

# Diabetes

## Diabetes

### Overview

Blood chemistry is a delicate balance, controlled by feedback loops and hormones. Among the most important balances we must maintain is the level of sugar in the blood. Insulin is a hormone produced by the pancreas. It signals our cells to absorb and use circulating glucose (blood sugar). Blood sugar levels vary with diet. After eating, blood sugar rises, and then falls as glucose is used. Long after a meal, when blood sugar is low, the liver releases glucose into the blood. Insulin moderates this balance.

There are different kinds of diabetes, but all result in high blood sugar as a result of low insulin, or resistance to its effects.

- In **Type 1 Diabetes**, the cells that make insulin in the pancreas are attacked by the immune system. The result is that little or no insulin is produced.
- In **Type 2 Diabetes**, an excess of blood sugar, over a long period, results in cells becoming resistant to the effects of insulin. The pancreas cannot keep up with demand, and blood sugar remains chronically high.

**Pre-diabetes** is a condition where the blood sugar is too high, but not yet classified as diabetes. Pre-diabetes can be reversed through changes in lifestyle, perhaps motivated by the understanding that diabetes is a life-shortening condition.

Some women have high blood sugar during pregnancy, called **Gestational Diabetes**. This is the result of hormones in the placenta creating a temporary resistance to the action of insulin. This form of diabetes can affect the health of the fetus, but luckily, gestational diabetes can be treated by modifications to the diet, and blood sugar levels will return to normal shortly after the baby is born. However, women who experience gestational diabetes are at higher risk for developing type 2 diabetes.

### Symptoms

Many people have pre-diabetes, and there are no symptoms for it. Pre-diabetes is associated (but not limited to) obesity.

Signs and symptoms of type 2 diabetes may include:

- Frequent urination
- Excessive thirst
- Constant hunger
- Fatigue
- Blurred vision

- Slow-healing wounds and infections
- Tingling or numbness in feet or hands
- Patches of dark skin (acanthosis nigricans) in creases of the neck, armpit or groin.
- Breath smells sweet, fruity, or of acetone

Diabetes is diagnosed with blood tests. A fasting blood sugar level above 125 mg/dL, on two separate tests, is an indication that you have diabetes.

## **When to see a doctor**

Make an appointment to see your doctor if:

- You have not had your blood sugar tested since experiencing any of the above symptoms