

Healthy Living: Hyperglycemia and Hypoglycemia¹

Jennifer Hillan and Emily Minton²



If you have diabetes, you may experience low blood glucose levels (hypoglycemia) or high blood glucose levels (hyperglycemia) from time to time. Both can be serious if not treated. Therefore, it's important to learn about hypoglycemia and hyperglycemia so you can prevent and treat them before they cause additional health problems.

Causes of Hyperglycemia

High blood glucose happens when the body doesn't have enough insulin or when the body can't use insulin properly. It can be caused by overeating, not taking enough diabetes medication, stress, or illness.

Symptoms of Hyperglycemia

High blood glucose happens gradually, so you may not notice the signs right way. Signs to be looking for include:

- ü increased thirst
- ü need to use the bathroom often
- ü feeling very tired or weak
- ü blurred vision



To control hyperglycemia, it is important to check your blood glucose levels often. Ask your health care provider how often you should check your levels. He or she will also be able to tell you what level is too high for you.

Treating Hyperglycemia

Hyperglycemia can be a serious problem if not treated. Talk to your health care provider about the best way to treat hyperglycemia. He or she may adjust your medications or your meal plan.

If you have type 1 diabetes, you should test your urine for ketones if your blood glucose is over 240 mg/dL. Ask your health care provider about testing for ketones.

Preventing Hyperglycemia

To prevent high blood glucose and the long-term health problems it causes:

- ü Follow your meal plan.
- ü Take your medication as directed.
- ü Be physically active most days of the week.



1. La versión en español de este documento es *Vida Saludable: Hiperglicemia e Hipoglicemia* (FCS8820-Span). This document is FCS8820, one of a series of the Department of Family, Youth and Community Sciences, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. First published: December 2006. Revised: March 2011. Visit the EDIS website at <http://edis.ifas.ufl.edu>.
2. Jennifer Hillan, MSH, RD, LD/N, former ENAFS nutrition educator ; Emily Minton, BS, ENAFS program coordinator; Department of Family, Youth and Community Sciences; Institute of Food and Agricultural Sciences; University of Florida; Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A&M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Millie Ferrer-Chancy, Interim Dean.

If you have diabetes, you may experience low blood glucose levels once in a while even if your diabetes is well controlled. Low blood glucose is called hypoglycemia or "insulin reaction." If not treated, low blood glucose can cause you to pass out.

Causes of Hypoglycemia

Low blood glucose can result from missing a meal, eating less than usual, being more physically active than usual, or taking too much insulin or oral medication.



Symptoms of Hypoglycemia

- shakiness
- dizziness
- sweating
- pale skin color
- hunger
- headache
- confusion
- clumsy or jerky movements
- sudden mood or behavior change
- tingling sensation around the mouth
- seizure



Your health care provider will tell you how often to check your blood glucose. He or she also will tell you what level is considered low. Check your blood glucose according to your schedule and also whenever you feel low blood glucose symptoms.

If you feel symptoms coming on but cannot check your levels, treat for hypoglycemia.

Treating Hypoglycemia

The quickest and most effective way to treat low blood glucose is with sugar such as:

- three glucose tablets. or gel
- ½ cup of fruit juice or regular (NOT diet) soda
- five to six pieces of hard candy (NOT sugar/free" candy)
- four to five saltine crackers

It is important to get 15 to 20 grams of sugar or carbohydrates to bring your blood glucose level back to a safe range. Ask your health care provider for other food options and be sure to keep one or more of those with you at all times.

Check your blood glucose 15 to 20 minutes after treating with sugar. If it's still low, eat or drink another serving and check your blood glucose again in 15 to 20 minutes. If it's still low, get help.

Treat low blood glucose quickly. If it gets worse, you could pass out. If you pass out, you need IMMEDIATE help with a glucagon injection. If glucagon is not available, someone should call 911 or take you directly to the emergency room. Those helping you should **not** try to make you eat or drink anything or inject insulin.



Be sure to teach family members and others who you are around daily how to use the glucagon injections.

Preventing Hypoglycemia

You can help prevent low blood glucose by being consistent about the timing and amount of your meals, snacks, and medication.

- ü Don't skip meals or snacks.
- ü Eat the same amount of carbohydrates from meal to meal and day to day.
- ü Take the right amount of medication at the right time.
- ü Plan ahead for times when you will be more active than usual. You may need to adjust your medication or eat another snack.

Always carry a quick source of sugar in case your blood glucose levels drop.

