



Physical activity and heart disease

RISK FACTORS

There are five major risk factors of heart disease that you can influence. There are also some factors which you cannot influence such as your family history, ethnicity, age and gender (men have a higher risk than women). Your risk of heart disease will depend on how many of the risk factors you have, and how strong each individual risk factor is. The major risk factors you can influence are:

1. Smoking
2. High blood pressure
3. High blood cholesterol
4. Physical inactivity
5. Body weight

1. SMOKING

Cigarette smoke contains chemicals which are believed to cause coronary heart disease. These include:

a) Carbon monoxide - a poisonous gas which competes with oxygen for 'carrying' space in the blood.

b) Nicotine - stimulates the nervous system increasing your heart rate and causing the blood vessels to narrow. Nicotine also makes the blood 'sticky' and more likely to clot and block the vessels.

A cigarette smoker has approximately twice the risk of having a heart attack as a non-smoker. With high blood pressure and high cholesterol, the risk is eight times greater. Women who smoke are at a particularly high risk of heart disease if they also take the contraceptive pill.

Continuing to smoke after a heart attack doubles the risk of having another attack within one year. Stopping smoking is the single most important step you can take to help you recover. From the moment you stop smoking, the risk of suffering from a heart attack starts to reduce and is halved after one year.

2. HIGH BLOOD PRESSURE (HYPERTENSION)

Increased blood pressure occurs due to changes in the arteries such as narrowing or loss of elasticity in the walls of the arteries. This increases the resistance that the heart is pumping against and thereby raises blood pressure. Rarely high blood pressure is caused by a specific medical condition but more than 90-95% of the time the reason is unknown. High blood pressure can accelerate the development of atherosclerosis, fatty deposits laid down in the arteries which lead to heart disease, and increases the risk of a heart attack and stroke. Heart muscle may eventually lose its ability to pump properly. Blood pressure is measured in millimetres of mercury (mmHg) and a blood pressure reading consists of two numbers eg. 140/85. The first figure is the pressure as the heart pumps and the second figure is the pressure as it relaxes. Normal blood pressure is 140/90 or less. However if you are being treated for high blood pressure the goal is a pressure of 140/85 or less.

Maintaining a healthy weight, regular physical activity, cutting down on saturated fat, salt and alcohol and stopping smoking can all lower your systolic blood pressure. There are often no symptoms of high blood pressure so many people have no idea they are affected. It is recommended that you have your blood pressure taken at least once every 5 years, more often as you get older, or every year if you already have high blood pressure.

3. CHOLESTEROL

In general, the higher your total blood cholesterol level the greater your risk of coronary heart disease. Aim for a total cholesterol level of under 5mmol/l (millimols of cholesterol per litre of blood). If your blood cholesterol is even slightly above this level, you can greatly benefit from reducing it.

As blood and cholesterol don't mix the liver manufactures special carriers called lipoproteins to ferry cholesterol around. These affect the risk of heart disease.

i) Low-density lipoprotein, or LDL, is the major carrier of cholesterol. If there is too much LDL in the blood, cholesterol may find its way into artery walls, where it begins to build up and may cause atherosclerosis.

ii) High density lipoprotein, or HDL, is thought to pick up fragments of cholesterol and transport them to the liver for repackaging or disposal thereby preventing it from damaging the arteries. HDLs in the diet are therefore desirable.

The body requires a small amount of cholesterol which it produces itself. Animal products, including egg yolks, fatty meat and dairy foods provide an additional and mostly unnecessary source. A healthy diet will help you control your cholesterol levels, particularly if you reduce the intake of these foods and increase your intake of fruit and vegetables. Increasing your activity levels can also help reduce your cholesterol level, your heart rate and your blood pressure.

4. PHYSICAL ACTIVITY

■ Regular physical activity reduces blood pressure by improving the efficiency of the body in utilising available oxygen. The body is then able to do more activity with less oxygen which reduces the strain on the heart and the rate it needs to beat.

■ It helps reduce total cholesterol levels by increasing the level of HDLs to mop up excess cholesterol in the blood.

■ Excess body weight increases oxygen demand and causes further strain on the heart. The body breaks down food to create energy for muscular activity making it an important factor in controlling body weight.

In addition

■ Physical activity halves the risk of you developing heart disease in the first place.

■ Among people who have had heart attacks, those who have been physically active are twice as likely to survive the heart attack compared to people who have not been active.

■ Physical activity reduces your risk of having a stroke.

■ Other benefits include more energy, relief from stress and a lower risk of osteoporosis.

By reducing your weight you will help keep your blood pressure down and reduce the workload on your heart. Heavier bodies require more effort from the heart to supply oxygen. Being overweight also increases your risk of diabetes. People with diabetes have an increased risk of suffering from coronary heart disease and therefore can benefit from making some or all of the lifestyle changes mentioned in this leaflet.