



## Diabetes and Low Blood Sugar (Hypoglycemia)

### What is hypoglycemia?

*Hypoglycemia* is the term for *low* blood sugar (or blood glucose). Glucose is the “fuel” that your brain and body need to function properly.

It's important to maintain levels of blood sugar that are healthy: not too high and not too low. If hypoglycemia is not corrected right away, it can quickly worsen. You may become very confused and unable to manage your condition. In severe cases, you may even lose consciousness, have a seizure, or go into a coma.

Hypoglycemia can happen if you do not eat when you need to or as much as you need, or if you skip a meal, drink too much alcohol, exercise more than usual, or if you have diabetes.

### What is the relationship between diabetes and hypoglycemia?

If you have *diabetes*, a disease characterized by *high* blood sugar and you are taking medication to control your blood sugar, you are at increased risk of hypoglycemia. Medications to treat diabetes act on *insulin*, the hormone that your body produces to keep blood sugar levels from getting too high or too low. Sometimes these medications can make insulin stronger, and, thus, lower your blood sugar more than necessary. Likewise, if you are taking insulin shots to manage your diabetes, it's important to check your blood sugar before taking insulin to make sure you don't take too much.

### What are the signs and symptoms of hypoglycemia?

Hypoglycemia can be mild, moderate, or severe. If your blood sugar drops below normal (between 70 and 99 mg/dL), you may experience a variety of symptoms.

### How is hypoglycemia treated?

If you have diabetes and you experience symptoms of hypoglycemia, it is important to check your blood sugar level. If it is low, you should eat or drink something that will quickly raise your blood sugar. For mild to moderate hypoglycemia, you need to consume 15 grams of carbohydrates (e.g., a piece of hard candy, a cup of milk, 6 ounces of orange juice, or 7 ounces of regular soda). Wait 15–20 minutes and retest your blood sugar level. If the level is still low, consume an additional 15 grams of carbohydrates.

Close friends or relatives should be aware of your condition and be taught how to recognize severe hypoglycemia and treat it quickly with an injection of *glucagon* (hormone that raises blood sugar levels) if you cannot do it yourself. They will need to take you to the hospital or call for emergency assistance if:

- your consciousness is affected and no glucagon is available
- confusion continues after treatment with glucagon
- your blood sugar remains low despite eating or receiving glucagon

### How can you avoid hypoglycemia?

The best way to avoid hypoglycemia is to test your blood sugar regularly, follow the diet and exercise plan suggested by your diabetes healthcare team, and always take your diabetes medications as recommended. Also, it is important to follow your meals schedule. Eat or drink carbohydrates before and/or during exercise. Ask your doctor if your diabetes medication can produce or contribute to hypoglycemia. If it can, ask whether you need to take additional precautions.

### What should you do with this information?

The most important thing for you to remember is “Be prepared.” Be prepared to check your blood glucose level regularly and especially when you experience any symptoms of hypoglycemia. Be prepared to treat those symptoms by keeping glucose tablets or hard candies handy. Make sure family and friends are prepared to help if you exhibit the signs of low blood sugar. Also, you should wear a diabetes medic-alert bracelet or necklace to ensure proper emergency care if you are unable to speak for yourself.

Remember, you should check your blood sugar level before driving any vehicle or operating any potentially harmful machinery to make sure it is in the normal range. This is especially important if you have repeated episodes of hypoglycemia or if you have trouble sensing when your blood sugar is low.

### Resources

Find-an-Endocrinologist:  
[www.hormone.org](http://www.hormone.org) or call  
1-800-HORMONE (1-800-467-6663)

Hormone Foundation: Diabetes  
Information: [www.hormone.org/diabetes](http://www.hormone.org/diabetes)

National Diabetes Education Program  
(NIH): <http://ndep.nih.gov>

National Diabetes Information  
Clearinghouse (NIDDK):  
<http://diabetes.niddk.nih.gov/>

### Signs and Symptoms of Hypoglycemia

#### Mild: below 70 mg/dL

- an urgent need to eat
- nervousness and shakiness
- perspiration

#### Moderate: below 55 mg/dL

- dizziness
- sleepiness

- confusion
- difficulty speaking
- feeling anxious or weak

#### Severe: below 35–40 mg/dL

- seizure or convulsion
- loss of consciousness, coma

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