

Preventing Heart Disease and Stroke

Lifestyle factors which can reduce the risk of developing heart disease and stroke include: not smoking, choosing healthy foods, doing regular exercise, keeping your weight down, and drinking alcohol in moderation. In some people, treating high blood pressure and/or a high cholesterol may also be advised.

What are heart disease and stroke?

The term '**heart disease**', or 'coronary heart disease', is used for conditions caused by narrowing of one or more of the coronary (heart) arteries by atheroma. The problems this can cause include: angina, heart attack, and heart failure. (It is confusing as there are many other heart conditions such as heart valve problems, congenital heart problems, etc. But, these are not usually included when we talk about 'heart disease'.) Heart disease is common in the UK in people over 50.

A **stroke** means a part of the brain is suddenly damaged. The common cause of a stroke is due to an artery in the brain which becomes blocked by a blood clot (thrombus). The blood clot usually forms over some atheroma.

So, if you can prevent a build up of atheroma in the blood vessels, you are less likely to develop heart disease or have a stroke. If you already have heart disease (such as angina), you may prevent, or delay, it from getting worse if you prevent further build-up of atheroma

What is atheroma?

Patches of atheroma are like small fatty lumps which develop within the inside lining of arteries (blood vessels). A patch of atheroma makes an artery narrower, which can reduce the blood flow through the artery.

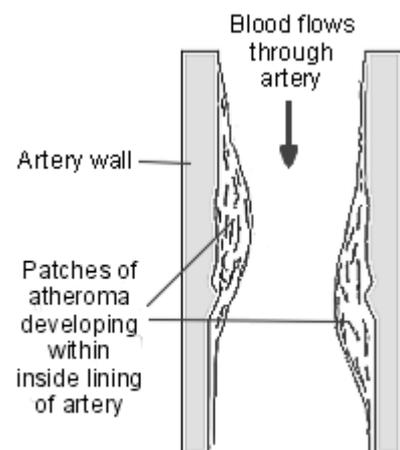
Over time, patches of atheroma can become larger and thicker. Sometimes a blood clot (thrombosis) forms over a patch of atheroma, and completely blocks the blood flow. Depending on the artery affected, this can cause a heart attack, a stroke, or other serious problems.

Risk factors

Everybody has some risk of developing heart disease or stroke. However, certain 'risk factors' increase the risk.

(These mainly increase the risk of atheroma building up within the artery wall.) Risk factors include:

- hypertension (high blood pressure).
- diabetes.
- smoking.
- lack of exercise.
- obesity.
- high cholesterol level.
- an unhealthy diet.
- excess alcohol.
- a strong family history. This means if you have a father or brother who developed heart disease or a stroke before they were 55, or in a mother or sister before they were 65.
- ethnic group. (For example, south Asians in the UK have an increased risk.)
- being male.



Section of an artery

Some risk factors are more 'risky' than others. For example, smoking causes a greater risk to health than obesity. Also, risk factors interact. So, if you have two or more risk factors, your health risk is much more increased than if you just have one. For example, a male smoker who takes no exercise and has a strong family history of heart disease has quite a high risk of developing heart disease before the age of 60.

Some risk factors are 'fixed' and you cannot change them. For example: a family history, being male, or if you are from certain ethnic groups. However, if you have a fixed risk factor, you may want to make extra effort to reduce preventable risk factors.

Preventable and treatable risk factors

Risk factors which can be altered to reduce your health risk are briefly discussed below. (There are also separate leaflets on each of these which give more detail.)

Smoking

Lifetime smoking roughly doubles your risk of developing heart disease. Your risk of having a stroke, and developing other diseases such as lung cancer, are also increased. (The chemicals in tobacco get into the bloodstream from the lungs to do the damage.) If you smoke and are having difficulty in stopping, then see your practice nurse for help and advice. Medication is an option which can help you to stop smoking.

Stopping smoking is often the single most effective thing that you can do to reduce your health risk. The increased risk falls rapidly immediately after stopping smoking (although it may take a few years before the excess risk reduces completely).

Lack of exercise

On average, the risk of developing heart disease is about a third less in people who exercise compared to those who do no exercise. A stroke is also less likely. To gain health benefits you should do at least 30 minutes of moderate exercise, on most days (at least 5 days per week).

- **30 minutes in a day** is probably the minimum to gain health benefits. However, you do not have to do this all at once. Several short bursts of activity is thought to be equally as good. For example, three 10 minute sessions of activity at different times in a day.
- **Moderate exercise** means that you get warm, mildly out of breath, and mildly sweaty. It does not have to be intense. For example: brisk walking, jogging, swimming, cycling, etc. However, a study published in 2003 suggests that the more vigorous the exercise, the better for health - particularly for preventing heart disease.
- **On most days.** You cannot 'store up' the benefits of exercise. You need to do it regularly.

Obesity and overweight

If you are obese, you can gain health benefits by losing 5-10% of your weight. This is often about 5-10 kg. (10 kg is about one and a half stone.) On average, if you are obese and reduce your weight by 10%, your chance of dying at any given age is reduced by about 20%. This is mainly because you are less likely to develop heart disease, stroke, diabetes, or certain cancers.

Diet

Eating healthily helps to control obesity, and lower your cholesterol level. Both of these help to reduce your health risk. Also, there is some evidence that eating oily fish (herring, sardines, mackerel, salmon, kippers, pilchards, *fresh* tuna, etc) helps to protect against heart disease. It is probably the 'omega-3 fatty acids' in the fish oil that helps to help reduce the build-up of atheroma. Also, fruit and vegetables, as well as being low in fat, also contain 'antioxidants' and vitamins which may help to prevent atheroma building up. Briefly, a healthy diet means:

- AT LEAST five portions of *a variety of* fruit and vegetables per day.
- THE BULK OF MOST MEALS should be starch-based foods (such as cereals, wholegrain bread, potatoes, rice, pasta), plus fruit and vegetables.
- NOT MUCH fatty food such as fatty meats, cheeses, full-cream milk, fried food, butter, etc.

Use low fat, mono-, or poly-unsaturated spreads.

- INCLUDE 2-3 portions of fish per week. At least one of which should be 'oily'.
- If you eat meat it is best to eat lean meat, or poultry such as chicken.
- If you do fry, choose a vegetable oil such as sunflower, rapeseed or olive oil.
- Try not to add salt to food, and limit foods which are salty.

Alcohol

A small amount of alcohol (1-2 units per day) may help to protect you from heart disease. One unit is in about half a pint of normal strength beer, or two thirds of a small glass of wine, or one small pub measure of spirits. However, too much can be harmful. Men should drink no more than 21 units per week (and no more than 4 units in any one day). Women should drink no more than 14 units per week (and no more than 3 units in any one day).

High blood pressure

You should have your blood pressure checked at least every 3-5 years. High blood pressure usually causes no symptoms, so you will not know if it is high unless you have it checked. However, over the years, high blood pressure may do some damage to the arteries and put a strain on your heart. In general, the higher the blood pressure, the greater the health risk. Normal blood pressure is less than 140/90 mmHg. (However, if you have diabetes you should aim to have a level less than 140/80 mmHg.)

Medication may be advised if your blood pressure remains high. In some cases high blood pressure can be lowered by:

- losing some weight if you are overweight.
- regular exercise.
- eating healthily (which includes reducing salt and cutting down on alcohol if you drink a lot).

High cholesterol ('lipid') level

You do not need to have a cholesterol blood test if you are healthy, have no significant family history, and your other risk factors are low. But, a cholesterol blood test is commonly advised:

- if you have other significant risk factors, such as diabetes or high blood pressure. A high blood cholesterol would add to your existing risk.
- if you already have heart disease, peripheral vascular disease, or had a stroke or TIA (transient ischaemic attack).

As a rule, the higher the cholesterol level, the greater the risk to health. But, the risk is greatest if you also have other risk factors such as diabetes, or high blood pressure. As a guide, a blood cholesterol level less than 5 mmol/l is usually the target to aim for.

Calculating your health risk

A 'risk factor calculator' is often used by doctors and nurses to predict the health risk for an individual. A score is calculated which takes into account all your risk factors (such as age, sex, smoking status, blood pressure, etc). If you want to know your 'score', see your practice nurse. Current guidelines advise that if your score gives you a 3 in 10 risk (or more) of developing heart disease within the next 10 years, then treatment is advised. Treatments may include:

- A medicine to lower your cholesterol level.
- A medicine to lower blood pressure if it is high.
- Where relevant, to encourage you even more to tackle 'lifestyle' risk factors such as smoking, lack of exercise, diet, and weight.