

# 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'** 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 US, particularly 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

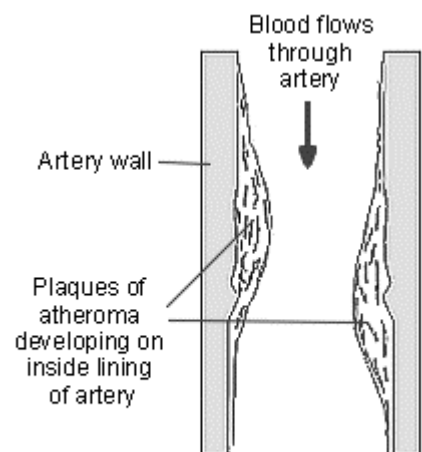
## What is atheroma?

Plaques of atheroma are like fatty patches which develop on the inside lining of arteries (blood vessels). A plaque of atheroma makes an artery narrower, which may reduce the blood flow.

Over time, plaques of atheroma can become larger and thicker. Sometimes a blood clot (thrombosis) forms over a plaque 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 a risk of developing heart disease or stroke.



Section of an artery

However, certain 'risk factors' increase the risk. (These mainly increase the risk of atheroma building up.) Risk factors include:

- A family history of heart disease or a stroke that occurred in a father or brother aged below 55, or in a mother or sister aged below 65.
- Being male
- Ethnic group (for example, British Asians have an increased risk)
- Diabetes
- Smoking
- Lack of exercise
- A poor diet
- Excess alcohol
- Obesity
- Hypertension (high blood pressure)
- High cholesterol level

**Some risk factors are more 'risky' than others.** For example, smoking or high blood pressure 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 had 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. These are: a family history, being male, if you are from certain ethnic groups, and if you have diabetes. 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, and is a significant risk factor for stroke and other diseases. (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 available 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 risk falls rapidly immediately after stopping smoking (although it may take several years before the risk is fully reversed).

### 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 are 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.

- **On most days.** You cannot 'store up' the benefits of exercise. You need to do it regularly.

### **Diet**

Eating a healthy diet helps to control obesity, and lower your cholesterol level. Both of these help to reduce your health risk. In addition, there is some evidence that eating oily fish (such as herring, sardines, mackerel, salmon, kippers, pilchards, 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', vitamins, and other nutrients, which may help to prevent atheroma building up. Briefly, a healthy diet means:

- MORE cereals, wholegrain bread, poultry, rice, grilled food, lean meat, pasta, etc.
- AT LEAST five portions of fruit and vegetables per day.
- LESS fatty foods such as fatty meats, cheeses, full cream milk, fried food, lard, butter, etc.
- Include two portions of fish per week, one of which should be 'oily' (herring etc).
- If you do fry, choose a vegetable oil such as sunflower or rapeseed.
- Use low fat, mono-, or poly-unsaturated spreads.
- Add less salt to food, and avoid foods, which are salty.

This kind of healthy diet is sometimes called a 'Mediterranean style' diet.

### **Alcohol**

A small amount of alcohol is good for the heart (1-2 units per day). But, 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). One unit is about half a pint of beer, or one small glass of wine, or one pub measure of spirits.

### **Obesity and being overweight**

If you are obese, you can gain great 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.

### **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 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 risks.

- Normal blood pressure is below 140/90.
- Mildly high blood pressure is 140/90 or above, but below 160/100.
- Definite high blood pressure is 160/100 or above.

In some cases high blood pressure can be lowered by: losing some weight if you are overweight, regular exercise, eating a healthy diet, reducing salt, and cutting down on alcohol if you drink a lot. Medication is usually advised if your blood pressure is consistently 160/100 or above. If you have mildly raised blood pressure, medication is advised in some cases (see below)

### **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. High blood cholesterol would add to your existing risk

- If you already have heart disease, peripheral vascular disease, or had a stroke or TIA.

As a rule, the higher the cholesterol level, the greater the risk to health. As a guide, a level less than 5 mmol/l is often the target advised to aim for.

## **Calculating your health risk**

Doctors and nurses to predict the health risk for an individual often use a 'risk factor calculator'. 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 30% or more risk of developing heart disease within the next 10 years, then treatment is advised. Treatments may include:

- A medicine to lower your cholesterol level if it is over 5.0 mmol/l
- A medicine to lower blood pressure if it is mildly raised.
- Where relevant, to encourage you even more to tackle 'lifestyle' risk factors such as smoking lack of exercise, diet, and weight.

Note: neither a mildly raised cholesterol, nor mildly raised blood pressure needs medication if your other health risks are low. Medication is usually only advised if your health risk is high.