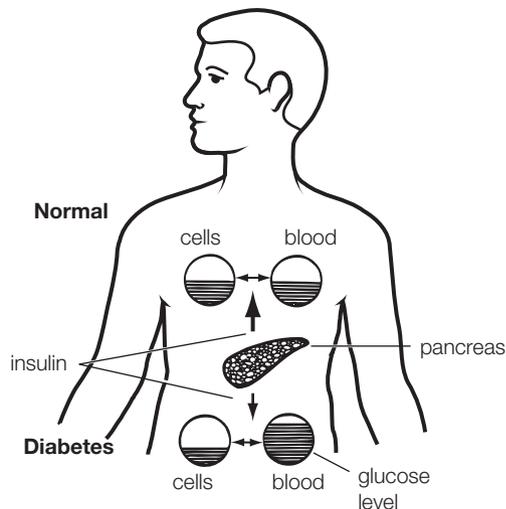


# Diabetes

## What is diabetes?

*Diabetes mellitus* is a disorder in which there is too much sugar in the blood. It is caused by a relative lack of an important hormone called *insulin*, which is made by a gland behind the stomach called the *pancreas*. *Diabetes* comes from a Greek word meaning 'to pass or flow through' and *mellitus* means 'sweet'. Insulin controls the balance of sugar (glucose) in the body.



Glucose balance in the body

## What are the two main types of diabetes?

*Type 1* diabetes is also known as *juvenile-onset diabetes* or *insulin-dependent diabetes mellitus*. It occurs mainly in young people, and because their pancreases produce very little insulin they require injections of insulin. The cause is damage of the pancreas by the body's immune system.

*Type 2* diabetes is also known as *maturity-onset diabetes* or *non-insulin-dependent diabetes mellitus*. It mainly affects people over 40, many of whom are overweight and have a diet with excess calories. It is usually controlled by a proper diet only, but often tablets may have to be used. Insulin may be needed also for ultimate control.

## What are the symptoms?

The classical symptoms of high blood sugar are:

- excessive and frequent urination (every hour or so)
- excessive thirst
- loss of weight (mainly in Type 1)
- tiredness and lack of energy
- a tendency to get infections, especially of the skin.

## How common is the problem?

About 1 person in 30 gets diabetes. It tends to increase as we get older because the pancreas, like other organs, tends to wear out. On the other hand the body can become resistant to insulin.

## What are the risks?

Modern treatment is very effective for diabetes, but the results depend on the patient following the treatment, especially the diet. If diabetes is untreated, the complications are very severe and include coma (from the blood sugar being either too high or too low), kidney disease, blindness and heart disease. The feet and eyes are at special risk and need special care and regular checks.

## Can diabetes be cured?

No, not yet, but it can virtually always be controlled by a proper diet and regular exercise, and if necessary insulin or special tablets. Although the diagnosis comes as a shock to patients, it is not the major problem that it is generally believed to be—most patients lead normal lives. A key factor is to get good control of blood pressure as well as blood sugar and cholesterol. Diet and exercise are vital.

## Is diet a vital treatment?

Yes; all diabetics require a special diet in which carbohydrate and fat intake is controlled. The objectives of the diet are to:

- keep to ideal weight (neither fat nor thin)
- keep the blood sugar level normal and the urine free of sugar.

This is achieved by:

- eating good food regularly (not skimping)
- spacing the meals throughout the day (three main meals and three snacks)
- cutting down fat to a minimum
- avoiding sugar and refined carbohydrates (e.g. jam, honey, chocolates, sweets, pastries, cakes, soft drinks)
- eating a balance of more natural complex carbohydrates (starchy foods) such as wholemeal bread, potatoes and cereals
- eating a good variety of fruit and vegetables
- cutting out alcohol or drinking only a little
- learning about glycaemic index (GI) foods and preferably eating low-GI foods.

**Note: exercise is very important!**

### Basic aims of treatment

- |  |                  |
|--|------------------|
| • Blood glucose (fasting)  | 4 to 6 mmol/L    |
| • HBA1c (a key test)   | less than 7      |
| • Total cholesterol  | less than 4      |
| • Blood pressure   | 130/80 (or less) |
| • Ideal weight and waistline   | BMI less than 26 |
| • Low-fat, high complex carbohydrate diet  |                  |
| • No cigarettes  |                  |
| • No or minimal alcohol  |                  |
| • Exercise: at least 30 minutes walking (e.g. 2 km per day), 5 or more days a week (150 minutes per week). Also aerobics, tennis, swimming, etc. |                  |