ASCENSIA
HEALTHFACTS

HbA_{1C} Testing
(Haemoglobin A_{1C})

Bayer HealthCare

Haemoglobin A$_{1c}$ testing

As you know, keeping your diabetes in good control is the key to staying healthy. You check your blood glucose levels at different times of the day to make sure your diabetes plan is working (see Blood Glucose Monitoring leaflet). These tests tell you what your blood glucose level is at that moment, which is very helpful. However, your blood glucose levels change a lot over the course of a day. Although self-testing frequently is a good way to manage your diabetes, it ALONE does not give you the whole picture.

There is another test that can tell you your average blood glucose for the past 2 to 3 months. This test is called a Haemoglobin A$_{1c}$. You may hear a few different names for this test, including:

- HbA$_{1C}$
- Glycohaemoglobin
- A1C

HbA$_{1c}$ tests tell you your average blood glucose for the past 2 to 3 months.

What is Haemoglobin?

Haemoglobin is a protein inside your red blood cells. It is the part of the red blood cell that carries oxygen from your lungs to the rest of your body.

Haemoglobin also carries glucose, because glucose can stick to all kinds of proteins in your body. Once glucose sticks to haemoglobin, it is stuck there for the life of the red blood cell, about 3 or 4 months. The more glucose there is in your blood, the more will end up stuck to the haemoglobin.

What does the HbA_{1c} measure?

HbA_{1c} is a measure of how much glucose is stuck to your haemoglobin. Your HbA_{1c} reading tells you and your healthcare team what your average blood glucose level has been for the past 2 or 3 months. If you have lots of glucose in your blood and your average blood glucose has been high for the past few months, then your HbA_{1c} will be high. The HbA_{1c} test allows you to see how good your control has really been. You should talk to your healthcare team about your daily blood glucose tests and your HbA_{1c}.

How does my HbA1c reading compare to my daily blood glucose levels?

HbA1c Reading	Average blood glucose level	Your blood glucose control
14%	20 mmol/L	Very poor control, take immediate action to lower
10%	13.9 mmol/L	Poor control, take action to lower
9%	11.6 mmol/L	Poor control, take action to lower
8%	10 mmol/L	Marginal control, take action to lower
7%	8.3 mmol/L	Marginal control, take action to lower
6.5%*	7.5 mmol/L	Good control target
6%	6.7 mmol/L	Very good control

*ACE/AACE HbA_{1c} Target for Glycemic Control

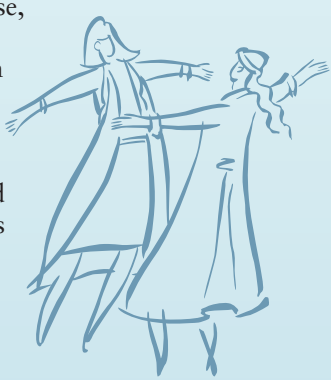
This chart is an example of how blood glucose compares to HbA_{1c}. The numbers in this chart are for nonpregnant adults. "Take action" depends on your own plan, and your action steps should be discussed with your healthcare team. Some labs use different ways to test and have a different normal range. **Talk to your healthcare team about your results.**

Your HbA_{1c} reading lets you know more about your blood glucose control than just self-testing alone.

How can HbA_{1c} testing help me?

An HbA_{1c} higher than 6.5% is a warning sign that your diabetes is out of control. If your haemoglobin HbA_{1c} is high, your healthcare team may change your diabetes plan to help control your blood glucose better. Changes in your plan are expected from time to time and will help bring your HbA_{1c} closer to normal. When your HbA_{1c} is close to normal, you know you are doing all you can to stay healthy.

Research shows that good blood glucose control does lower your risk of developing major diabetes related health problems including heart disease, stroke, kidney disease, eye disease, nerve damage, amputations, and circulation problems. By keeping your blood glucose close to normal, you will stop or delay the damage high blood glucose does to blood vessels and nerves. You can prevent the complications of diabetes (see Take-charge Management leaflet).



Where do I go for an HbA_{1c} test?

Some doctors can do an HbA_{1c} in their office by taking a blood drop from a finger prick. You can wait for the results and discuss them right away. You can also go to the lab for this test but will have to return at a later date to discuss the result with your doctor.

How often should I have an HbA1c test?

The ACE and AACE recommend that anyone with diabetes should have an HbA1c done every 6 months for people at or below the target of 6.5%, and every 3 months for those above 6.5% or changing therapy. If you inject insulin, you should have this test done every 3 months. Two major studies have shown the importance of good blood glucose control and the relationship of the HbA1c to diabetes complications.

The first was the Diabetes Control and Complications Trial (DCCT).

In this study, patients with type 1 diabetes had an HbA1c every month. This gave the healthcare team useful information to change treatment plans. In this study, patients who had close to normal HbA1c were in better health and had fewer cases of eye disease, kidney disease and nerve damage.

The other study was called the United Kingdom Prospective Diabetes Study (UKPDS). This was a study done with patients with type 2 diabetes. People who had good blood glucose control were in better health in this study, too.

Both of these studies show that the hard work it takes to control your blood glucose is worth it. Your healthcare team will help you take good care of your blood glucose. They will tell you how often you should have an HbA1c test performed.

My HbA1c target goal is: _____ %

How HbA_{1c} testing helped Maria

Maria has type 2 diabetes. She was testing her blood glucose every morning before breakfast. Her blood glucoses were usually normal, below 5.5mmol/L. She was shocked when she learned her HbA_{1c} was high (9%). Maria found out that her morning blood glucose was normal, but her blood glucose at other times of the day was high[1]. She needed to control her morning glucose AND her after-meal and bedtime blood glucose. With the help of her healthcare team, Maria made changes to her diabetes care plan to help her control her blood glucose. In fact, Maria was happy to learn that her HbA_{1c} went down to 7.5% by her next visit, which showed her new plan was really working - all day long.

[1]ACE recently recommended after meal blood glucoses be kept below 8 mmol/L and pre-meal glucoses below 6 mmol/L

When you control your blood glucose, you are able to manage your diabetes. That's why you test your blood glucose regularly. The better your control, the better your health will be. The HbA_{1c} test is another tool you can use to make sure your diabetes plan is working.

It can warn you if you need to change your plan, or simply tell you that your plan is working well. Be sure you make use of this helpful tool. Just remember - the power to manage your diabetes is in your hands.

For more information about our Ascensia™ diabetes product range call Ascensia™ DIABETES SUPPORT on 0845-600-6030

You can also visit our web site at:
www.ascensia.co.uk

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