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Diabetes: Blood Tests to Help You Manage Your Diabetes

In this section, you'll learn what you need to know about self-monitoring your blood glucose. The following information has been adapted from the AAFP guide for physicians, "[Self-control: A Physician's Guide to Blood Glucose Monitoring in the Management of Diabetes](#)," which will soon be available in an adapted format.

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A1c and self-monitoring of blood glucose (SMBG)

There are two blood tests that can help you manage your diabetes. One of these tests is called an A1c test, which reflects your glucose (or blood sugar) control over the past 3 months. The other is called SMBG, or self-monitoring of blood glucose. Testing your A1c level every 3 months is the best way for you and your doctor to understand how well your glucose levels are controlled. Your A1c goal will be determined by your doctor, but it is usually less than 6.5% to 7.0%. Using a blood glucose monitor to do SMBG testing can help you improve control of your sugar levels. The results you get from an SMBG test can help you make appropriate adjustments to your medicine, diet and/or level of physical activity. Every person with diabetes should have a blood glucose monitor and know how to use it. The following are some suggestions on when to do SMBG testing and how to use the results to improve your glucose control.

How often should I do SMBG testing?

Your family doctor will recommend how often you should test. Testing times are based on the kind of medicine you take and on how well your sugar levels are controlled. Your doctor will tell you how often to test. Common frequencies are listed below.

- If you have type 1 diabetes and are taking insulin—test 3 or 4 times a day
- If you have type 2 diabetes and are taking insulin and diabetes pills—test 3 or 4 times a day
- If you are taking diabetes pills only and have not achieved your target A1c—test 2 to 4 times a day
- If you are taking diabetes pills only or you are controlling your diabetes well with diet and exercise only—ask your doctor how often you should test

What time of day should I test?

Recommendations for the best time of day to test your blood sugar depend on your medicine,

mealtimes and sugar control. On the chart below, your doctor will check the times when you should test your sugar. Your doctor may also suggest different goals, depending on your situation.

Time to Test:	Fasting, Before Breakfast	1-2 Hours After Breakfast	Before Lunch	1-2 Hours After Lunch	Before Dinner	1-2 Hours After Dinner	Bedtime	3 A.M.
Target Goal Ranges*	80-120	< 180	80-120	< 180	80-120	< 180	100-140	70-110
Doctor's Recommendation								
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								
Sunday								

*Blood glucose values are measured from blood samples obtained from the finger or other sites, as read on your blood glucose monitor. The target goals are based on recommendations from a panel of medical experts. Talk to your doctor about what changes to make if your blood sugar levels are not within this range.

What does SMBG at the recommended times tell me?

Time of Test	Can Be Used to ...
Fasting blood sugar (FBG) nighttime (3-4 a.m.)	Adjust medication or long-acting insulin
Before a meal	Modify meal or medication
1-2 hours after a meal	Learn how food affects sugar values (often the highest blood sugars of the day*)
At bedtime	Adjust diet or medication (last chance for the next 8 hours)

*Depends on the size of the meal and the amount of medicine you take.

Other reasons to check your blood sugar

- If you have symptoms of low blood sugar (hypoglycemia), which include dizziness, shaking, sweating, chills and confusion
- If you have symptoms of high blood sugar (hyperglycemia), which include sleepiness, blurred vision, frequent urination and excessive thirst
- To learn how meals, physical activity and medicine affect your blood sugar level
- To document how well your blood sugar is controlled if you have a job in which poor control could cause safety problems
- To help you decide if it is safe to drive or perform other tasks that require concentration if you are taking insulin or have had hypoglycemia in the past

Reasons to check your blood sugar more frequently

- If your diabetes medicine changes
- If you begin taking other kinds of medicines
- If you change your diet
- If your exercise routine or activity level changes
- If your level of stress increases
- If you are sick. When you are sick, even without eating, your sugar levels may run high, so testing is important!

Follow your doctor's testing recommendations during this time. Continue testing more often until you have maintained your SMBG goal values for at least 1 week, or until your doctor advises you that more frequent testing is no longer necessary.

Call your doctor's office if your blood sugar is above: _____

Additional instructions from your doctor:

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This handout provides a general overview on this topic and may not apply to everyone. To find out if this handout applies to you and to get more information on this subject, talk to your family doctor.

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