

DIABETES AND THE LINKS WITH HEART DISEASE AND STROKE

This factsheet describes the main symptoms of diabetes, how it is treated, and the link with heart disease and stroke. It also provides information on how you can make changes to your lifestyle to help reduce your risk of heart disease or stroke if you have diabetes.

Having diabetes increases your risk of developing heart disease or stroke.

By controlling your diabetes, you can reduce this risk.

Maintaining good control of your blood pressure and cholesterol levels also reduces your risk.

What is diabetes?

Diabetes is a condition that is caused by too much sugar, known as glucose, in your blood. The amount of sugar in your blood is controlled by a hormone called insulin, which is produced in your body by your pancreas. When food is digested and nutrients enter your bloodstream, insulin allows glucose to enter the body's cells where it is broken down to produce energy. If you have diabetes, your body is unable to break down glucose into energy and so it builds up in your blood. This happens when there is either not enough insulin to move the glucose into the cells or the insulin produced is not working properly.

There are two types of diabetes:

- **Type 1 diabetes** – this is caused by the body being unable to make its own insulin. This type usually affects younger people but can happen at any age.
- **Type 2 diabetes** – this can develop when your body can't produce enough insulin or your insulin doesn't work properly. Type 2 diabetes is much more common than Type 1 and tends to develop gradually alongside weight gain or advancing age, although this is now being seen more often in younger people who are overweight. Poor diet, excess weight around the middle, limited physical activity or having a family history of diabetes can increase the risk of developing Type 2 diabetes.

There are currently over 276,000 people in Scotland who have been diagnosed with diabetes (1 in 20 people). Up to 45,000 more people are estimated to have Type 2 diabetes but do not know it. Some ethnic groups have a much higher rate of diabetes, particularly people of African Caribbean and South Asian origin.

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FACTSHEET

F17

NOVEMBER 2015

What are the symptoms of diabetes?

Some of the main signs and symptoms of diabetes include:

- Feeling very thirsty
- Passing more urine than normal, particularly at night
- Feeling very tired
- Unexplained weight loss
- Blurred vision
- Getting frequent infections such as regular episodes of thrush



Type 1 diabetes can develop very quickly over weeks or even days. Type 2 diabetes usually develops gradually over many years. Many people don't realise they have Type 2 diabetes because the symptoms develop very slowly.

How is diabetes diagnosed?

If you think you are experiencing the symptoms of diabetes, visit your GP as soon as possible. They will discuss your symptoms and may request blood and urine tests. You may also be given an oral glucose tolerance test (OGTT) which will show if your body is having problems processing glucose.

If you are diagnosed with diabetes, you will usually be treated by your GP and the practice nurse. You should be offered structured education to give you the information and skills you need to manage your diabetes. If necessary, you may be referred to a specialist diabetes nurse, dietitian or consultant.

You might also see a podiatrist or chiropodist to check for problems with your feet, and you will need to have regular photos or scans of the back of your eye to check for damage to your eyes, as well as having an annual eye test at your optician's.

How is diabetes treated?

Diabetes cannot be cured but there are treatments that help to keep your blood glucose levels as normal as possible. Treatments might include:

- **Diet and exercise**

For some people, Type 2 diabetes can be controlled by diet only and most people with Type 2 diabetes will be given a trial of diet before starting any medication. A healthy diabetes diet involves eating regular meals, having high fibre foods, plenty of fruit and vegetables and a low fat, low sugar, low salt regime. This, alongside taking regular exercise, can delay the need to take medication.

- **Medication**

If your blood sugar level is too high, you may not be able to control it solely through diet and exercise so you may need medication to lower blood glucose levels. There are many different types of medication available, including tablets and injections. Your GP will recommend which will be best for you.

- **Insulin**

Some people will need to have insulin injections every day to manage their blood sugar levels. There are different insulin treatments available. Some are injected once a day while others need to be injected several times a day before meals. Your GP will discuss with you which injection treatment will be best for you.

- **Preventative treatment**

As well as treatment to control your diabetes, you may also need to take a cholesterol-lowering medicine such as a statin to help protect your heart and reduce your risk of stroke. It may also be recommended that you take low-dose aspirin (75mg daily) if you already have heart disease or have had a stroke.

How is diabetes linked to heart disease and stroke?

- People with diabetes have a greater risk of developing heart disease or having a stroke than people who don't have diabetes.
- Uncontrolled blood glucose levels can cause damage to the blood vessels. Fatty deposits build up, causing narrowing of the arteries, which increases the risk of heart disease and stroke.
- People who have Type 2 diabetes often have low HDL (high-density lipoprotein) cholesterol levels and raised triglyceride (a type of fat) levels in their blood, both of which are risk factors for heart disease and stroke.
- People with Type 2 diabetes are also more likely to have high blood pressure, which is another risk factor for heart disease and stroke.

The good news is that there are things you can do to control your diabetes, reduce your risks and stay healthy.

How can I help reduce my cardiovascular risk?

- Make sure your diabetes is well controlled. Good control of your blood glucose can reduce your risk of a heart attack or stroke by up to 50%. Aim to keep to the blood glucose targets agreed with your doctor.
- Have regular blood pressure checks. For people with diabetes, target blood pressure is 130/80mmHg. Good blood pressure control can reduce your risk of cardiovascular disease by a third to a half.

- If you have been prescribed a cholesterol-lowering medicine (a statin), take this as prescribed to maintain a healthy cholesterol level. Improved cholesterol control can reduce cardiovascular complications by one fifth.
- If you smoke, stop smoking. The CHSS factsheet *Stopping smoking* provides further information on the risks of smoking and advice on stopping.
- Address lifestyle factors such as:
 - Eating a healthy balanced diet. Your diet should be low in salt, fat and sugar and include plenty of fruit and vegetables, high fibre foods and oily fish once or twice a week. See the CHSS factsheet *Healthy eating* for more information.
 - Keeping as physically active as possible. You can find more information on keeping active in the CHSS *Just move* factsheet.
 - If you drink alcohol, aim to keep within the recommended limits.
 - Try to maintain a healthy weight. See the CHSS factsheet *Losing weight* for more information.

Other booklets you might find useful:

For further information see the CHSS booklets *Reducing the risk of heart disease* and *Reducing the risk of stroke*.

Useful contact details:

Diabetes Scotland

The Venlaw, 349 Bath Street, Glasgow G2 4AA

Tel: 0141 245 6380

Careline Scotland: 0345 123 2399

Email: scotland@diabetes.org.uk

Website: www.diabetes.org.uk

Diabetes UK provides information and support to all people affected by and at risk of diabetes.

NHS Scotland Diabetes Websites

www.diabetesinscotland.org.uk • www.diabeteseducationscotland.org.uk

Websites that provide information for people with diabetes and for professionals working with people with diabetes in Scotland.

**If you would like to speak to one of our nurses in confidence,
please call the Chest Heart & Stroke Scotland Advice Line Nurses**

0808 801 0899

Call FREE from landlines and mobiles