

FitFacts®



Numbers to Know: Blood Sugar and Hemoglobin A1C

THE **BLOOD SUGAR LEVEL** AND **HEMOGLOBIN A1C** ARE TWO COMMON BLOOD TESTS THAT SCREEN FOR PREDIABETES AND DIABETES. THESE TESTS ARE ALSO HELPFUL IN THE REGULAR MONITORING OF A PERSON WITH DIABETES.

What are blood sugar and hemoglobin A1C?

- Glucose is a nutrient from food that enters the bloodstream as sugar-containing foods are digested and absorbed by the gastrointestinal system. It can also be released from the body's cells into the bloodstream when blood sugar levels are low.
- The glucose from food travels to cells in the body to be used for energy.
- The body strives to maintain a normal amount of glucose in the bloodstream
- Insulin, made by the pancreas, is like a key that “unlocks” the cells to allow the glucose to enter in. If not enough insulin is present or it doesn't work properly, the glucose gets “locked out” of the cells and builds up in the bloodstream.

The blood sugar or glucose level reflects how much glucose is present in the bloodstream.

The hemoglobin A1C (often shortened to “A1C”) reflects a person's average blood glucose level over the past 2–3 months. It is reported as a percentage.

What your blood sugar and A1C values mean

	Fasting blood sugar level (mg/dl)	Hemoglobin A1C %
Normal	Less than 100	Less than 5.7
Pre-diabetes	100-125	5.7 to less than 6.5
Diabetes	126 and higher	6.5 and above

Note: An oral glucose tolerance test (OGTT) can also be used to diagnose prediabetes and diabetes. A diagnosis of gestational diabetes is based on different criteria.

Why is blood sugar important?

- When blood sugar can't get into the cells, the glucose level rises above normal.
- Persistently high blood sugar levels will lead to prediabetes and diabetes. If left untreated, these dangerous conditions will damage the heart, eyes, kidneys and feet. Prediabetes and diabetes causes premature death. Refer to the Fit Facts “[Prediabetes](#)” and “[Type 2 Diabetes](#)”

How to keep your blood sugar and hemoglobin A1C levels normal

- The presence of excess body fat is the main reason that insulin stops working properly. (This does not include type 1 diabetes)
- Follow these recommendations to keep your blood sugar in the normal range:
 - Lose weight. Weight loss as small as 5–10% of your body weight can significantly lower your blood sugar levels.
 - Commit to eating a healthy diet. (For examples of healthy diets, refer to our Fit Facts “[DASH Diet](#)” and “[Mediterranean Diet](#).”)
 - Eat junk food sparingly.
 - Move more. Make physical activity a regular part of your routine. Brisk walking is a convenient way to get this in.
 - See your health care provider to discuss whether medication is necessary in order to lower your blood sugar.

ADDITIONAL RESOURCES

[American Council on Exercise](#)

[American Diabetes Association](#)