

Risk factors for coronary heart disease (CHD)

Coronary heart disease is the number 1 killer in the UK and Europe. People with coronary heart disease are at risk of angina and heart attack. Certain risk factors increase the probability of developing coronary heart disease.

These risk factors cannot be changed:

- 1 your age** – risk increases as you get older,
- 2 your gender** – before the age of 60 men are at greater risk than women,
- 3 your family history** – your risk may increase if close blood relatives experienced early heart disease.

But there are other risk factors that you can change:

- Raised or altered levels of blood cholesterol
- Raised triglycerides with low HDL-cholesterol
- High blood pressure
- Diabetes
- Smoking
- Overweight and obesity
- Being inactive
- Excessive alcohol
- Excessive stress

Having more than one risk factor means the overall risk of coronary heart disease is much higher.

Blood Pressure

High blood pressure is harmful to the arteries and increases the risk of heart attack, heart failure and stroke. The condition tends to run in families, but blood pressure is also influenced by lifestyle. To prevent blood pressure from rising, it is important to achieve and maintain a healthy body weight, keep alcohol intake moderate, reduce salt intake, manage and reduce stress and be physically active. If these measures fail, there are drugs that are effective in reducing elevated blood pressure. Excess alcohol intake seems to be an important contributor to high blood pressure in Britain. www.bpassoc.org.uk

Blood cholesterol

Cholesterol is vital for healthy cells. It is so important that the body does not rely on a dietary source, it makes its own. If, however, the body accumulates too much, cholesterol can become deposited in the walls of arteries, which become damaged and may become blocked. If this happens, a heart attack could result. Many people make too much cholesterol when their diet is rich in saturated fats.

High blood cholesterol may also be inherited, as in Familial Hypercholesterolaemia (FH) and Familial Combined Hyperlipidaemia (FCH). In these conditions there are genetic alterations that lead to over-production or accumulation of cholesterol in the blood. To combat this, a rigorous cholesterol-lowering food plan, usually combined with drug treatment, is required to reduce and control blood cholesterol and the risk of heart disease.

Recommendations		
	Recommendations for healthy adults	Recommendations for high risk
Total Cholesterol	5 mmol/l or less	4 mmol/l or less
LDL Cholesterol	3 mmol/l or less	2 mmol/l or less
HDL Cholesterol	men above 1.0 mmol/l women above 1.2 mmol/l	men above 1.0 mmol/l women above 1.2 mmol/l
Fasting Triglycerides	below 1.7 mmol/l	below 1.7 mmol/l

Triglycerides with low HDL

Having too much of another fat in the blood, triglyceride, is often coupled with having too little HDL (high density lipoprotein). This combination is often linked with premature coronary heart disease. It can be inherited but also occurs in people who are overweight especially when excess fat is carried around the waist. Weight reduction and regular exercise may help to reduce triglyceride levels and increase HDL levels.

A higher level of HDL is healthy, as this is the component in the blood which brings excess cholesterol from the tissues to the liver for processing and removal. Low levels of HDL appear to be an important predictor for heart disease.

People with raised triglycerides should also limit their intake of refined sugary foods and alcohol.

Diabetes

People with diabetes are at a much higher risk of coronary heart disease. This increased risk is associated with high blood sugar, high blood pressure and raised blood lipids.

Lipid profiles in people with diabetes tend to show:

- elevated very-low-density lipoproteins (VLDL)
- small low-density lipoproteins (LDL)
- low high density lipoprotein (HDL).

This combination is commonly termed diabetic dyslipidaemia and is particularly atherogenic; i.e. the furring up process of arteries is accelerated.

People with diabetes and a raised cholesterol level experience an even greater risk of heart disease than people without diabetes with the same level of cholesterol.

It is possible to have undiagnosed diabetes or impaired glucose tolerance without knowing it, which also increases CHD risk.

www.diabetes.org.uk

Smoking

Cigarette smoking, even a few a day, increases the risk of heart disease. It is also responsible for 90% of lung cancers, can cause cancer anywhere else in the body, bronchitis, emphysema and stroke. There are thus many health benefits from being a non-smoker. Even after having smoked for many years, stopping smoking now will reduce CHD risk. After five years, your risk of having a heart attack falls to about half that of a smoker. www.smokefree.nhs.uk

Smoking cessation helpline: **0800 022 4 332**

Obesity

Being overweight increases the chance of having a heart attack. This is in part because people who are overweight are more likely to have high blood pressure, diabetes and high blood fats.

Modest weight loss can reduce risk but weight loss must be maintained.

Reducing fat (especially saturated fat), sugar and alcohol, reducing portion sizes, being more physically active and adequate support to enable behavioural change are recognised ways of losing weight. www.bdaweightwise.co.uk

Inactivity

Physical inactivity is an important contributor to coronary heart disease. Cardiovascular benefits of regular physical activity include reduced blood pressure, weight control, reduced waist circumference all of which help to reduce the risk of developing heart disease.

At least 2½ hours per week of moderate activity is recommended. Walking, jogging, swimming, cycling and dancing are all excellent choices. Remember to start slowly and gradually build up your exercise. www.whi.org.uk

Alcohol

Alcohol in moderation may reduce the risk of heart disease. However, consuming too much alcohol places your health at risk in a number of ways. This is because, when taken in excess, alcohol is harmful to the heart and other organs.

It can directly damage the heart muscle and cause irregular beating of the heart. Alcohol also contributes to weight gain, high triglycerides, high blood pressure, strokes and cancer, not to mention accidents and violence. There are many reasons to keep alcohol consumption within reasonable limits.

Men are encouraged to drink no more than 28 units a week and women no more than 21 units. Avoid binge drinking and try to have 1 or more alcohol free days each week.

www.drinkaware.co.uk

Stress

A certain amount of stress may be desirable, in that it keeps people alert and motivated. However, as the stress level builds, especially if prolonged, it can be harmful to health.

Stress can exacerbate symptoms in people with pre-existing heart disease, and can contribute to high blood pressure.

For those with high cholesterol it can lead to neglect of a healthy lifestyle, such as poor eating habits or not taking prescribed medication.

It is important to find time for relaxation. Simple breathing exercises, sports, music, meditation, reading, engaging in hobbies, taking a walk... there are many ways to reduce stress. Choose activities which appeal and make regular time for them.