

# The heart

Last updated April 2011/ Due for review June 2012

## Functions of the heart

The heart is a muscle which acts like two pumps. The right pump sends blood to the lungs to collect oxygen. The left pump sends blood rich in oxygen to the body to ensure that the other organs, muscles and tissue have enough nutrients to function properly, as well as carrying away carbon monoxide and other waste products.

## Potential problems

Untreated HIV can increase the risk of heart disease. But treatment with some anti-HIV drugs has been linked to changes in the body's metabolism that can increase the long-term risk of heart disease .

It's important to note, however, that the risk of heart disease and other serious illnesses is reduced by starting HIV treatment.

A diet high in saturated fat, smoking, heavy alcohol consumption, using recreational drugs (particularly cocaine and amphetamines), and a lack of exercise can lead to the development of heart disease. People whose parents suffered from heart problems may be more likely to develop heart problems.

The heart can be damaged in a number of ways. A diet rich in saturated fats (from animal products like red meat, butter, cheese and cream) can clog the arteries which supply the heart with blood. This means that the heart has to work extra-hard to pump blood around the body, and can become strained. This condition can be made worse by smoking, lack of exercise, and excessive drug and alcohol use. Ultimately, the result can be heart attack, angina (chest pains), arrhythmias (irregular heartbeat), diabetes, high blood pressure, and stroke. Heart disease is the UK's biggest killer.

## Symptoms of heart disease

Tiredness , breathlessness, an unusually rapid heart rate and chest pains are commonly experienced by people with heart problems. Normally the heart beats between 60 and 90 times a minute at regular intervals when a person is resting, and increases, but remains regular, when someone is active, particularly if taking exercise.

However, a rapid heartbeat, particularly when at rest, and irregularities in its rhythm can also be an indication of heart problems, sometimes accompanied by pain. People with heart failure, angina, or who are having a heart attack may feel pressure in the chest, pain in the left arm, jaw, back or shoulder. If you experience any of these symptoms, it is important that you get medical advice as soon as possible, and if you suspect you are having a heart attack you should call an ambulance immediately.

## Tests

Basic tests involve checking blood pressure and pulse, and listening to the heart. If your doctor suspects that you are having heart problems, you are likely to be asked to have a number of other tests. An electrocardiograph (ECG) test, which involves having sensors attached to points around the body to see how well the heart is supplying blood, will almost certainly be carried out. You may also have an exercise ECG which monitors heart function whilst walking briskly or running on a treadmill for 10 to 20 minutes, and a 24 hour tape which checks the functioning of the heart over a day.

A chest X-ray may be performed, to see if there are any signs of damage to the heart, and blood tests will be carried out to measure cholesterol and other blood fat levels.

## Treatment

A variety of drugs are available to treat heart problems.

Aspirin is used to help prevent the blood clotting and causing heart attack or stroke.

Other drugs, such as beta-blockers, are used to slow the heart rate, or restore a regular beat. Surgery may be necessary in some cases to repair or replace the arteries which supply blood to the heart. In cases of severe heart failure, a transplant may be needed.

## Maintaining a healthy heart

Everybody can help keep their heart healthy by eating a diet including at least five helpings of fruit and vegetables a day, and reducing saturated fats. Smoking, drinking excessively (particularly in binges), and recreational drug use (particularly cocaine and amphetamines) can all damage the heart.

It is recommended that you take vigorous exercise (which makes you out of breath and breaks a sweat) for at least 30 minutes, five times a week. If you are unused to exercise or have heart problems, it is important to start gently or seek advice from a physiotherapist.

If your HIV drugs are contributing to heart problems, particularly increased blood fats, it may be possible to take drugs to counter this, or to switch to other treatments. You should discuss your options with your doctor.