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**Type 2 Diabetes**



After you eat, various foods are broken down in your gut into sugars. The main sugar is called glucose which passes through your gut wall into your bloodstream. However, to remain healthy, your blood glucose level should not go too high or too low. So, when your blood glucose level begins to rise (after you eat), the level of a hormone called insulin should also rise. Insulin works on the cells of your body and makes them take in glucose from the bloodstream. Some of the glucose is used by the cells for energy, and some is converted into glycogen or fat (which are stores of energy). When the blood glucose level begins to fall (between meals), the level of insulin falls. Some glycogen or fat is then converted back into glucose which is released from the cells into the bloodstream. Insulin is a hormone that is made by cells called beta cells. These are part of little islands of cells (islets) within the pancreas. Hormones are chemicals that are released into the bloodstream and work on various parts of the body.

**What is type 2 diabetes?**

* You do not make enough insulin for your body's needs; OR
* The cells in your body do not use insulin properly. This is called insulin resistance. The cells in your body become resistant to normal levels of insulin. This means that you need more insulin than you normally make to keep the blood glucose level down; OR
* A combination of the above two reasons.

**Who gets type 2 diabetes?**

It develops mainly in people older than the age of 40 (but can also occur in younger people). The number of people with type 2 diabetes is increasing in the UK, as it is more common in people who are overweight or obese. It also tends to run in families. It is around five times more common in South Asian and African-Caribbean people (often developing before the age of 40 in this group). have not yet been diagnosed with the condition.

**What are the possible complications of diabetes?**

If your blood glucose level is higher than normal over a long period of time, it can gradually damage your blood vessels. This can occur even if the glucose level is not very high above the normal level. This may lead to some of the following complications (often years after you first develop diabetes):

* Atheroma (furring or hardening of the arteries). This can cause problems such as angina, heart attacks, stroke and poor circulation.
* Kidney damage which sometimes develops into kidney failure.
* Eye problems which can affect vision (due to damage to the small arteries of the retina at the back of the eye).
* Nerve damage.
* Foot problems (due to poor circulation and nerve damage).
* Impotence (again due to poor circulation and nerve damage).
* Other rare problems.

The type and severity of long-term complications vary from case to case. You may not develop any at all. In general, the nearer your blood glucose level is to normal, the less your risk of developing complications. Your risk of developing complications is also reduced if you deal with any other risk factors that you may have, such as high blood pressure.

**What are the aims of treatment?**

1. **Keeping your blood glucose level at normal levels**

**How is the blood glucose level monitored?**

The blood test that is mainly used to keep a check on your blood glucose level is called the HbA1c test. This test is commonly done every 2-6 months by your doctor or nurse. Treatment aims to lower your HbA1c to below a target level. Ideally, it is best to maintain HbA1c to less than 48 mmol/mol (6.5%).

**Lifestyle - diet, weight control and physical activity**

Lifestyle changes are an essential part of treatment for **all** people with type 2 diabetes, regardless of whether or not you take medication. You can usually reduce the level of your blood glucose and HbA1c if you:

* ***Eat a healthy and balanced diet*.** The diet is the same as recommended for everyone. The idea that you need special foods if you have diabetes is a myth. Basically, you should aim to eat a diet low in fat, salt and sugar and high in fibre and with plenty of fruit and vegetables.
* ***Lose weight if you are overweight***. Getting to a perfect weight is unrealistic for many people. However, losing some weight if you are obese or overweight will help to reduce your blood glucose level (and have other health benefits too).
* ***Do some physical activity regularly***. If you are able, a minimum of 30 minutes' brisk walking at least five times a week is advised. Anything more vigorous and more often is even better. Ideally, you should do an activity that gets you at least mildly out of breath and mildly sweaty. You can spread the activity over the day.
* ***Stop Smoking***

**Medication**

There are various medicines that can reduce the blood glucose level. Different ones suit different people. It is fairly common to need a combination of medicines to control your blood glucose level.

Medication is not used *instead* of a healthy diet, weight control and physical activity - you should still do these things *as well* as take medication.

**2. To detect and treat any complications promptly**

You have annual diabetic checks, which look and treat for early complications:

* Checking levels of blood glucose, HbA1c, cholesterol and blood pressure.
* Ongoing advice on diet and lifestyle.
* Checking for early signs of complications, for example:
	+ Eye checks - to detect problems with the retina (a possible complication of diabetes) which can often be prevented from getting worse. Glaucoma is also more common in people with diabetes and can usually be treated.
	+ Urine tests - which include testing for protein in the urine, which may indicate early kidney problems.
	+ Foot checks - to help to prevent foot ulcers.
	+ Other blood tests - these include checks on kidney function and other general tests.

**Immunisation**

You should be immunised against flu (each autumn) and also against pneumococcal bacteria (just given once). These infections can be particularly unpleasant if you have diabetes.

### Diabetes UK

Tel (careline): 0845 120 2960 Web: [www.diabetes.org.uk](http://www.diabetes.org.uk)

Diabetes UK is the largest organisation in the UK working for people with diabetes, funding research, campaigning, and helping people to live with the condition.