

# Cardiovascular disease - information prescription

## Introduction

**Cardiovascular disease (CVD) is a general term that describes a disease of the heart or blood vessels.**

Blood flow to the heart, brain or body can be reduced as the result of a blood clot (thrombosis), or by a build-up of fatty deposits inside an artery that cause the artery to harden and narrow (atherosclerosis).

## Types of CVD

There are four main types of CVD. They are:

- coronary heart disease
- stroke
- peripheral arterial disease
- aortic disease

### Coronary heart disease

Coronary heart disease (CHD) occurs when the flow of oxygen-rich blood to your heart is blocked or reduced by a build-up of fatty material (atheroma) in the coronary arteries.

The coronary arteries are the two major blood vessels that supply your heart with blood. As they narrow because of a build-up of atheroma, the blood supply to your heart will be restricted. This can cause angina (chest pain). If a coronary artery becomes completely blocked, it can cause a heart attack.

Read more about coronary heart disease.

### Stroke

A stroke is a serious medical condition that occurs when the blood supply to part of the brain is cut off.

Like all organs, the brain needs a constant supply of oxygen and nutrients to function properly. This is provided

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by the blood, so if your blood flow is restricted or stopped, brain cells will begin to die. This can cause brain damage and possibly death.

A stroke is therefore a medical emergency and prompt treatment is essential. The sooner a person who has had a stroke receives treatment, the less damage is likely to occur.

The main symptoms of stroke can be remembered with the word FAST, which stands for:

- **Face** – the face may have drooped on one side, the person may be unable to smile, or their mouth or eye may have drooped
- **Arms** – the person may be unable to lift their arm and keep it raised because of weakness or numbness
- **Speech** – the person's speech may be slurred or garbled, or they may not be able to talk at all
- **Time** – it's time to dial 999 immediately if you see any of these signs or symptoms

Read more about stroke and recognising the signs of stroke.

### **Peripheral arterial disease**

Peripheral arterial disease, also known as peripheral vascular disease, occurs when there's a blockage in the arteries to your limbs (usually your legs).

The most common symptom of peripheral arterial disease is pain in your legs when walking. This is usually in one or both of your thighs, hips or calves.

The pain can feel like cramp, a dull pain or a sensation of heaviness in your leg muscles. It usually comes and goes, and gets worse during exercise that uses your legs, such as walking or climbing stairs.

Read more about peripheral arterial disease.

### **Aortic disease**

The aorta is the largest blood vessel in the body. It carries blood from your heart to the rest of your body.

The most common type of aortic disease is an aortic aneurysm, where the wall of the aorta becomes weakened and bulges outwards. You'll usually experience pain in your chest, back or abdomen (tummy).

### **Risk factors for CVD**

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There are a number of risk factors for CVD, including:

- high blood pressure (hypertension)
- smoking
- high blood cholesterol
- diabetes
- lack of exercise
- being overweight or obese
- a family history of heart disease
- ethnic background

The amount of alcohol you drink and how you deal with stress are also thought to be linked to the risk of developing CVD.

Read more about these risk factors for CVD.

## Preventing CVD

Most deaths caused by cardiovascular disease are premature and could easily be prevented by making lifestyle changes, such as eating healthily, exercising regularly and stopping smoking.

Addressing one risk factor, such as giving up smoking, will bring important health benefits, but to significantly reduce your risk of developing CVD you need to look at your lifestyle as a whole.

In particular, you need to consider:

- your diet
- your weight
- how much alcohol you drink
- how much exercise you do
- whether you need to stop smoking

Read more about preventing cardiovascular disease in adulthood.

## Children

Evidence shows that eating and drinking habits established during childhood can continue for many years into adulthood.

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Bad eating habits during childhood may not pose an immediate health risk, but they could lead to serious health problems in adulthood.

Four important things to consider are the amount of:

- fat in your child's diet
- salt in your child's diet
- sugar in your child's diet
- exercise your child does

Read more about preventing cardiovascular disease during childhood.

## Public health problem

Cardiovascular disease (CVD) is a big health problem. It's the leading cause of death both in the UK and worldwide.

In 2011, there were almost 160,000 deaths as a result of CVD. Around 74,000 of these deaths were caused by coronary heart disease, which is the UK's biggest killer.

Most deaths from heart disease are caused by heart attacks. In the UK, there are about 103,000 heart attacks each year.

There are also around 152,000 strokes in the UK each year, resulting in more than 41,000 deaths.

## Risk factors for cardiovascular disease

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Risk factors for CVD include:

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- lack of exercise

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- being overweight or obese
- family history of heart disease
- ethnic background

Many of the above risk factors are linked. This means that if you have one risk factor, you're more likely to have others.

## High blood pressure

High blood pressure (hypertension) is by far the most important risk factor for CVD.

If your blood pressure is too high, it can damage your artery walls and increase your risk of developing a blood clot.

Blood pressure is measured in millimetres of mercury (mmHg) and is recorded as two figures:

- **systolic pressure** – the pressure of the blood when your heart beats to pump blood out
- **diastolic pressure** – the pressure of the blood when your heart rests in between beats, which reflects how strongly your arteries are resisting blood flow

A normal blood pressure reading is below 130/80mmHg.

Read more about high blood pressure.

## Smoking

Smoking and other tobacco use are also significant risk factors for CVD.

The toxins (poisons) in tobacco can damage and narrow your coronary arteries, making you more vulnerable to coronary heart disease.

If you smoke, you should try to give up. Your GP will be able to give you help and advice.

Read more about stopping smoking.

## High blood cholesterol

Cholesterol is a fatty substance carried in the blood by proteins. When the two combine, they're called

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lipoproteins. There are harmful and protective lipoproteins known as LDL and HDL, or "bad" and "good" cholesterol.

The amount of cholesterol in the blood (both LDL and HDL) can be measured with a blood test. The recommended cholesterol level varies depending on your overall risk of developing arterial disease.

If you have high blood cholesterol, it can cause your arteries to narrow and increase your risk of developing a blood clot.

Read more about high cholesterol.

## **Diabetes mellitus**

Diabetes is a lifelong condition that causes your blood sugar level to become too high. The two main types of diabetes are type 1 diabetes and type 2 diabetes.

The high blood glucose (sugar) levels associated with diabetes can damage the artery walls, making them more likely to develop fatty deposits (atheroma).

Many people with type 2 diabetes are also overweight or obese.

## **Lack of exercise**

If you don't exercise regularly, it's more likely that you'll have high blood pressure, higher cholesterol levels, higher stress levels and be overweight. All of these are risk factors for CVD.

Exercising regularly will help keep your heart healthy. When combined with a healthy diet, exercise can also help you maintain a healthy weight.

## **Being overweight or obese**

Being overweight or obese increases your risk of developing diabetes and high blood pressure.

There are several ways a person's health can be classified in relation to their weight. The most widely used method is body mass index (BMI).

BMI is a measure of whether you're a healthy weight for your height. You can use the BMI healthy weight calculator to work out your score.

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For most adults, a BMI score of:

- less than 18.5 is underweight
- 18.5 to 24.9 is a healthy weight
- 25 to 29.9 is overweight
- 30 to 39.9 is obese
- 40 or above is severely obese

Waist circumference can also be used as an indicator of your risk of developing health problems.

Men with a waist circumference of 94cm or more (about 37 inches) and women with a waist circumference of 80cm or more (about 31.5 inches) are more likely to develop obesity-related health problems.

Read more about obesity.

## Family history of heart disease

If you have a family history of CVD, your risk of also developing the condition is increased.

You're considered to have a family history of CVD if:

- your father or brother was less than 55 years of age when diagnosed with CVD, or
- your mother or sister was less than 65 years of age when diagnosed with CVD

Tell your doctor or nurse if you have a family history of CVD. They may want to check your blood pressure and cholesterol.

If you're over 40 years of age, you can ask your GP for a heart health check to find out your risk of getting CVD.

Read more about the NHS Health Check.

## Ethnic background

Ethnicity is also a significant risk factor for developing CVD.

In the UK, coronary heart disease rates are the highest in South Asian communities.

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If you're African Caribbean, your risk of having a stroke or developing high blood pressure is increased.

Compared with the rest of the population, type 2 diabetes is also more common in African Caribbean and South Asian people.

## **Other risk factors**

Other factors that affect your risk of developing CVD include:

- **sex** – men are more likely to develop CVD at an earlier age than women
- **age** – your risk of developing CVD increases with age
- **diet** – a high-fat diet can cause fatty deposits to build up inside your arteries, leading to high blood cholesterol levels and high blood pressure
- **alcohol** – excessive alcohol consumption can also increase your cholesterol and blood pressure
- **stress** – not taking measures to reduce stress is thought to increase your risk of developing CVD

The more risk factors you have, the greater your chances of developing CVD.

It is not possible to change all your risk factors, such as your family history and ethnicity, but it's possible to reduce many risk factors and take steps to protect your heart.

Read more about preventing cardiovascular disease in adults and preventing cardiovascular disease in children.

## **Preventing cardiovascular disease in adults**

**Most risk factors for cardiovascular disease (CVD) are linked, which means that if you have one risk factor, you'll probably have others.**

For example, people who drink heavily usually have poor diets and are more likely to smoke. Obese people are also more likely to have other health problems, such as diabetes, high cholesterol and high blood pressure (hypertension).

Addressing one risk factor, such as giving up smoking, will bring important health benefits, but to significantly reduce your risk of developing CVD, you need to look at your lifestyle as a whole.

In particular, you need to consider:

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- your diet
- your weight
- how much alcohol you drink
- how much exercise and physical activity you do
- whether you need to stop smoking

Each of these is discussed below.

## **Alcohol**

If you drink alcohol, you should limit your weekly intake to:

- less than 21 units for men
- less than 14 units for women

A unit of alcohol is roughly equivalent to half a pint of normal strength lager or a single measure (25ml) of spirits. A small glass of wine (125ml) is about 1.5 units.

Read more about alcohol units.

Your GP will be able to give you help and advice if you're finding it difficult to moderate your drinking.

## **Diet**

A low-fat, high-fibre diet (including whole grains and at least five portions of fruit and vegetables a day) is recommended for a healthy heart.

Your diet should include no more than 6g (0.2 oz or one teaspoon) of salt a day. Too much salt will increase your blood pressure. Limit the amount of salty foods you eat, such as ready-made meals and canned or tinned food.

Avoid eating foods that are high in saturated fat as they'll increase your cholesterol level. Foods with a high fat content include:

- meat pies
- sausages and fatty cuts of meat
- butter and ghee (a type of butter often used in Indian cooking)
- lard
- cream

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- hard cheese
- cakes and biscuits
- foods that contain coconut or palm oil

Eating some foods high in unsaturated fat can help decrease your cholesterol level. These foods include:

- oily fish
- avocados
- nuts and seeds
- rapeseed oil
- olive oil

Read more about healthy eating.

## **Exercise and weight management**

If you're overweight or obese, you can lose weight using a combination of regular exercise and a calorie-controlled diet. The recommendation for adults is 30 minutes of moderate-intensity aerobic exercise every day at least five days a week.

Read more about the physical activity guidelines for adults.

Cycling or brisk walking are both examples of moderate-intensity exercise. You could also include swimming and running as part of your exercise programme.

Visit your GP for a health check if you haven't exercised before or if you're returning to exercise after a break.

If you find it difficult to do 150 minutes of moderate-intensity exercise each week, start at a level you feel comfortable with. For example, do 5 to 10 minutes of light exercise a day and gradually increase the duration and intensity of your activity as your fitness level improves.

Read more about the benefits of exercise and losing weight.

## **Smoking**

If you smoke, it's strongly recommended you give up as soon as possible. The NHS Smokefree website provides valuable information, support and advice.

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Your GP will also be able to provide you with advice and support, and they may prescribe medication to help you quit.

Read more about stopping smoking.

## Medication

If you have a particularly high risk of developing CVD, your GP may prescribe medication to help reduce your risk.

Medication that's sometimes used to help prevent CVD includes:

- **blood pressure tablets** – such as angiotensin-converting enzyme (ACE) inhibitors, which are used to treat high blood pressure
- **statins** – used to lower blood cholesterol levels
- **low-dose aspirin** – used to prevent blood clots

## Preventing cardiovascular disease in children

**Research has clearly shown that the eating and drinking habits you get into as a child can continue into adulthood.**

So, while bad eating habits during childhood may not pose an immediate health risk, they could lead to serious health problems later in life.

Four important things to consider are the amount of:

- fat in your child's diet
- salt in your child's diet
- sugar in your child's diet
- exercise your child does

### Salt

Eating high levels of salt in childhood has been linked to an increased risk of high blood pressure, heart disease and stroke in adulthood.

The daily recommended maximum amount of salt children should eat depends on their age:

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- 1 to 3 years – 2g of salt a day (0.8g sodium)
- 4 to 6 years – 3g of salt a day (1.2g sodium)
- 7 to 10 years – 5g of salt a day (2g sodium)
- 11 years and over – 6g of salt a day (2.4g sodium)

It's easy to underestimate how much salt is contained in food. For example, a meal consisting of small fries, a hamburger and a coke contains 1.8g of salt, which is more than half the recommended daily limit for a five-year-old.

Pre-packaged and ready-to-eat foods, particularly those not specifically designed for children, often contain high levels of salt. For example, a 200g tin of tomato soup contains 1.4g of salt.

You should always check the label of any foods you give your children so you can keep an eye on their daily salt consumption.

Read more about salt: the facts.

## **Fats and sugar**

You should also limit the amount of saturated fat and sugar your child eats.

Too much saturated fat and sugar in your child's diet can lead to high cholesterol, diabetes and high blood pressure in later life.

They can also increase your child's risk of becoming overweight or obese. A diet high in sugar can also cause tooth decay.

Foods that are high in saturated fats and sugar include:

- chocolate
- sweets
- fast food, such as fries, burgers and chicken nuggets
- fizzy drinks
- ice cream
- biscuits
- crisps
- processed foods, such as microwave meals, hot dogs and breakfast cereals that contain added sugar

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Read more about fat: the facts and sugars.

## **Exercise**

Many children are naturally active and full of energy. But children who spend a lot of time doing activities that don't involve much physical activity, such as watching television and playing computer games, don't get the exercise they need.

Children under five years who can walk on their own should be physically active every day for at least 180 minutes (3 hours). This should be spread throughout the day and can be indoors or outside.

This can include light activity such as standing up, moving around, rolling and playing, as well as more energetic activity such as skipping, hopping, running and jumping.

For children and young people (aged 5 to 18 years), it's recommended they do at least 60 minutes (1 hour) of physical activity every day. This should include a mix of moderate-intensity activities, such as cycling, and vigorous-intensity activities, such as running.

Read more about the physical activity guidelines for children under five years of age and the physical activity guidelines for children and young people.

This amount of exercise is enough to strengthen bones and muscles, and can help prevent children putting on weight.

There are many different ways for children to get the exercise they need. Simply walking or cycling to school is a good way to start. Team sports can also be great fun, and can improve co-ordination, balance and team skills.

Most community sports centres run team activities for children, such as football, basketball and volleyball. Ask your local sports centre for more information.

If your children don't like team sports, there are plenty of other fun activities for them to try, such as hiking, swimming, dance and kickboxing.

## **Additional information**

### **Useful organisations**

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### **British Heart Foundation**

Greater London House, 180 Hampstead Road, London, NW1 7AW  
Tel : 0300 330 3311

<http://www.bhf.org.uk/>

### **Arrhythmia Alliance**

PO Box 3697, Stratford-Upon-Avon, Warwickshire, CV37 8YL  
Tel : 01789 450 787

<http://www.heartrhythmcharity.org.uk/>

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