

Living Well with Diabetes

Blood sugar numbers to help you stay in control

Two important tools can help you stay in control of your blood sugar numbers. One is your daily blood sugar monitoring. The other is the A1c test.

What is the A1c test?

The A1c is a blood test that you have done in the lab. You can have this test done any time of the day. You don't need to get it first thing in the morning before eating or drinking. You might also see this test called hemoglobin A1c, HbA1c, glycosylated hemoglobin, or glyco-hemoglobin.

The glucose that the body doesn't store in cells, or use for energy, stays in the blood and attaches to your red blood cells. When the lab draws a blood sample, it measures the amount of glucose attached to the red blood cells. This amount is the A1c and is shown as a percentage.

Your A1c number can give you and your health care team a good idea of how well you've controlled your blood sugar over the previous 2 to 3 months. When you get your A1c result from a Group Health lab, you'll also see another number, called the estimated Average Glucose, or eAG.

What is eAG?

Your estimated Average Glucose, eAG, number is calculated from the result of your A1c test. Like the A1c, the eAG shows what your average blood sugars have been over the previous 2 to 3 months. Instead of a percentage, the eAG is in the same units (mg/dl) as your blood glucose meter.

This table shows the relationship between the A1c percentage and the eAG:

If your A1c % is:	Your eAG is:
6	126
6.5	140
7	154
7.5	169
8	183
8.5	197
9	212
9.5	226
10	240
10.5	255
11	269
11.5	283
12	298

Why are these numbers important?

The A1c and eAG reflect your average blood sugar over a period of time. These numbers help you and your doctor see how well your treatment plan is working.

The higher your A1c and eAG numbers are, the higher your chances for having long-term health problems caused by consistently high blood sugar levels. These problems include heart attacks, strokes, kidney failure, vision problems, and numbness in your legs or feet.

Why do I need to self-test if the A1c and eAG give me my blood sugar averages?

Your A1c and eAG give you an average of blood sugar levels over a period of 2 to 3 months, but they don't tell you what your blood sugar levels are from day to day, or hour to hour.

Testing before meals, during or after exercise, or 1 to 2 hours after a meal, might give you important information about managing your food, activity, and medicine on a daily basis. Testing when you feel funny will let you know if your blood sugar level is high or low. That information will help you decide what actions you need to take to correct it.

Why is the eAG different from the average my meter shows?

The average on your meter is the average of your test results. You might usually test at times when your blood sugar is close to normal, such as first thing in the morning, or before meals. But that won't show if your blood sugar was very high or low a couple of hours before or after you tested.

If the eAG is higher or lower than the average on your meter, it's because there are times during the day, when you're not testing, that your blood sugar is higher or lower than you think.

How often do I need to self-test and what should my targets be?

It's not as important how often you test as how you use the information you get from your tests.

When you test depends on your own care plan. Talk to a member of your health care team about how often you should test and what targets to aim for.

When to test	Target to aim for:	Comments
	Between _____ and _____	
	Between _____ and _____	
	Between _____ and _____	
	Between _____ and _____	

How often should I have an A1c test?

Most people with diabetes should get an A1c every 3 months until they reach their target, then every 6 to 12 months as long as they're staying on track. Talk with your doctor to set a testing schedule that's right for you.

What should my A1c target be?

For people who don't have diabetes, the normal range for an A1c is between 4% and 6%. This means their average blood sugar is between 70 and 126 mg/dl. That range isn't realistic for most people with diabetes.

Group Health recommends that most people with type 2 diabetes aim for an A1c score between 7 and 8%. This means an eAG that's between 154 mg/dl and 183 mg/dl. For people with type 1 diabetes, and some people with type 2, an A1c score that's less than 7% is best, with an eAG score less than 154 mg/dl. You and your health care team can talk about the target that's right for you.

Ask your doctor how often you should get an A1c test, and what test result to aim for. Remember, the higher your A1c and eAG numbers are, the higher your chances are for having long-term health problems caused by consistently high blood sugar levels.

My schedule	Targets
Every _____ months	My A1c target is: _____
My next test is due: _____	My eAG target is: _____

For more information

Visit the Health and Wellness Resources section on the Kaiser Permanente website at kp.org/wa for more information about diabetes and other health topics.