

# Diabetes

## Overview

Diabetes mellitus refers to a group of diseases that affect how the body uses blood sugar (glucose). Glucose is an important source of energy for the cells that make up the muscles and tissues. It is also the brain's main source of fuel.

The main cause of diabetes varies by type. But no matter what type of diabetes you have, it can lead to excess sugar in the blood. Too much sugar in the blood can lead to serious health problems.

Chronic diabetes conditions include type 1 diabetes and type 2 diabetes. Potentially reversible diabetes conditions include pre-diabetes and gestational diabetes. Pre-diabetes happens when blood sugar levels are higher than normal. But the blood sugar levels are not high enough to be called diabetes. And pre-diabetes can lead to diabetes unless steps are taken to prevent it.

Gestational diabetes happens during pregnancy. But it may go away after the baby is born.

## Symptoms

Diabetes symptoms depend on how high your blood sugar is. Some people, especially if they have prediabetes, gestational diabetes, or type 2 diabetes, may not have symptoms. In type 1 diabetes, symptoms tend to come on quickly and be more severe. Type 1 diabetes can start at any age. But it often starts during childhood or teen years. Type 2 diabetes, the more common type, can develop at any age. Type 2 diabetes is more common in people older than 40.

Some of the symptoms of type 1 diabetes and type 2 diabetes are:

- Feeling more thirsty than usual.
- Urinating often.
- Losing weight without trying.
- Presence of ketones in the urine. Ketones are a byproduct of the breakdown of muscle and fat that happens when there's not enough available insulin.
- Feeling tired and weak.
- Feeling irritable or having other mood changes.
- Having blurry vision.

- Having slow-healing sores.
- Getting a lot of infections, such as gum, skin, and vaginal infections.

## When to see a doctor

- **If you think you or your child may have diabetes.** If you notice any diabetes symptoms, contact your health care provider. The earlier the condition is diagnosed; the sooner treatment can begin.
- **If you have already been diagnosed with diabetes.** After you receive your diagnosis, you will need close medical follow-up until your blood sugar levels stabilise.

## Causes

### The role of glucose

Glucose — a sugar — is a source of energy for the cells that make up muscles and other tissues.

- Glucose comes from two major sources: food and the liver.
- Sugar is absorbed into the bloodstream, where it enters cells with the help of insulin.
- The liver stores and makes glucose.
- When glucose levels are low, such as when you have not eaten in a while, the liver breaks down stored glycogen into glucose. This keeps your glucose level within a typical range.

The exact cause of most types of diabetes is unknown. In all cases, sugar builds up in the bloodstream. This is because the pancreas does not produce enough insulin. Both type 1 and type 2 diabetes may be caused by a combination of genetic or environmental factors. It is unclear what those factors may be.

Cause of diabetes include: -

- **Insulin resistance-** It happens when cells in your muscles, fat and liver do not respond as they should to insulin.
- **Hormonal imbalances-** During pregnancy, the placenta releases hormones that cause insulin resistance. You may develop gestational diabetes if your pancreas cannot produce enough insulin to overcome the insulin resistance.
- **Pancreatic damage:** Physical damage to your pancreas - from a condition, surgery, or injury — can change its ability to make insulin.

## Prevention

Type 1 diabetes cannot be prevented. But the healthy lifestyle choices that help treat pre-diabetes, type 2 diabetes and gestational diabetes can also help prevent them:

- **Eat healthy foods.** Choose foods lower in fat and calories and higher in fibre. Focus on fruits, vegetables, and whole grains. Eat a variety to keep from feeling bored.
- **Get more physical activity.** Try to get about 30 minutes of moderate aerobic activity on most days of the week. Or aim to get at least 150 minutes of moderate aerobic activity a week. For example, take a brisk daily walk. If you cannot fit in a long workout, break it up into smaller sessions throughout the day.
- **Lose excess pounds.** If you are overweight, losing even 7% of your body weight can lower the risk of diabetes. For example, if you weigh 200 pounds (90.7 kilograms), losing 14 pounds (6.4 kilograms) can lower the risk of diabetes. But do not try to lose weight during pregnancy. Talk to your provider about how much weight is healthy for you to gain during pregnancy.
- Sometimes drugs are a choice. Oral diabetes drugs such as metformin (Glumetza, Fortamet, others) may lower the risk of type 2 diabetes. But healthy lifestyle choices are important. If you have pre-diabetes, have your blood sugar checked at least once a year to make sure you have not developed type 2 diabetes.

## Home remedies

### 1. Apple Cider Vinegar

The primary compound in ACV is acetic acid and is believed to handle many of its health benefits. There are much evidence-based approaches to using ACV. Taking 2 tablespoons before bedtime can reduce your morning fasting sugar levels.

### 2. Fibre and Barley

Eating fibre decreases blood sugar and insulin concentrations. The recommended amount of fibre is around 30 grams per day. Barley is a high-fibre, high-protein grain which has lots of data to support its role in helping improve blood sugar, insulin, cholesterol, and general inflammation.

### 3. Aloe Vera

The sap of aloe vera is known for its laxative effect. Therefore, make sure to get the juice of the gel that helps lower blood sugar level.

### 4. Zinc

Those with diabetes are commonly found to be zinc deficient. Studies have shown zinc supplementation can reduce blood sugar

and A1C, have an antioxidant effect, lower blood sugar, and even help treat some of the complications related to diabetes. Large doses of zinc can inhibit the absorption of other minerals like copper, so be sure to ask for guidance of the proper dosing.

**5. Fenugreek**

A seed commonly used as a food spice has been used abroad for centuries for its medical benefits to lower cholesterol and hba1c.

**6. Cinnamon**

A medically beneficial indulgence to help lower your blood sugar and cholesterol levels.