



# Non-diabetic Hypoglycemia

## WHAT IS NON-DIABETIC HYPOGLYCEMIA?

Hypoglycemia is the condition when your blood glucose (sugar) levels are too low. It happens to people with diabetes when they have a mismatch of medicine, food, and/or exercise. Non-diabetic hypoglycemia, a rare condition, is low blood glucose in people who do not have diabetes.

There are two kinds of non-diabetic hypoglycemia:

- Reactive hypoglycemia, which happens within a few hours of eating a meal
- Fasting hypoglycemia, which may be related to a disease

Glucose is the main source of energy for your body and brain. It comes from what we eat and drink. Insulin, a hormone, helps keep blood glucose at normal levels so your body can work properly. Insulin's job is to help glucose enter your cells where it's used for energy. If your glucose level is too low, you might not feel well.

## DID YOU KNOW?

**You can have symptoms of hypoglycemia, but unless your blood glucose level is actually low when you have symptoms, you don't have hypoglycemia.**

## WHAT CAUSES NON-DIABETIC HYPOGLYCEMIA?

The two kinds of non-diabetic hypoglycemia have different causes. Researchers are still studying the causes of reactive hypoglycemia. They know, however, that it comes from having too much insulin in the blood, leading to low blood glucose levels.

Type of Non-diabetic Hypoglycemia	Possible Causes
Reactive hypoglycemia	<ul style="list-style-type: none"> <li>• Having pre-diabetes or being at risk for diabetes, which can lead to trouble making the right amount of insulin</li> <li>• Stomach surgery, which can make food pass too quickly into your small intestine</li> <li>• Rare enzyme deficiencies that make it hard for your body to break down food</li> </ul>
Fasting hypoglycemia	<ul style="list-style-type: none"> <li>• Medicines, such as                             <ul style="list-style-type: none"> <li>– salicylates (a type of pain reliever)</li> <li>– sulfa drugs (an antibiotic)</li> <li>– pentamidine (to treat a serious kind of pneumonia)</li> <li>– quinine (to treat malaria)</li> </ul> </li> <li>• Alcohol, especially with binge drinking</li> <li>• Serious illnesses, such as those affecting the liver, heart, or kidneys</li> <li>• Low levels of certain hormones, such as cortisol, growth hormone, glucagon, or epinephrine</li> <li>• Tumors, such as a tumor in the pancreas that makes insulin or a tumor that makes a similar hormone called IGF-II</li> </ul>

## WHAT ARE THE SYMPTOMS OF NON-DIABETIC HYPOGLYCEMIA?

The symptoms include being

- Hungry
- Shaky
- Sleepy
- Anxious
- Dizzy
- Confused or nervous
- Sweaty
- Irritable

Some people have trouble speaking and also feel weak.

Talk with your doctor if you have symptoms of hypoglycemia, even if you only have one episode.

## HOW IS NON-DIABETIC HYPOGLYCEMIA DIAGNOSED?

Your doctor can diagnose non-diabetic hypoglycemia by reviewing your symptoms, doing a physical exam, looking at your risk for diabetes, and checking your blood glucose level. Your doctor will also see whether you feel better after you eat or drink to raise your glucose to a normal level.

Checking your blood glucose to see if it is actually low (about 55 mg/dL or less) when you're having symptoms is an important part of diagnosis. Your doctor will check your blood glucose level and may order other tests. A personal blood glucose meter is not accurate enough for diagnosis.

For fasting hypoglycemia, you may have your blood glucose checked every few hours during a fast lasting several days. For reactive hypoglycemia, you might have a test called a mixed-meal tolerance test (MMTT).

For the MMTT, you first have a special drink containing protein, fats, and sugar. The drink raises your blood glucose, causing your body to make more insulin. Then your blood glucose level is checked a number of times over the next five hours.

Both tests check to see if your blood glucose levels drop too low. Your doctor might also check your blood for insulin levels or other substances.

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October 2013

The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society ([www.endocrine.org](http://www.endocrine.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/audiencias/pacientes-y-cuidadores](http://www.hormone.org/audiencias/pacientes-y-cuidadores).

**Non-diabetic Hypoglycemia Fact Sheet**

## WHAT IS THE TREATMENT FOR NON-DIABETIC HYPOGLYCEMIA?

Treatment depends on the cause of your hypoglycemia. For example, if you have a tumor, you may need surgery. If medicine is causing your hypoglycemia, you need to change medicines.

For immediate treatment of low blood glucose, make sure you eat or drink 15 grams carbohydrate (in form of juice, glucose tablets, or hard candy).

Ask your doctor or dietitian whether you need to change your diet. The following type of diet may help you:

- Eating small meals and snacks throughout the day, eating about every three hours
- Having a variety of foods, including protein (meat and non-meat), dairy foods, and high-fiber foods such as whole-grain bread, fruit, and vegetables
- Limiting high-sugar foods

Some doctors recommend a high-protein, low-carbohydrate diet but this type of diet has not proven to help hypoglycemia.

## Questions to ask your doctor

- What is causing my hypoglycemia?
- What are my options for treatment?
- How long will I need treatment?
- How often will I need check-ups and blood tests?
- How long will I have hypoglycemia?
- Should I see an endocrinologist?
- Should I see a registered dietitian?

## RESOURCES

- Find-an-Endocrinologist: [www.hormone.org](http://www.hormone.org) or call 1-800-HORMONE (1-800-467-6663)
- Find a registered dietitian (Academy of Nutrition and Dietetics): [www.eatright.org/programs/rdfinder](http://www.eatright.org/programs/rdfinder)
- Hormone Health Network information about hypoglycemic disorders: [www.hormone.org/patient-guides/2009/hypoglycemic-disorders](http://www.hormone.org/patient-guides/2009/hypoglycemic-disorders)
- National Institutes of Health information about hypoglycemia: [diabetes.niddk.nih.gov/dm/pubs/hypoglycemia](http://diabetes.niddk.nih.gov/dm/pubs/hypoglycemia)
- Mayo Clinic information about reactive hypoglycemia: [www.mayoclinic.com/health/reactive-hypoglycemia/AN00934](http://www.mayoclinic.com/health/reactive-hypoglycemia/AN00934)



[www.hormone.org](http://www.hormone.org)