

## What is insulin dependent diabetes?

Diabetes is a common condition where there is too much glucose in the blood. There are two main types of diabetes, insulin dependent diabetes which usually begins in childhood or youth, and non insulin dependent diabetes which mainly affects adults. A third is gestational diabetes which occurs in pregnant women.

Glucose is the energy source which fuels all the activities of our body cells. Glucose is made when carbohydrate or starchy foods are eaten. The amount of glucose in the blood is normally kept within narrow limits by a hormone, insulin, which is produced by the pancreas.

### Insulin dependent

People with insulin dependent diabetes produce no insulin, due to the destruction of the insulin producing cells in their pancreas. This differs from non insulin dependent diabetes where the pancreas continues to produce some, but not enough insulin.

Insulin dependent diabetes, also known as Type I diabetes, is most common in teens and childhood, (although all age groups can be affected), and is therefore sometimes called juvenile onset diabetes.

Insulin works by allowing glucose, which is in the blood, to enter cells where it is burnt up as energy. Glucose which is not needed for energy at once is stored away in the liver to be used later. To let the glucose enter the cell, insulin acts a bit like a key unlocking a door.

Because insulin is absent, glucose stays in the blood and cannot be put to use by the cells for energy production. The body tries to compensate for this lack of energy by breaking down stores of fat and protein and converting these into yet more glucose. The level of glucose in the blood continues to rise and eventually spills over into the urine.

## Symptoms of diabetes

1. The body cannot use the energy in food properly so an alternative source of energy must be found. The body's stores of fat and protein are broken down to release glucose into the blood, which can result in **sudden and dramatic weight loss**.
2. Some of the increased glucose is removed by the kidneys, causing the passage of large amounts of urine. You may feel **thirsty** and **very dehydrated** and need to pass **urine often** and in large quantities.
3. The body uses fat and protein for energy. You feel **tired**.



With excessive breakdown of fats, substances called ketones build up in the blood and spill over into the urine where they can be detected by means of a urine ketone test. Ketones are acidic and in large quantities can cause a serious condition called ketoacidosis or diabetic coma.

The onset of symptoms related to Type I diabetes is fairly quick – usually a matter of weeks. Without treatment the condition will get progressively worse and is very serious.

Poor control of glucose levels can result in serious health complications such as hardening of the arteries (atherosclerosis), damage to the nerve endings (neuropathy), kidney damage or poor eye-sight (retinopathy).

## Treatment

Regular insulin injections will be needed to replace the insulin that is not produced naturally, combined with a healthy diet. These measures will be necessary throughout life.

### Insulin injections

Your doctor or healthcare professional will discuss the different types of insulin available, the dosage needed and how to monitor blood glucose levels so as to reduce the risk, or delay the onset of complications.

You will also be shown how to inject insulin and where on the body this should be done. Injection sites are where there is plenty of fat under the skin (upper arms, thighs, bottom and abdomen). These injections are much less difficult and less painful than most people imagine them to be.

### Dietary guidelines

Insulin injections alone are not sufficient to keep diabetes under control. They should be combined with a diet that is high in starchy carbohydrate and fibre whilst low in sugar, salt and fat.

The aim is keep blood glucose levels as near to normal as possible. This means avoiding any sugary foods which will make the blood glucose level rise too quickly (except in emergencies such as hypo or before exercise).



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Increasing the amount of fibre will help to slow down the rate of absorption of sugar from foods and help to maintain a more even level of blood glucose.

*The key is to maintain a healthy balanced diet by:*

1. Reducing the amount of sugar, fat and salt intake by using "low" alternatives and herbs to add flavour.
2. Eating regular meals based on starchy carbohydrates such as bread, potatoes, pasta, cereals, rice, chapatis or yams.
3. Grilling, steaming or dry roasting food instead of frying or roasting in oil or fat.
4. Aiming to eat at least five portions of vegetables and/or fruit a day (potatoes do not count, a glass of unsweetened fruit juice is a portion).
5. Aiming to drink 6-8 glasses of water a day and only drinking alcohol in moderation (14 units per week for a woman, 21 units per week for a man).

This leaflet only gives a very brief explanation of dietary requirements. More detailed information can be obtained from your doctor or healthcare professional.

## Leaflets available from Hypoguard

- 1 What is non insulin dependent diabetes
- 2 What is insulin dependent diabetes
- 3 Long-term complications of diabetes
- 4 Hypos, hypers and all that
- 5 Monitoring diabetes
- 6 Diabetes and exercise
- 7 Work and driving with diabetes
- 8 Smoking and alcohol with diabetes
- 9 On holiday with diabetes
- 10 Men and Women with diabetes
- 11 Diabetes and your child

Please call our **Hypoguard Freephone Information Line: 0800 371 957** for further copies of this leaflet or other leaflets in the series.

## Diabetes management made simple

Hypoguard have a range of blood glucose monitoring systems specifically designed to help people with diabetes manage their glucose levels in their homes. If you would like any information about them, please call the Hypoguard Freephone Information Line: **0800 371 957** 8am and 6pm, Monday to Friday or visit our web site at [www.hypoguard.com](http://www.hypoguard.com)

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## Remember

1. Eat regularly. It is important to eat the right foods in the right quantity at the right time.
2. Keep to a healthy diet – one which is low in sugar, fat and salt whilst high in fibre.
3. Exercise regularly to assist weight control.
4. Monitor and record your glucose levels to identify trends.

# What is Type 1 diabetes?

