What is diabetes?

August 2004 - English

Diabetes mellitus is a condition where the body cannot use the glucose, (sugar), properly so the level rises in the blood. We need glucose for energy. Glucose comes from foods such as bread, potatoes, chapatis, yams, plantain and is also made, by the body, in the liver.

To help the body use the glucose for energy, you need insulin. It is vital for life. Insulin is usually made by the body, in the pancreas and helps the glucose enter the body cells.

In diabetes, the blood glucose level rises, the body tries to lower it by passing the extra glucose out in the urine. This makes the person pass more urine, (water) which makes them thirsty so they drink more. One of the early signs of diabetes is when the person complains of feeling thirsty and needing to pass a lot of urine, (water). Because the body cannot use glucose for energy, it will start to use the fat stores in the body instead. This causes the person to lose weight. A person will often complain of

- feeling very thirsty and needing a lot to drink
- passing a lot of urine, (water), even at night
- feeling tired
- losing weight
- difficulty in seeing clearly
- itching or skin rashes.

**Type 1 diabetes (also called insulin dependent diabetes)**

Type 1 diabetes happens when the body is not able to make any insulin. Most people who develop this type of diabetes, are less than 40 years old. It is more common in people from Asian, African-Caribbean and Chinese communities. It is treated by insulin injections, healthy diet and physical activity.

**Type 2 diabetes, (also called non-insulin dependent diabetes)**

Type 2 diabetes happens when the body can still make some insulin, but not enough for its needs, or the insulin it makes, does not work properly, (known as insulin resistance). This is more common in people over 40 years of age, although recently there has been a significant increase in the number of teenagers and young adults developing Type 2 diabetes. It is more common in people from Asian, African-Caribbean and
Chinese communities. It is treated by healthy diet and physical activity alone, or with, tablets, healthy diet and physical activity. Some people with Type 2 diabetes need insulin by injection especially when they have had the diabetes for some years.

**Myths about diabetes**

- Eating too much sugar causes diabetes.
- You cannot eat sugar if you have diabetes.
- You can catch diabetes.
- You may only have mild diabetes.
- You can be cured of diabetes.
- People with diabetes must not exercise.
- The diet for diabetes is very strict and you have to eat special foods.
- There are herbs and other preparations, which can replace insulin or tablets.
- You cannot drive if you have diabetes.
- You will not be able to get a job so easily.

**Facts about diabetes**

**No**, being overweight makes you at risk of Type 2 diabetes.

**No**, sugar can be part of your total diet. Speak to a dietitian about this.

**No**, if a person in the family has diabetes, there is a greater risk of a family member to develop it.

**No**, you have diabetes or you do not.

**No**, it can be managed but there is no cure available. There are many treatments and the correct one will be decided for you.

**No**, physical activity is important in helping to control blood glucose levels.

**No**, you should eat the same healthy diet advised for everyone. Special diabetic foods are expensive and unnecessary.

**No**, some herbal remedies may help reduce the blood glucose level, but it will not cure it. There are certain vehicles, which you will not be allowed to drive. These include large buses and lorries. You must tell the driving licence office that you have diabetes.

There are some jobs from which you would be banned eg, airline pilot, driving a passenger bus. It should not stop you getting work.

**Further information**

We have a range of information sheets produced in five main Asian languages and Cantonese available from the Diabetes UK Careline including *Healthy lifestyle, fasting and diabetes, How Diabetes UK can help you, Diabetic complications* and *Hypoglycaemia*. To order information sheets or would like further information on any aspect of diabetes please telephone

**Telephone** 0845 120 2960 (charged at local rate) (translation service is available)

Open Monday to Friday 9am to 5pm.
Diabetes cannot be cured, but with treatment, it can be managed successfully.
The aim of treatment is to keep blood glucose levels between 4-7 mmol/l before meals and up to 10 mmol/l, two hours after a meal.

**Blood glucose levels**
When starchy and sugary food is eaten, the body changes it to glucose. This is needed by the body for energy. In diabetes, the body cannot use the glucose for energy because

- the body is not making insulin
- the insulin made by the body is not enough for the persons needs, or
- the insulin is not able to work properly. This means the glucose rises in the blood.

The person cannot use their glucose for energy, which makes them feel tired and they lose weight, because they use fat stores for energy. The body tries to make the blood glucose level lower by passing the extra glucose out in the urine. This makes the person thirsty, so they drink more and pass urine often.

**Type 1 diabetes**
People with this type of diabetes do not produce any insulin so they have it by injection. It cannot be taken as a tablet. The doctor or nurse will decide the amount of insulin, and the number of injections needed by each person, as this will be different for each one. Some people may have their insulin by a pump.

The injections have to be given in different parts of the body. It is given by a syringe or by a pen. The different ways of giving insulin and how to use the syringe or pen, will be explained by a nurse.

The amount of insulin needed will depend on the blood glucose tests. You will have to take these regularly. A nurse can explain how to use the blood glucose monitor and will suggest how often the tests must be done.

For advice on diet and food, please refer to the *Healthy lifestyle, fasting and diabetes* information sheet. If you do not have this sheet please call

Diabetes UK Careline on 0845 120 2960 (charged at local rate) (translation service available) for a copy.
Type 2 diabetes

People with this type of diabetes, may make insulin, but their body cannot use it properly or, they may not make enough for the need of their body. The doctor may suggest this is treated with healthy eating diet and increasing the amount of physical activity a person does. If this is not successful in keeping the blood glucose level within suitable limits, then the doctor can prescribe tablet(s), which will help improve the glucose level.

Another important part of treating diabetes is physical activity.

Physical activity
There are three main reasons to keep physically active,

1. To help keep your weight down by using, (burning) up fat.
2. Blood glucose levels are better controlled which reduces the risk of complications, which are related to poor blood glucose control. Staying active also helps to keep your bones healthy.
3. Activity also helps you to feel more lively so helping to prevent depression.

How much activity should you do?
The advice on physical activity is that you should do 30 minutes of moderate activity a day. This should make you feel slightly breathless and warm. Walking is a good way to do this, but it is important to remember even doing housework or gardening can be included in the 30 minutes. Another way of increasing your activity is to get off the bus a stop or two earlier and walk to the shop.

If you are not physically able to do these activities, then ask your doctor or nurse about armchair exercises, which will help you to build up your strength.

If you want to try a more energetic activity, ask advice from your doctor or nurse before starting this.

It is very important you check with your doctor or nurse if you,

- are taking medicine for diabetes or heart disease
- have complications of diabetes such as eye problems
- need advice about the right activity for you
- cannot move around very well due to stiff joints or something similar
- intend to do extra activity regularly as your medicine may need to be changed.

Further information
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Healthy lifestyle, fasting and diabetes

Fasting for religious reasons
People with diabetes may not be expected to fast, but may wish to do so because of their beliefs. It is important to remember certain points.

- If your diabetes is treated by diet only, then fasting should not cause any problems.
- If you take sulphonylurea tablets (which make your blood glucose lower), or insulin, you must be aware of the danger of hypos (low blood glucose levels). Talk to your doctor or nurse about when to take your medicine, and how much to take.
- If you take metformin tablets, these should normally be taken at the end of the fast, eg in the evening. Talk about this with your doctor or nurse.
- At the end of the fast, you may want to eat a lot of starchy food such as rice, bread and potato, and have more sugary drinks. Remember this will make your blood glucose rise so you may need to change your medicine. Talk about this with your doctor or nurse before you start the fast.

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Diet and diabetes
The information on this sheet is to help you understand about the food you eat and how it might have an effect on your blood glucose levels. Your diet can still include a lot of the foods you have always enjoyed, but there are certain guidelines you must follow to have good blood glucose control.

Six steps to healthy eating
There is no need to buy special diabetic food as this is expensive and is often high in fat.

• Eat regular meals based on starchy food such as bread, pasta, chapatis, potatoes, rice, yams and cereals. This will help you control your blood glucose levels. Choose high fibre varieties of these foods like wholemeal bread, wholewheat cereals, lentils and mung beans.
• Try to cut down on the fat you eat, especially animal fats (saturated), as this type of fat is linked to heart disease. Eating less fat and fatty food, such as samosas, pies and sweet pastries, will also help you lose weight. Choose low fat dairy foods like skimmed milk and low fat yoghurt. Grill, steam or oven bake food instead of frying it. Avoid using ghee, try olive or rapeseed oil instead.
• Eat more fruit and vegetables — try to have at least five portions a day as this will give you vitamins and fibre as well as helping to balance your diet.
• Cut down on sugar and sugary foods. This does not mean you need to eat a sugar-free diet. Use diet, low sugar or sugar free squashes and fizzy drinks. Pure fruit juices contain vitamins, but also raise the blood glucose level, so avoid drinking them in large amounts. Other sugary drinks make your blood glucose level go up quickly.
• Use less salt, because lots of salt in the diet can raise your blood pressure. Food can be flavoured with herbs and spices instead.

If you drink alcohol, you should keep to the guidelines of two units a day for a woman and three units for a man. A unit is equal to a glass of wine, half a pint of beer or lager or a single measure of spirits. Always eat some starchy food before drinking alcohol to help prevent hypoglycaemia (low blood glucose levels).

Keeping your blood glucose levels under good control, can greatly reduce the risk of complications related to diabetes. It is important that you attend your diabetes clinic regularly to be monitored and any sign of complications can be dealt with as soon as possible.

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