk.nih.gov/health-information/health-topics/Diabetes/eating-diabetes/Pages/eating-diabetes.aspx#levels 10. http://www.ndep.nih.gov/media/NDEP-10-508.pdf 11. http://www.joslin.org/info/monitoring_your_blood_glucose.html 12. http://www.ndep.nih.gov/media/NDEP-10-508.pdf