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URL of this page: <https://medlineplus.gov/hypoglycemia.html>

Hypoglycemia

Also called: Low blood sugar

What is blood glucose?

Blood glucose [<https://medlineplus.gov/bloodglucose.html>] , or blood sugar, is the main sugar found in your blood. It is your body's primary source of energy. It comes from the food you eat. Your body breaks down most of that food into glucose and releases it into your bloodstream. When your blood glucose goes up, it signals your pancreas to release insulin. Insulin is a hormone that helps the glucose get into your cells to be used for energy.

For people with diabetes [<https://medlineplus.gov/diabetes.html>] , your body doesn't make enough insulin, can't use it as well as it should, or both. Too much glucose stays in your blood and doesn't reach your cells.

What is hypoglycemia?

Hypoglycemia means low glucose. It happens when the level of glucose in your blood drops below what is healthy for you:

- For many people with diabetes, this means a blood glucose level lower than 70 mg/dL. Your number might be different, so check with your health care team to find out what blood glucose level is too low for you.
- For people who don't have diabetes, hypoglycemia is typically a blood glucose level lower than 55 mg/dL.

What causes hypoglycemia?

Hypoglycemia is common in people who have diabetes type 1 [<https://medlineplus.gov/diabetestype1.html>] or who have diabetes type 2 [<https://medlineplus.gov/diabetestype2.html>] and take insulin or other diabetes medicines [<https://medlineplus.gov/diabetesmedicines.html>] . It can happen:

- As a side effect of insulin or some other medicines that help your pancreas release insulin into your blood. These medicines can lower your blood glucose level.
- If you don't eat or drink enough carbohydrates [<https://medlineplus.gov/carbohydrates.html>] (carbs). Carbs are the main source of glucose for your body.
- If you get a lot more physical activity than usual.
- If you drink too much alcohol without enough food.
- When you are sick and can't eat enough food or keep food down.

Although it's rare, you can still get low blood glucose without having diabetes. The causes can include conditions such as liver disease [<https://medlineplus.gov/liverdiseases.html>] , kidney disease [<https://medlineplus.gov/kidneydiseases.html>] , and hormone [<https://medlineplus.gov/hormones.html>] deficiencies (lack of certain hormones). It can also happen in people who have had certain types of weight loss surgery [<https://medlineplus.gov/weightlosssurgery.html>] . Some medicines, such as certain heart medicines and antibiotics [<https://medlineplus.gov/antibiotics.html>] , can also cause it. See your health care provider to find out the cause of your low blood glucose and how to treat it.

What are the symptoms of hypoglycemia?

The symptoms of low blood glucose tend to come on quickly. The symptoms can be different for everyone, but they may include:

- Shaking
- Sweating
- Nervousness or anxiety
- Irritability or confusion
- Dizziness [<https://medlineplus.gov/dizzinessandvertigo.html>]
- Hunger

How is hypoglycemia diagnosed?

If you have diabetes, you'll most likely need to check your blood glucose every day and make sure that it's not too low. You can do this with a blood glucose meter or continuous glucose monitoring (CGM) system.

There are also blood tests [<https://medlineplus.gov/lab-tests/blood-glucose-test/>] that providers can use to check if your blood glucose is too low.

If you don't have diabetes and you have hypoglycemia, your provider will likely order other tests to try to figure out the cause.

What are the treatments for hypoglycemia?

If you have mild or moderate hypoglycemia, eating or drinking something with carbohydrates can help. But severe hypoglycemia can cause serious complications, including passing out, coma, or even death. Severe hypoglycemia can be treated with glucagon, a hormone that raises blood glucose levels. It can be given as nasal spray or injection. If you have diabetes, your provider can prescribe you a glucagon kit for use in case of an emergency.

If you have diabetes and you often have mild or moderate low blood glucose, your health care team may make changes to your diabetes meal plan [<https://medlineplus.gov/diabeticdiet.html>] , physical activity plan, and/or diabetes medicines.

If you don't have diabetes and you keep having low blood glucose, the treatment will depend on what is causing it to happen.

Can hypoglycemia be prevented?


If you have diabetes and you take insulin or other medicines that lower blood glucose, you can help prevent hypoglycemia if you:

- Follow your diabetes meal plan. Eat and drink enough carbs to keep your blood glucose in your target range. Also carry a source of fast-acting carbohydrate, such as glucose tablets or a juice box, with you in





case your blood glucose gets too low.

- Be safe during physical activity. Check your blood glucose before and afterwards. You may need to eat a snack before your physical activity.
- If you take diabetes medicines, make sure to take them correctly.

Start Here

- Hypoglycemia [<https://www.mayoclinic.org/diseases-conditions/hypoglycemia/symptoms-causes/syc-20373685?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/hypoglycemia/symptoms-causes/syc-20373685?p=1>]
- Low Blood Glucose (Hypoglycemia) [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/low-blood-glucose-hypoglycemia>]
 (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/hipoglucemia>]



Diagnosis and Tests

- Blood Glucose Test [<https://medlineplus.gov/lab-tests/blood-glucose-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-glucosa-en-la-sangre/>]
- C-Peptide Test [<https://medlineplus.gov/lab-tests/c-peptide-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-peptido-c/>]
- Glucagon Blood Test [<https://medlineplus.gov/lab-tests/glucagon-blood-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/analisis-de-sangre-de-glucagon/>]
- Insulin in Blood [<https://medlineplus.gov/lab-tests/insulin-in-blood/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/insulina-en-la-sangre/>]


Specifics

- Diabetic Hypoglycemia [<https://www.mayoclinic.org/diseases-conditions/diabetic-hypoglycemia/symptoms-causes/syc-20371525?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetic-hypoglycemia/symptoms-causes/syc-20371525?p=1>]
- Hyperinsulinemia: Is It Diabetes? [<https://www.mayoclinic.org/diseases-conditions/type-2-diabetes/expert-answers/hyperinsulinemia/faq-20058488?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/type-2-diabetes/expert-answers/hyperinsulinemia/faq-20058488?p=1>]
- Reactive hypoglycemia: What can I do? [<https://www.mayoclinic.org/diseases-conditions/diabetes/expert-answers/reactive-hypoglycemia/faq-20057778?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetes/expert-answers/reactive-hypoglycemia/faq-20057778?p=1>]

Genetics

- Congenital hyperinsulinism: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/congenital-hyperinsulinism>]  (National Library of Medicine)
- Familial glucocorticoid deficiency: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/familial-glucocorticoid-deficiency>]  (National Library of Medicine)

Clinical Trials


- ClinicalTrials.gov: Hypoglycemia [<https://clinicaltrials.gov/search?cond=%22Hypoglycemia%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Evaluating the association between gestational diabetes and neonatal hypoglycemia in Taiwan:...
[<https://www.ncbi.nlm.nih.gov/pubmed/40979708>]
- Article: Counterregulatory response to hypoglycemia during a hypoglycemic clamp in people with...
[<https://www.ncbi.nlm.nih.gov/pubmed/40964167>]
- Article: Incidence and risk factors of neonatal hypoglycemia at Hawassa University Comprehensive...
[<https://www.ncbi.nlm.nih.gov/pubmed/40953062>]
- Hypoglycemia -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Hypoglycemia%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- American Diabetes Association [<https://diabetes.org/>]
- National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>] 

Children

- Diabetes and Low Blood Sugar [<https://kidshealth.org/en/kids/low-blood-sugar.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/kids/low-blood-sugar.html>]
- Hypoglycemia and Diabetes [<https://kidshealth.org/en/parents/hypoglycemia.html>] (Nemours Foundation)

Teenagers

- What Is Hypoglycemia? [<https://kidshealth.org/en/teens/hypoglycemia.html>] (Nemours Foundation)

Patient Handouts

- Drug-induced low blood sugar [<https://medlineplus.gov/ency/article/000310.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000310.htm>]
- Insulin C-peptide test [<https://medlineplus.gov/ency/article/003701.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003701.htm>]
- Low blood sugar [<https://medlineplus.gov/ency/article/000386.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000386.htm>]
- Low blood sugar - newborns [<https://medlineplus.gov/ency/article/007306.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007306.htm>]
- Low blood sugar - self-care [<https://medlineplus.gov/ency/patientinstructions/000085.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000085.htm>]



MEDICAL ENCYCLOPEDIA

Drug-induced low blood sugar [<https://medlineplus.gov/ency/article/000310.htm>]

Insulin C-peptide test [<https://medlineplus.gov/ency/article/003701.htm>]

Low blood sugar [<https://medlineplus.gov/ency/article/000386.htm>]

Low blood sugar - newborns [<https://medlineplus.gov/ency/article/007306.htm>]

Low blood sugar - self-care [<https://medlineplus.gov/ency/patientinstructions/000085.htm>]

Related Health Topics

Blood Glucose [<https://medlineplus.gov/bloodglucose.html>]

Diabetes [<https://medlineplus.gov/diabetes.html>]

National Institutes of Health

The primary NIH organization for research on *Hypoglycemia* is the National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>]

Other Languages

Find health information in languages other than English
[<https://medlineplus.gov/languages/hypoglycemia.html>] on *Hypoglycemia*

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