



## Education

### Hemoglobin A1c Test

#### What is the hemoglobin A1c test?

The hemoglobin A1c ("A-one-C") test is a blood test used in the care of people who have diabetes. The hemoglobin A1c percentage is a way of looking at your average blood sugar control over the last 2 or 3 months.

Sugar absorbed from your digestive system circulates in the bloodstream. When the blood sugar is high, the sugar attaches to the hemoglobin protein in red blood cells, forming hemoglobin A1c.

Red blood cells live 90 to 120 days. This means that once sugar has combined with the hemoglobin in red blood cells, the hemoglobin A1c stays in the blood for 90 to 120 days. This means the amount of hemoglobin A1c in your blood reflects how often and how high your blood sugar has been over the past 3 months.

#### Why is this test done?

Hemoglobin A1c is an excellent way to check how well you are controlling your blood sugar over a 3-month period.

Hemoglobin A1c measurements are important because:

- They confirm your daily home blood sugar results and your testing schedule.
- They help predict your risk of diabetic complications. The higher the hemoglobin A1c percentage, the greater the risk of developing diabetic eye, kidney, cardiovascular, and nervous system disease.

#### How do I prepare for this test?

No preparation is necessary. One of the advantages of this test is that you do not have to fast before you take it.

#### How is the test done?

A small amount of blood is taken from your arm with a needle. The blood is collected in tubes and sent to a lab.

Having this test will take just a few minutes of your time. There is no risk of getting AIDS, hepatitis, or any other blood-borne disease from this test.

At some pharmacies you may be able to buy a device that allows you to test A1c at home.

#### How will I get the test result?

Ask your health care provider when and how you will get the result of your test.

#### What does the test result mean?

The hemoglobin A1c percentage rises as your average blood sugar level rises.

- The normal range for a person without diabetes is 4 to 6%.
  - **The goal for most adults with diabetes is an A1c below 7%.** For some people the goal should be 6% or less. For others, the A1c goal may need to be slightly higher than 7% (for example, the very elderly).
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The following chart shows examples of how the hemoglobin A1c is related to your average blood sugar level:

Hemoglobin A1c	Average Blood Sugar
6%	135 mg/dL
7%	170 mg/dL
8%	205 mg/dL
9%	240 mg/dL
10%	275 mg/dL

### What if my test result is not normal?

If you have not yet been diagnosed with diabetes and your test is not normal, you need to talk with your health care provider about whether you have diabetes.

If you have been diagnosed as diabetic and your test is not normal, your health care provider will talk to you about how to lower your blood sugar through diet, exercise, and/or medicine. Keeping your blood sugar levels and hemoglobin A1c levels in or near normal ranges will help you avoid the complications of diabetes, such as eye disease, kidney disease, or nerve damage.

If your test results are not normal, ask your health care provider:

- if you need additional tests
- what you can do to work toward a normal value
- when you need to be tested again.

The A1c test should be done every 3 months unless you are in good control. If you do have good control of your blood sugar, your provider may recommend having the test every 6 months.

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