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## All About A1c

**Additional authors include:** Candace Tucker, MS, NDTR; and Savannah Duffy, MS, RDN, LD

### What is the A1c Test?

The A1c test is a tool used to help diagnose and manage diabetes. Your healthcare provider will collect a sample of your blood, then the A1c test will measure your average blood sugar over the past 2–3 months. The test is convenient because you do not need to fast beforehand.

**What does it measure?** When sugar enters your bloodstream, it attaches to a protein in blood cells called hemoglobin. The A1c test measures the percent of your red blood cells that have sugar-coated hemoglobin. A higher percentage indicates a greater risk of having or developing diabetes.

**Talk to your doctor:** You should talk to your doctor about your personal A1c goals and steps you can take to reach them. Your A1c goal depends on your:

- Age
- Current health conditions
- Medical history

### Interpreting Results

What Your A1c Test Results Indicate	A1c	Diagnosis
	Less than 5.7%	Normal
	5.7–6.4%	Prediabetes
	6.5% and above	Diabetes

**Additional tests:** Your doctor may choose to use another test instead of the A1c test. This may be because the test is unavailable or because of certain medical conditions, such as pregnancy or if you are taking a particular medication, that would alter the result of an A1c test. These additional tests may include:

- Random blood glucose test
- Fasting blood glucose test
- Oral glucose tolerance test

**Random blood glucose test:** This test can identify diabetes but not prediabetes. It can be done at any time of the day without worrying about the last meal you ate. A random blood glucose level of 200mg/dL or higher suggests diabetes.

**Fasting blood glucose test:** This tests measures blood glucose after fasting from food or drink (except water) overnight.

Interpreting Your Fasting Blood Glucose Test Results	Result	Indication
	Less than 100 mg/dL	Normal

	100–125 mg/dL	Suggests prediabetes
	126 mg/dL or greater	Suggests diabetes

**Oral glucose tolerance test:** You will fast (not eat or drink, except water) overnight prior to the test. Then, you drink a sugar-containing beverage and your blood glucose is measured in intervals, typically over the course of 2–3 hours.

Interpreting Your Oral Glucose Test Results	Result	Indication
	Less than 140 mg/dL	Normal
	140–199 mg/dL	Suggests prediabetes
	200 mg/dL or greater	Suggests diabetes

**What now?** Notice that each section above shows that a particular result may “suggest” diabetes or prediabetes. Your blood glucose varies throughout the day in response to what you eat and drink and any exercise you do. Your blood glucose also varies from day-to-day in response to stress, illness, and other factors.

Your doctor will consider your personal health history to determine if more tests are needed and the next steps. They may suggest changes in your eating habits, exercise, alcohol intake, medications, or stress management to help improve your test results. They may also wait and test again later. Keep any follow-up appointments and complete any testing your doctor recommends.

## References

American Diabetes Association Professional Practice Committee. (2024). Diagnosis and classification of diabetes: Standards of care in diabetes. *Diabetes Care*, 47(Supplement\_1), S20–S42. <https://doi.org/10.2337/dc24-S002>

U.S. Centers for Disease Control and Prevention. (2024). *A1c test for diabetes and prediabetes*. <https://www.cdc.gov/diabetes/diabetes-testing/prediabetes-a1c-test.html>

U.S. Centers for Disease Control and Prevention. (2024). *Diabetes testing*. <https://www.cdc.gov/diabetes/diabetes-testing/>