

Diabetes-Related High and Low Blood Sugar

Topic Overview

When you have [diabetes](#), you may have high [blood sugar levels](#) (hyperglycemia) or [low blood sugar](#) levels ([hypoglycemia](#)) from time to time. A cold, the [flu](#), or other sudden illness can cause high [blood sugar](#) levels. You will learn to recognize the symptoms and distinguish between high and low [blood](#) sugar levels. [Insulin](#) and some types of [diabetes medicines](#) can cause low blood sugar levels.

Learn how to recognize and manage high and low blood sugar levels to help you avoid levels that can lead to medical emergencies, such as [diabetic ketoacidosis](#) or [dehydration](#) from high blood sugar levels or [loss of consciousness](#) from severe low blood sugar levels. Most high or low blood sugar problems can be managed at home by following your doctor's instructions.

Diabetic Ketoacidosis (DKA)

Diabetic ketoacidosis (DKA) is a life-threatening [blood](#) chemical (electrolyte) imbalance that develops in a person with [diabetes](#) when the cells do not get the sugar (glucose) they need for energy. As a result, the body breaks down fat instead of glucose and produces and releases substances called ketones into the bloodstream.

People with [type 1 diabetes](#) and some people with type 2 diabetes are at risk for DKA if they do not take enough [insulin](#), have a severe infection or other illness, or become severely dehydrated.

Symptoms of diabetic ketoacidosis include:

- Flushed, hot, [dry skin](#).
- A strong, fruity breath odor.
- Restlessness, drowsiness, or difficulty waking up. Young children may lack interest in their normal activities.
- Rapid, deep breathing.
- Loss of appetite, [abdominal pain](#), and [vomiting](#).
- Confusion.

Severe diabetic ketoacidosis can cause difficulty breathing, [brain swelling](#) (cerebral [edema](#)), [coma](#), or death.

Treatment involves giving insulin and fluids through a vein and closely monitoring and replacing [electrolytes](#).

Dehydration

Severe [dehydration](#) means:

- Your mouth and [eyes](#) may be extremely dry.
- You may pass little or no urine for 12 or more hours.
- You may not feel alert or be able to think clearly.
- You may be too weak or dizzy to stand.
- You may pass out.

Severe dehydration is a medical emergency and requires emergency treatment. **Call 911 or other emergency services immediately.**

Moderate dehydration means:

- You may be a lot more thirsty than usual.
- Your mouth and eyes may be drier than usual.
- You may pass little or no urine for 8 or more hours.
- You may feel dizzy when you stand or sit up.

Mild dehydration means:

- You may be more thirsty than usual.
- You may pass less urine than usual.

Mild to moderate dehydration is treated at home by drinking more fluids. Treatment for moderate to severe dehydration may include IV fluids and a stay in the hospital.

Dehydration is very dangerous for babies, small children, and older adults. It is most dangerous for newborns. Watch closely for early symptoms anytime there is an illness that causes a [high fever](#), [vomiting](#), or [diarrhea](#).

Loss of Consciousness (Unconsciousness)

When a person experiences a loss of consciousness, he or she is neither awake nor aware of the external environment. Loss of consciousness often is described as being "knocked out."

Attempts to arouse an unconscious person to an alert state may not be successful. The person may not respond at all or may respond with moans or nonpurposeful movements.

A loss of consciousness for longer than 60 seconds needs to be evaluated by a doctor.

Any loss of consciousness after a head injury, even if only for a short time, requires **immediate** evaluation by a doctor.

High [blood sugar](#) (hyperglycemia) is most often seen in people who have [diabetes](#) that isn't well controlled. The symptoms of high [blood](#) sugar can be mild, moderate, or severe.

Mild high blood sugar

If your [blood sugar levels](#) are consistently 200 milligrams per deciliter (mg/dL) to 350 mg/dL, you may have mild symptoms of high blood sugar. You may urinate more than usual if you are drinking plenty of liquids. Some people who have diabetes may not notice any symptoms when their blood sugar level is in this range. The main symptoms of high blood sugar are:

- Increased thirst.
- Increased urination.
- [Weight loss](#).
- [Fatigue](#).
- Increased appetite.

Young children are unable to recognize symptoms of high blood sugar. Parents need to do a home blood sugar test on their child whenever they suspect high blood sugar. Children have mild high blood sugar when their blood sugar levels are between 200 mg/dL and 240 mg/dL.

If you don't drink enough liquids to replace the fluids lost from high blood sugar levels, you can become dehydrated. Young children can become [dehydrated](#) very quickly. Symptoms of [dehydration](#) include:

- A [dry mouth](#) and increased thirst.
- Warm, [dry skin](#).

Moderate to severe high blood sugar

If your blood sugar levels are consistently high (usually above 350 mg/dL in adults and above 240 mg/dL in children), you may have moderate to severe symptoms of high blood sugar. These symptoms include:

- Blurred [vision](#).
- Extreme thirst.
- Lightheadedness.
- Flushed, hot, dry skin.
- Restlessness, drowsiness, or difficulty waking up.

If your body produces little or no [insulin](#) (people with [type 1 diabetes](#) and some people with [type 2 diabetes](#)), you also may have:

- Rapid, deep breathing.
- A fast [heart](#) rate and a weak [pulse](#).
- A strong, fruity breath odor.
- Loss of appetite, belly pain, and/or [vomiting](#).

If your blood sugar levels continue to rise, you may become confused and lethargic. You also may become unconscious if your blood sugar levels are very high.

Symptoms of mild low blood sugar

You may have these symptoms when your [blood sugar](#) has dropped below 70 [milligrams per deciliter \(mg/dL\)](#). When you have had [diabetes](#) for many years, you may not always develop symptoms of mild low [blood](#) sugar.

Some young children with [diabetes](#) cannot recognize symptoms of [low blood sugar](#). Others can, but not every time. To be safe, the parents need to do a home blood sugar test whenever they suspect low blood sugar in a child.

Symptoms may include:

- [Sweating](#) (almost always present). Check for sweating on the back of your neck at your hairline.
- Nervousness, shakiness, and weakness.
- Extreme [hunger](#) and slight [nausea](#).
- Dizziness and [headache](#).
- Blurred [vision](#).
- A fast heartbeat and feeling anxious.

These symptoms may go away shortly after you eat food that contains sugar.

Symptoms of moderate low blood sugar

If your blood sugar continues to drop (below 40 mg/dL), your behavior may change. Symptoms may include:

- Inability to concentrate.
- Confusion and irritability.
- Slurred speech.
- Unsteadiness when standing or walking.
- Muscle [twitching](#).
- Personality changes, such as anger or crying.

Symptoms of severe low blood sugar

Symptoms of severe low blood sugar (usually below 20 mg/dL) include:

- [Seizure](#).
- Loss of consciousness ([coma](#)).
- [Stroke](#).
- Death.

Signs of low blood sugar at night

If your blood sugar drops while you are sleeping, your partner or other family members may notice that you are sweating and behaving differently. Signs of low blood sugar at night ([nocturnal hypoglycemia](#)) include:

Nocturnal hypoglycemia refers to low [blood sugar levels](#) at night in a person who has [diabetes](#). [Blood sugar](#) levels can drop below their target range at night if a person eats too little food after taking his or her usual nighttime [insulin](#) dose or takes more insulin than prescribed in the evening.

[Low blood sugar](#) can also happen when there are problems with the insulin (for example, it is expired or it has not been stored properly), when the amount of insulin changes (to find the right amount), or when the person with diabetes is sick.

But sometimes the reason is not obvious. Nocturnal hypoglycemia may also be related to previous [exercise](#) or increased physical activity.

Signs of low [blood](#) sugar at night include:

- Restlessness, unusual noises, talking, or [nightmares](#).
- Waking up feeling tired or having a [headache](#).
- Having damp clothing and bed linens in the morning (night sweats).
- Having a high blood sugar level in the morning.

Testing blood sugar levels at about 2 a.m. to 3 a.m. for a few consecutive nights may help a person find out whether low blood sugar is causing the symptoms. Continuous glucose monitoring (CGM) devices can also help. These devices sound an alarm when blood sugar is too high or too low.

Nocturnal hypoglycemia may be prevented by decreasing the evening insulin dose or by adding more food to the bedtime snack.

