

# Causes of Hypoglycemia

By Allen Smith, eHow User



## Hypoglycemia Defined

Hypoglycemia is defined as low blood sugar. Blood sugar is necessary for the proper functioning of all body tissues and organs--in particular the brain. Blood sugar comes from consuming and digesting food or by the body manufacturing its own glucose.

The healthy body processes blood sugar (also called "glucose") from food and uses it to produce energy or stores it in muscles and the liver as "glycogen." When the body experiences a shortage of blood glucose, it can tap into readily available supplies by sending a request to the liver through a process called "gluconeogenesis." Through gluconeogenesis, the liver can break down stored glycogen into glucose that can be used by the body's tissues.

While it is normal for glucose levels to fluctuate slightly throughout the day, a sustained glucose level below 45 mg/dl is called "hypoglycemia" and can usually be treated by administering concentrated sugar in the form of hard candy, fruit juice or other sweets. Chronic hypoglycemia may indicate a more serious medical condition that should be treated by a physician.

## Type 1 and 2 Diabetes

Type 1 and type 2 diabetics may experience hypoglycemia after long periods without eating, after moderate to heavy [exercise](#) or when taking medications. Taking too much insulin (either injectable or oral) can cause a sharp drop in glucose levels. Diabetics work with their physicians to learn how much and what type of medications to take, how to exercise and how and when to eat their meals.

## Exercise and Hypoglycemia

Rigorous exercise can cause hypoglycemia when active muscles create "insulin sensitivity." With insulin sensitivity, the muscles become particularly demanding of glucose circulating in the blood, often causing a sudden drop in glucose levels. This type of hypoglycemia is easily corrected by eating something sweet.

## Other Rare Causes of Hypoglycemia

In addition to diabetes and exercise, there are a number of other rare causes of hypoglycemia that include inherited "fructose intolerance," "galactosemia," hormone deficiencies, tumors and certain types of cancer.

Fructose intolerance is an inability to process fruit sugar. It can produce seizures, fainting and vomiting. The treatment is eliminating fruit sugar from the diet.

Galactosemia is intolerance of naturally occurring sugar in milk. In patients with galactosemia, the liver fails to produce glucose to make up for milk sugar intolerance, causing a marked drop in circulating glucose. The treatment is elimination of milk from the diet.

An abnormal amount of "growth hormone" can cause hypoglycemia by increasing the body's sensitivity to insulin. Higher concentrations of insulin cause the body to consume more glucose.

Tumors in the "Islet of Langerhans" produce high levels of insulin and cause low levels of glucose. If benign, these tumors respond well to surgery or treatment. Isolated types of cancer such as breast or adrenal cancer, can also cause hypoglycemia when they secrete "growth factor II," which mimics the action of insulin and responds well to treatment.

There are also rare cases called "reactive hypoglycemia," where hypoglycemia is present but is not caused by any of the traditional diseases. The treatment, like other types of hypoglycemia, includes eating small, balanced, high-nutrition meals frequently throughout the day instead of two or three large meals that challenge glucose levels.