Diabetes and your heart

BEATING HEART DISEASE TOGETHER
About the British Heart Foundation

The British Heart Foundation (BHF) is the nation’s heart charity, dedicated to saving lives through pioneering research, patient care, campaigning for change, and providing vital information.

We rely on donations of time and money to continue our life-saving work. If you would like to make a donation, please:

• call our donation hotline on 0300 330 3322
• visit bhf.org.uk/give or
• post it to us at the address on the back cover.

For other ways to support our work, and for up-to-date information on heart disease, the BHF and our services, see bhf.org.uk

Together we can beat heart disease.
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If you have diabetes, you have a much greater risk of developing coronary heart disease than people who don’t have diabetes. So it’s vital that you protect your heart as much as possible. If you have both diabetes and coronary heart disease, it’s very important to keep your diabetes under control, as this will help to keep your heart healthy.

This booklet is for people who have diabetes, and for their families and friends. It may also be useful if you don’t have diabetes but you have been told you may develop it in the future.

The booklet tells you:

• what coronary heart disease is
• what diabetes is, and how it is diagnosed and treated
• why people with diabetes are more likely to get coronary heart disease
• what you can do to reduce your risk of developing coronary heart disease
• what medicines and treatments you might be given to help prevent or treat coronary heart disease, and
• what routine checks you should have.
This booklet does not replace the advice that the health professionals looking after you may give you, but it should help you to understand what they tell you.

If you are of South Asian origin

People of South Asian origin living in the UK are more likely to have diabetes than the general population. If you are of South Asian origin, you may find it helpful to read our booklet *Diabetes and how it affects your heart*, which is available in English, Bengali, Gujarati, Hindi, Punjabi and Urdu.
What is coronary heart disease?

How the heart works

Your heart is a muscle that pumps blood around your body, delivering oxygen to all your organs through a system of arteries.

Your heart muscle gets its own supply of blood from the coronary arteries. These are blood vessels on the surface of your heart.

The heart
Coronary heart disease

Over time, the walls of the arteries can slowly become furred up with a fatty material called atheroma. Coronary heart disease is when the coronary arteries become so narrow that the blood supply to the heart muscle is restricted. This can cause angina (pain or discomfort in the chest). Or, if a coronary artery becomes completely blocked, it can cause a heart attack.

How atheroma builds up

artery wall

blood within the artery

atheroma (fatty deposits) building up

Atheroma narrows the artery, restricting the flow of blood to the heart.
Who is at risk of coronary heart disease?

Coronary heart disease is the UK’s single biggest killer. One in six men and one in nine women die from this disease.

People who have diabetes have a much higher risk of developing coronary heart disease than people who don’t have diabetes. And they are three times more likely to have a heart attack. Among those who have diabetes, women have a greater risk of developing coronary heart disease than men.

People of African-Caribbean or South Asian origin living in the UK have a greater risk of developing diabetes than other people in the UK. And having diabetes increases their risk of developing coronary heart disease.

If you have diabetes, there is a lot you can do to reduce the risk of developing coronary heart disease, or to reduce its effects.
What increases the risk of coronary heart disease?

Having certain ‘risk factors’ increases the risk of coronary heart disease. (A ‘risk factor’ is something that increases your likelihood of getting a disease.) The main risk factors for coronary heart disease are:

- Physical inactivity (lack of exercise).
- Smoking.
- High blood cholesterol.
- High blood pressure.
- Being overweight or obese.
- Having diabetes.
- Having a family history of coronary heart disease. This means if your father, mother, brother or sister has (or had) coronary heart disease at a young age – under 65 for women or under 55 for men.
- Ethnic background. People from South Asian backgrounds are at a higher risk than other people in the UK.

On page 22, we explain more about what you can do to reduce many of these risk factors.
Diagnosing angina and heart attacks in people who have diabetes

If you have diabetes, your diabetes may have caused nerve damage to your heart and blood vessels (see page 16). As a result of this, you may not always feel the pain or discomfort caused by angina or a heart attack in the same way as someone who does not have diabetes. Also, sometimes it is more difficult for doctors to diagnose angina or a heart attack in people who have diabetes.

If you get chest pain or think you are having a heart attack, call 999 immediately for an ambulance.

For more information on angina and heart attacks, and their symptoms, see our booklets Angina and Heart attack.
What is diabetes?

Diabetes is a condition in which the level of glucose (sugar) in the blood is too high.

Your body produces glucose when you digest food. The blood carries glucose to all the cells of the body, where it is used as fuel. As a result, the amount of glucose left in the blood goes down. A hormone called insulin controls the level of glucose in your blood by helping the glucose to leave the blood and enter the cells. Insulin is made in the pancreas – an organ that lies behind the stomach.

Diabetes develops when your body doesn’t produce enough insulin, or if your body is unable to properly use the insulin that is being produced. The body’s cells become starved of glucose because they are not getting it from the blood. At the same time, because the glucose cannot move into the cells, the glucose level in your blood increases.

Around 3 million people in the UK have diabetes. And there are around a million more who have diabetes but don’t know it, because it hasn’t been diagnosed. Worryingly, the number of people in the UK with diabetes is continuing to increase.
Some ethnic groups in the UK have a higher rate of diabetes than the rest of the population, particularly South Asian and black African-Caribbean people.

Also, diabetes is more common in people living in the more deprived parts of the UK than in those living in more wealthy areas.

**Types of diabetes**

There are two types of diabetes.

- People with **type 1 diabetes** do not produce any insulin.
- People with **type 2 diabetes** do not produce enough insulin, or the body is unable to properly use the insulin that is being produced.

**Type 1 diabetes**

Type 1 diabetes is less common than type 2 diabetes and it usually develops in children and young adults.

The cause of type 1 diabetes is still not fully understood. It may happen because the body’s own immune system (the cells that fight infection) attack and destroy the insulin-producing cells, preventing them from making insulin. This leads to increased glucose levels in the blood.
Type 2 diabetes

Most people with diabetes – about nine out of every ten – have type 2 diabetes. This type of diabetes tends to develop gradually after the age of 40, although in black African-Caribbean people and people of South Asian origin it tends to develop earlier – in some cases in people as young as in their 20’s.

If the body has too much fat, this can affect the production of glucose or how it is used. The body can become less sensitive to insulin, so it continues to make glucose when it’s not needed and the glucose level in your blood starts to rise.

Being overweight, carrying too much weight around your middle and being inactive are all closely linked to type 2 diabetes. In the UK, many people are overweight or don’t do enough activity. This is probably one of the reasons why an increasing number of people – including more younger people – are now developing type 2 diabetes.

Having a parent or brother or sister who has, or had, diabetes can greatly increase your risk of developing it.