

 Leaflet: Diabetes

Diabetes

Diabetes (strictly called diabetes mellitus) occurs when the level of sugar (glucose) in the blood becomes higher than normal. Insulin is a hormone (chemical) that is made by the pancreas gland. Diabetes may develop if not enough insulin is made or it is not able to work properly on the body's cells. There are two main types of diabetes mellitus - insulin dependent diabetes mellitus (IDDM) and non-insulin dependent diabetes mellitus (NIDDM).

Insulin Dependent Diabetes Mellitus (IDDM)

Also known as juvenile, early onset or type 1 diabetes. This develops in children and young adults. About 2 to 6 in 1000 people are affected. The illness develops quite quickly (over days or weeks) when the level of insulin in the body becomes very low because the pancreas stops making insulin. It is treated with insulin injections and diet.

Non-Insulin Dependent Diabetes Mellitus (NIDDM)

Also known as maturity onset or type 2 diabetes. This usually develops after the age of 40 and affects about 2 in 100 people. This illness tends to develop gradually. Unlike IDDM, in NIDDM insulin is still made but is either not made in sufficient amounts for the body's needs, and/or the body is unable to use it properly. NIDDM is more common in people who are overweight and also tends to run in families (much more so than IDDM). It is treated with diet alone, or diet and tablets or occasionally diet and insulin injections.

There are other rare causes of diabetes. For example, after surgery to the pancreas gland.

What does insulin do?

Insulin is a hormone (chemical) that helps glucose in the blood to be taken into the body's cells. Glucose is used for energy or is stored for later use. Normally, the amount of insulin in the blood varies depending on whether you have just eaten or not. After a meal, more insulin is needed and the levels rise in response to the increased levels of glucose in the blood. If there is not enough insulin, this leads to high levels of glucose in the blood. Too high a level of glucose is harmful and leads to diabetes.

What are the symptoms of diabetes?

The four common symptoms of diabetes are due to the high levels of glucose in the blood. These are: excess thirst, passing large amounts of urine, tiredness and weight loss. If untreated, more severe symptoms may quickly develop in IDDM such as dehydration and drowsiness. In NIDDM some people develop symptoms so gradually that they become used to their increased thirst and tiredness. They may not recognize that they are ill for some time. Urine is often routinely tested for glucose in older people as part of health checks to detect diabetes.

Urine does not normally contain glucose. If glucose is found in the urine, it is likely that diabetes has developed. A blood test to find the glucose level will confirm or rule out the diagnosis.

What are the aims of treatment?

The first aim of treatment is to relieve the symptoms of diabetes. Treatment also aims to prevent or slow down possible complications. To achieve this, treatments aim to reduce the level of glucose in the blood to as near normal as possible.

What is the treatment of Insulin Dependent Diabetes Mellitus?

IDDM is treated with insulin injections and diet. There are different types of insulin and the treatment schedule varies from person to person depending on individual circumstances. As well as insulin, it is important to eat a healthy low fat, high fibre diet with plenty of fruit and vegetables. Advice on this is given by members of a diabetic team This usually includes nurses, doctors, dietitians, etc. Regular starchy meals and snacks throughout the day are necessary to balance with the insulin.

What is the treatment of Non Insulin Dependent Diabetes Mellitus?

- ◆ *Diet* - many people with NIDDM can be treated by diet alone. This means losing weight if overweight because being overweight makes the blood glucose levels harder to control. Everyone with NIDDM, whatever their weight, should eat a healthy, low fat, high fibre diet with plenty of fruit and vegetables. To control blood glucose levels, it is important to eat regular meals based on starchy food. Good information, education and support about diet is a major part of treatment.
- ◆ *Diabetes tablets* - may be prescribed if diet alone fails to control symptoms and/or the level of blood glucose adequately. There are a variety available and different ones suit different people. They aim either to boost the levels of insulin made by the pancreas or to help insulin to work better on the body's cells. Diabetes tablets are not taken instead of a healthy diet - you need to eat a healthy diet as well.
- ◆ *Insulin injections* - are needed in a minority of people with NIDDM if diet and tablets have not worked well enough.

What are the possible complications of diabetes?

- ◆ *Very high glucose levels* - short term very poor control of diabetes may occur for various reasons. This is more common in IDDM when high levels of glucose can cause dehydration, drowsiness and serious illness. A common concern is when ill for other reasons, for example, having flu, etc. Close monitoring and good treatment is required during periods of illness or other stresses, for example, surgical operations.
- ◆ *Treatment complications* - too much insulin or medication occasionally makes the blood glucose level become too low (hypoglycaemia). This does not occur in people with NIDDM treated with diet alone. Emergency treatment of hypoglycaemia is with sugar, sweet drinks or a glucagon injection (a hormone).
- ◆ *Long term complications* - there are several possible long term complications that develop in some people with diabetes. If the blood glucose level is usually higher than normal, over the years this can have an affect on the blood vessels. This may lead to some of the following complications (often many years later). Kidney damage; worsening atheroma ('furring or hardening of the arteries' causing problems such as angina and poor circulation); eye problems (due to damage to the arteries of the retina at the back of the eye); nerve damage; foot problems (due to poor circulation and nerve damage) and other rare problems. These long term complications vary from person to person and may not occur at all. In general, the better the control of diabetes, keeping blood glucose levels as near normal as possible, the less serious the long term complications are likely to be.

Monitoring progress

Many GP's surgeries and hospitals have special diabetes clinics. Doctors, nurses, dietitians, chiropodists, opticians and other health care workers all play a role in giving advice and checking on progress. Activities in diabetes clinics include the following. Checking on blood glucose levels to monitor control; ongoing advice on diet and lifestyle; checking for early signs of complications, for example, eye checks, foot checks, blood tests etc; advising on all aspects of care. It is important to have regular checks as many problems, particularly if detected early, can be treated or helped.

Some other general advice

Long term complications of diabetes are more likely if a person with diabetes smokes, drinks too much alcohol and takes little exercise. A healthy lifestyle helps to reduce the risk of complications. In addition, people with diabetes should have regular blood pressure checks as having high blood pressure will increase any risks for the future. Immunisation against 'flu (each autumn) and against the pneumococcus bacteria (just given once) is usually advised. Catching these infections

is particularly unpleasant for someone with diabetes.

British Diabetic Association

This leaflet gives only a very brief account of diabetes. For further information on diabetes, contact the British Diabetic Association (BDA). There are numerous branches throughout the country. The BDA produce information leaflets on all topics related to diabetes and its careline answers enquiries on all aspects of diabetes.

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