Hormone Health NETWORK
Keep your body in balance

Self-Monitoring of Blood Glucose

WHAT IS DIABETES?

Diabetes is a disease in which levels of glucose (sugar) in the bloodstream are higher than normal. Your body makes glucose from the foods you eat. Insulin is a hormone produced by the pancreas (an organ located in your abdomen). It takes glucose from the bloodstream and carries it into your cells where it is used for energy. With diabetes, glucose does not enter the cells and builds up in the blood.

There are three main types of diabetes:

- **Type 1** occurs when the pancreas stops making insulin. It is usually seen in children, but may occur later in life. People with type 1 diabetes need insulin to survive.
- **Type 2** is the most common form of diabetes. With type 2 diabetes, either the body does not make enough insulin or it doesn't use insulin properly (called insulin resistance). It occurs in adults and elderly patients, many of whom are overweight. Younger people can also develop type 2 diabetes. Treatment includes diet, exercise, and sometimes medicines or insulin.
- **Gestational** diabetes occurs only during pregnancy. It usually goes away after the baby is born. Women who have had gestational diabetes are more likely to develop type 2 diabetes later in life.

DID YOU KNOW?

Checking your blood glucose levels regularly can help you take care of yourself and your diabetes.

WHY IS IT IMPORTANT TO MONITOR YOUR BLOOD GLUCOSE LEVELS?

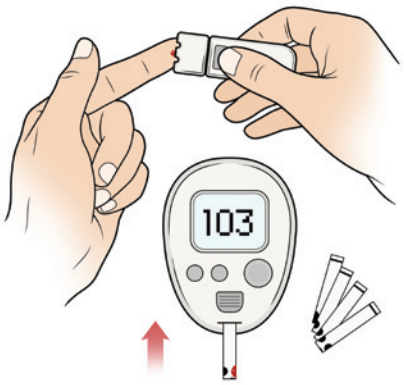
Over time, uncontrolled diabetes may cause serious complications including heart disease, stroke, kidney failure, blindness, and nerve damage. Keeping blood glucose levels close to normal is the key to preventing these health problems.

You should monitor your glucose levels regularly and get familiar with your pattern of glucose readings at different times of the day. Regular self-monitoring provides valuable information that your health care team can use to make decisions about medication and insulin, and improve control of your diabetes.

Checking your blood glucose also helps prevent immediate problems that can result from glucose levels that are too high (hyperglycemia) or too low (hypoglycemia). Both problems can be serious if not treated right away.

HOW DO YOU CHECK GLUCOSE LEVELS?

You can check your blood glucose using a small battery-operated meter. You put a drop of blood, usually from a finger or forearm prick, on a chemically-coated strip. The meter will read your glucose level from the strip. In the U.S., meters display the glucose level in milligrams per deciliter (mg/dL).



Different types of meters are available to measure your blood glucose level. When choosing a meter, here are some features to consider:

- Meter size
- Amount of blood needed for the sample
- How long it takes to display the reading
- Ease in reading the display
- Ability to save the results in the meter's memory and download to a computer
- Cost of the meter and strips
- Whether sites other than the finger can be used to get a blood sample

Talking meters are also available for people who have impaired vision.

How often people with diabetes need to check their blood glucose varies from person to person. So does their recommended target level. Be sure to talk with your health care provider about what is best for you.

GENERAL GUIDELINES FOR MONITORING BLOOD GLUCOSE

Type of diabetes	Number of checks	Timing	Recommended target levels
Type 1	3 or more per day	Before meals; 2 hours after meals	Before a meal: 90–130 mg/dL Two hours after a meal: below 180 mg/dL
Type 2 with insulin	2 or more per day		
Type 2 with oral medicines	1 or 2 per day • With good blood glucose control, 3 days per week • With poor control, daily		
Diabetes of pregnancy	At least 4 to 6 per day	Before meals; 1 or 2 hours after meals	

Some people with type 1 diabetes use a continuous glucose monitoring (CGM) system. The system measures glucose levels in the fluid between body cells every few minutes throughout the day and night. Your health care provider can explain how CGM works and whether it might be right for you.

WHEN SHOULD YOU CALL YOUR DOCTOR?

- If your blood glucose is less than 60 mg/dL once, or is often less than 70 mg/dL (or the target set for you by your health care provider)
- If your blood glucose is higher than 180 mg/dL for more than 1 week, or if you have two readings in a row above 300 mg/dL

HOW CAN YOU USE YOUR BLOOD GLUCOSE READINGS?

You can take an active role in your medical care by using your readings to keep your blood glucose levels under control. Keep a written record of your blood glucose readings and highlight any that are higher or lower than your target. When you have an unusual reading, make notes on any factors that might have affected your glucose level. These could include what you ate, exercise patterns, if you're sick, if you missed taking medication or insulin, and positive or negative emotions. Then share this information with your health care providers so they can evaluate your diabetes care program and make changes if necessary.

Questions to ask your doctor

- **What's the best type of blood glucose meter for me?**
- **How can I learn to use my blood glucose meter?**
- **How often should I check my blood glucose level?**
- **When should I call your office about my blood glucose levels?**
- **How often will I need check-ups?**
- **Should I see a diabetes educator?**
- **Should I see an endocrinologist for my care?**

RESOURCES

- Find-an-Endocrinologist: *www.hormone.org* or call *1-800-HORMONE (1-800-467-6663)*
- Find a diabetes educator (American Association of Diabetes Educators): *www.diabeteseducator.org/DiabetesEducation/Find.html*
- Hormone Health Network diabetes information: *www.hormone.org/diabetes*
- National Diabetes Information Clearinghouse (National Institutes of Health): *diabetes.niddk.nih.gov*
- The American Diabetes Association: *www.diabetes.org*
- Mayo Clinic: *www.mayoclinic.com/health/blood-glucose-meter/MY00924*

EDITORS

Amparo Gonzalez, RN, BSN, CDE
James L. Rosenzweig, MD
Guillermo Umpierrez, MD

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The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (*www.endo-society.org*). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at *www.hormone.org/Spanish*.