

The heart – technical terms explained

Heart Information Series Number 18



**British Heart
Foundation**

This is one of the booklets in the *Heart Information Series*. For a complete list of booklets, see page 51.

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About this booklet

This booklet is for people with heart disease, and for their family and friends. It explains:

- how the heart works, and
- the medical terms you might hear while talking to doctors and nurses.

This booklet is not a substitute for the advice your doctor or cardiologist (heart specialist) may give you based on his or her knowledge of your condition.

The heart and circulatory system

Your heart is a pump. It keeps blood moving around your body. The blood delivers oxygen and nutrients to all parts of your body, and carries away unwanted carbon dioxide and other waste products.

The heart has four chambers – two on the left side and two on the right. The two upper chambers are called the atria and the lower chambers are called the ventricles. (See the illustration on the next page.) The two sides of the heart are divided by a muscular wall called the septum. There is a 'one-way valve system' which means that the blood only travels in one direction through the four chambers.

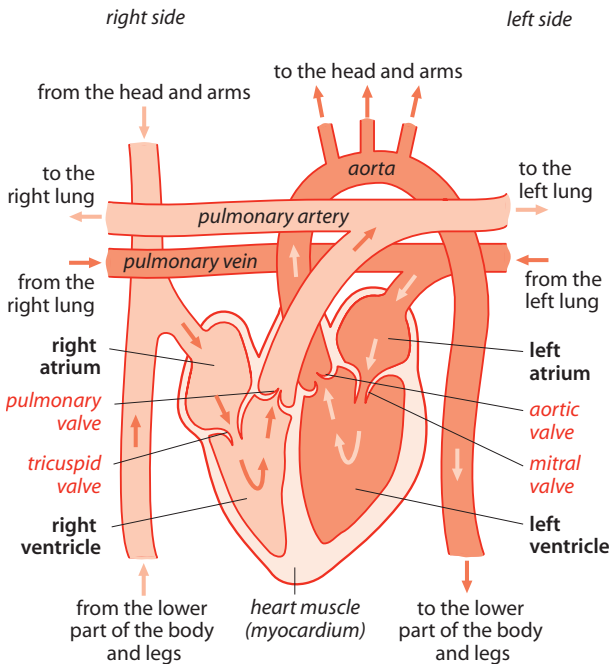
With each contraction, or heartbeat, the heart pumps blood forward into the arteries. The arteries divide off into smaller and smaller branches to supply a microscopic network of capillaries, taking the blood to every part of your body.

The veins collect the blood from the capillaries. The branches of the veins join to form larger veins delivering blood back to your heart. Blood from your veins fills the heart as it relaxes during the interval between each contraction.

Your heart and how it works

The right side of the heart receives blood from the body and pumps it through the pulmonary artery to the lungs. There it picks up fresh oxygen and releases carbon dioxide.

The left side of the heart receives oxygen-rich blood from the lungs, and pumps it through the aorta to the body.



This circulatory system is called the cardiovascular system. It contains about eight pints of blood which your heart is continuously re-circulating. Each day, your heart beats about 100,000 times and pumps about 5,000 gallons of blood.

The two sides of the heart are, in fact, two separate pumps which work together. The right side of the heart receives dark, de-oxygenated blood which has circulated around your body. It pumps this to your lungs, where it picks up a fresh supply of oxygen and becomes bright red again.

The left side of the heart receives newly oxygenated blood from the lungs and pumps it into the arteries which supply the rest of the body. Each side of the heart has a thin-walled 'collecting chamber' (the atrium) which helps to fill the thick-walled main pump (the ventricle).

The heart wall is made up of special muscle called myocardium. Like every other living tissue, the myocardium itself needs a continuous supply of fresh blood. This supply of blood comes from the coronary arteries which start from the main artery (the aorta) as it leaves the left ventricle. The coronary arteries spread across the outside of the myocardium, feeding it with a supply of blood.

Technical terms

For more information about individual drugs, see our booklet *Medicines for the heart*.

ablation	See 'catheter ablation therapy' on page 24.
ACE inhibitor	A drug used to treat people with heart failure or coronary heart disease by lowering blood pressure. ACE stands for 'angiotensin converting enzyme'.
acute coronary syndrome	A pattern of symptoms of chest pain including both unstable angina (see page 64) and heart attack (see page 34).
aerobic exercise	Repetitive, rhythmic exercise involving the large muscle groups. Examples include brisk walking, cycling and swimming.
alpha-blocker	A drug used for treating high blood pressure.

anaesthetist	The doctor who gives an anaesthetic to make you sleep during an operation.
aneurysm	A balloon-like swelling in an artery or in the wall of the heart.
angina	Heaviness or tightness in the centre of the chest, which may spread to the arms, neck, jaw, back or stomach. Or it may affect just the neck, jaw, arms or stomach. Angina is caused when the arteries become so narrow due to atheroma (see page 15) that not enough oxygen-rich blood can reach the heart muscle when the body is making high demands on it – such as during exercise. The pain can also occur when a person is resting. (For more information see our booklet <i>Angina</i> .)

angiogram

An X-ray picture of the blood vessels which shows whether the arteries are narrowed and, if so, how narrow they have become. A fine, flexible, hollow plastic tube called a 'catheter' is passed into an artery either in your groin or arm and is gently guided through the blood vessels. X-ray films are taken by putting a dye down the catheter and then taking a series of pictures. This means that a 'road map' of the blood vessels can be drawn, showing where your blood vessels are narrowed and how narrow they have become. This procedure can be used to examine the coronary arteries (a coronary angiogram) or other arteries in your body.

angiography

A test to show whether your arteries are narrowed and how narrow they have become. See 'angiogram' *above* for more information.

angioplasty with stenting

A catheter (a fine, flexible, hollow tube) with a small inflatable balloon at its tip is passed into an artery in either your groin or your arm. The operator then uses X-ray screening to direct the catheter to a coronary artery until its tip reaches the narrowed or blocked section. The balloon is then gently inflated so that it squashes the fatty tissue against the artery wall. As a result, this widens the artery. The catheter contains a 'stent' which is a short tube of stainless-steel mesh. As the balloon is inflated, the stent expands so that it holds open the narrowed blood vessel. The balloon is then let down and removed, leaving the stent in place and allowing the blood to flow freely through the artery. (For more information see our booklet *Coronary angioplasty and coronary bypass surgery*.)

angioseal	A device which is sometimes used to close the puncture site in the groin after angioplasty. The device will dissolve.
angiotensin antagonist	A drug used to control blood pressure or to treat heart failure.
anti-arrhythmic	A drug used to control a disorder of the heart rhythm.
anticoagulant	A drug used to reduce the risk of blood clots forming. Clots are made up of platelets (small blood cells) clumped together, and a protein called fibrin. Anticoagulants act by helping to prevent fibrin from forming.
antioxidants	Vitamins and other substances found mainly in vegetables and fruit.

anti-platelet drug	A drug to prevent the blood from clotting. Anti-platelet drugs act by reducing the 'stickiness' of platelets – the small blood cells that can clump together to form a clot which could lead to a heart attack or stroke.
aorta	The large artery leading out of the left side of your heart and supplying the whole body with blood. (See the illustration on page 7.)
aortic aneurysm	A balloon-like swelling of the aorta.
aortic valve	The valve which regulates the flow of blood from the left ventricle into the aorta. (See the illustration on page 7.)
arrhythmia	A disorder of the heart rhythm.
artery	A blood vessel carrying blood from your heart to the rest of your body.

aspirin	An anti-platelet drug used to help prevent blood clots forming.
atheroma	Fatty material that can build up within the walls of the arteries. When atheroma affects the coronary arteries, it can cause angina, heart attack or sudden death. When it affects the arteries to the brain, it may cause a stroke. When it affects the leg arteries, it causes peripheral arterial disease. Atheroma can build up for many years before it causes problems.
atherosclerosis	The build-up of fatty materials within the walls of the arteries.
atria	The two upper chambers of your heart. (See the illustration on page 7.) They act as collecting chambers to fill the ventricles (the two lower chambers of the heart).

atrial fibrillation	A type of arrhythmia (abnormal heart rhythm) in which the atria (the upper two chambers of the heart) beat very rapidly. Atrial fibrillation can cause quite unpleasant palpitations and sometimes breathlessness. And, in some cases, the fast irregular rhythm may lead to a clot forming in the heart.
atrio-ventricular node	The part of the heart through which the electrical impulses pass from the atria to the ventricles, to stimulate a heartbeat.
atrium	One of the two upper chambers of your heart. (See also 'atria' on page 15.)
AV node	See 'atrio-ventricular node' <i>above</i> .
balloon angioplasty	See 'angioplasty with stenting' on page 12.

balloon treatment	A procedure to stretch a narrowed valve or artery.
beating heart surgery	Beating heart surgery is surgery that is carried out on the beating heart, through a wound along the chest bone. A heart-lung machine is not needed for this type of surgery.
beta-blocker	Beta-blockers are drugs that block the actions of the hormone adrenaline that makes the heart beat faster and more vigorously. They are used to help prevent attacks of angina, to lower blood pressure, to help control abnormal heart rhythms, and to reduce the risk of a further heart attack in people who have already had one. They are sometimes also used in heart failure.

BHF nurse	BHF stands for 'British Heart Foundation'. BHF funds and supports specialist cardiac nurses in the UK – nurses who specialise in caring for people with heart disease. The nurses are employed by NHS trusts. If there is a BHF nurse in your area, you may be referred to him or her through your local NHS services. The nurse can talk over any worries with you, explain your condition to you, and offer advice on what you can do to avoid further problems.
bile acid binding drug	A drug used to lower blood cholesterol levels.
biopsy	A procedure in which a small specimen of tissue is taken for examination.
blood cholesterol	See 'cholesterol' on page 25.
blood lipids	Fatty material found in the blood. See also 'lipids' on page 42.

blood pressure

The pressure of blood in the arteries. The heart is a pump that beats by contracting and then relaxing. The pressure of the blood flowing through your arteries varies at different times in the heartbeat cycle. The highest pressure (called systolic pressure) is when the beat or contraction of the heart forces your blood around the circulation. The lowest pressure (diastolic pressure) is between heartbeats. Blood pressure is measured in millimetres of mercury (abbreviated to 'mmHg'). A blood pressure reading gives two numbers, for example 140/85mmHg. The first number is the systolic pressure and the second is the diastolic pressure. The target is to have a blood pressure below 140/85mmHg. If you have diabetes, your target is below 130/80mmHg. (For more information see our booklet *Blood pressure*.)

BMI	BMI stands for 'body mass index'. This is a formula to work out whether a person is overweight or obese. You work it out by dividing weight (in kilograms) by height (in metres squared). For example, for a person who is 1.80 metres tall (5 feet 11 inches), 'height in metres squared' would be 1.80×1.80 which equals 3.24. If they weighed 95 kilograms (15 stones), the BMI would be 95 divided by 3.24 which equals 29.3. People with a BMI over 25 are overweight, and those with a BMI over 30 are obese.
bradycardia	A slow heart rate.
bypass surgery	See 'coronary artery bypass surgery' on page 26.
CABG	Coronary artery bypass graft. See 'coronary artery bypass surgery' on page 26.

calcium channel blocker (calcium antagonist)	A drug that is used for angina and high blood pressure.
capillaries	The smallest of the blood vessels. They join the small arteries to the small veins.
cardiac	To do with the heart.
cardiac arrest	When the heart stops pumping, or when it quivers or 'fibrillates' instead, causing the person to collapse.
cardiac catheterisation	When a long, flexible, hollow, plastic tube called a 'catheter' is passed into a vein or artery either in the groin or the arm and is gently guided through the blood vessels. This technique is used to take angiograms (X-ray pictures of the blood vessels – see page 11), or to look at the structure of the heart, and for carrying out angioplasty (a treatment to improve the blood supply through the artery – see page 12).

cardiac enzyme tests

Blood tests to measure the level of certain enzymes in the blood. When the heart muscle is damaged after a heart attack, certain enzymes are released into the blood. The amount of enzymes released depends on how severe the damage is.

cardiac rehabilitation

The process which helps people with heart disease to regain and, if possible, improve their health. Ideally cardiac rehabilitation should start when, or even before, the person is admitted to hospital, and continue while they are in hospital and after they have been discharged. Cardiac rehabilitation involves explaining what has happened to the heart, doing exercise or physical activity, and support and education to encourage long-term lifestyle changes. See also 'rehabilitation programme' on page 56.

cardiac rehabilitation programme	See 'rehabilitation programme' on page 56.
cardiac surgical ward	A hospital ward for patients who have had heart surgery.
cardiologist	A doctor specialising in heart disease.
cardiomyopathy	A disease of the heart muscle.
cardiovascular	To do with the heart and blood vessels.
cardioversion	A procedure to restore a regular heart rhythm. Under a general anaesthetic, an electric shock is applied to the chest wall.
catheter	A fine, hollow, plastic tube.

catheter ablation therapy	A procedure used to correct certain types of heart rhythm disorders. It uses the same techniques as for electrophysiological testing (see page 32). The operator finds out where the abnormal heart rhythm causing the palpitation is coming from, and uses radio frequency energy to destroy the areas that are causing the abnormal rhythm.
catheterisation	See 'cardiac catheterisation' on page 21.
CCU	Coronary care unit – a specialist unit in a hospital. The unit is just for people with heart conditions who need special care.
chest drain	A tube which allows blood or fluid which builds up in the chest to be removed safely.

cholesterol	A fatty material mainly made in the body by the liver. Cholesterol plays a vital role in how every cell in the body works. It is also the material which the body uses to make other vital chemicals. However, too much cholesterol in the blood can increase the risk of atheroma (fatty material) building up in the coronary arteries, leading to coronary heart disease. (For more information see our booklet <i>Reducing your blood cholesterol.</i>)
cholesterol-lowering drug	A drug to lower the blood cholesterol level.
clot-buster	A drug used when there is an urgent need to dissolve a clot – for example, during a heart attack.
congenital heart disease	Heart disease caused by abnormalities of the heart or major blood vessels which are due to abnormal development of the foetus and which are there at birth.

coronary angiogram	See 'angiogram' on page 11.
coronary angiography	See 'angiography' on page 11.
coronary angioplasty	See 'angioplasty with stenting' on page 12.
coronary arteries	The arteries from the beginning of the aorta which supply blood to the heart muscle. (See the illustration on page 7.)
coronary artery bypass surgery	An operation to bypass a narrowed section or sections of coronary arteries and improve the blood supply to the heart. (For more information see our booklet <i>Coronary angioplasty and coronary bypass surgery</i> .)
coronary bypass surgery	See 'coronary artery bypass surgery' <i>above</i> .

coronary heart disease	<p>When the walls of the coronary arteries (the arteries that supply blood to the heart muscle) become narrowed by a gradual build-up of fatty material called atheroma. When atheroma affects the coronary arteries, it can cause angina, heart attack or sudden death.</p>
coronary thrombosis	<p>When a blood clot forms in a coronary artery and causes a heart attack.</p>
CPR	<p>Cardiopulmonary resuscitation. See 'resuscitation' on page 57.</p>
defibrillation	<p>A procedure to restore a regular heart rhythm by delivering an electric shock through the chest wall to the heart.</p>
defibrillator	<p>A device which delivers a controlled electric shock through the chest wall to the heart, in order to restore a normal heartbeat. See also 'implantable cardioverter defibrillator' on page 39.</p>

diabetes	A disease caused when the body does not produce enough insulin, or when the cells of the body can no longer use the insulin.
diastolic blood pressure	When measuring blood pressure, the diastolic blood pressure is the lowest pressure, which happens in between heartbeats.
dietitian	A health professional who can advise on healthy eating and special diets.
digoxin	A drug used to treat heart failure and certain abnormal heart rhythms such as atrial fibrillation.
discharge (from a wound)	Leaking or oozing.
discharge rate (of a pacemaker)	The rate at which electrical impulses are generated by a pacemaker.
diuretic	Also known as 'water tablets'. Diuretics increase the output of water and salt in the urine. They are

	used to treat heart failure and to lower high blood pressure.
drug-eluting stent	A stent is a short tube of expandable mesh which is inserted at the part of the artery which is to be widened by coronary angioplasty (see page 12). A drug-eluting stent is a stent which has been coated with medication to help prevent the artery closing off again.
dual chamber pacemaker	A pacemaker with two electrical leads. One is attached to the right atrium and one to the right ventricle.
ECG	See 'electrocardiogram' <i>on the next page</i> .
24-hour ECG	Continuously recording an electrocardiogram (ECG) over 24 hours to look at the heart rhythm. Small sticky patches (electrodes) are put on your chest. Wires are attached to these and taped down. The wires lead to a small portable

	<p>tape recorder, similar to a personal stereo, which you wear on a belt round your waist. The recorder produces an electrocardiogram which can be analysed later.</p>
echocardiogram	<p>An ultrasound picture of the heart which shows the structure of your heart and how it is working. A pulse of high-frequency sound is sent through the skin of your chest by placing a recorder (probe) on the chest wall. Jelly is rubbed on the chest first, to help make a good contact. The probe then picks up the echoes reflected from various parts of your heart and displays them as an echocardiogram – a picture on a screen. An echocardiogram can give accurate information about the pumping action of the heart, and about the structure of the heart and its valves. It also allows doctors to measure pressures in the heart. (For more information see our booklet <i>Tests for heart conditions</i>.)</p>

echo-cardiography	The procedure of taking echocardiograms. See 'echocardiogram' on page 30.
ectopic beat	An extra heartbeat.
electro-cardiogram	Also known as an 'ECG'. A test to record the rhythm and electrical activity of the heart. Small sticky patches (electrodes) are put on your arms, legs and chest and are connected to a recording machine. The recording machine picks up the electrical signals produced by each heartbeat. An ECG can detect abnormalities of heart rate and rhythm. It can also tell if you have had a heart attack, either recently or some time ago. And it can tell if your heart has become enlarged or is working under strain. (For more information see our booklet <i>Tests for heart conditions</i> .)

electro-physiological testing	A technique for detecting and analysing abnormal heart rhythms. Fine tubes called electrode catheters are introduced through a vein, usually in the groin. They are then gently moved into position in the heart where they stimulate the heart and record the electrical impulses. The test is done under local anaesthetic. (For more information see our booklet <i>Tests for heart conditions</i> .)
embolus	A clot of blood which starts in one part of the body, breaks off into the circulation and ends up lodged somewhere else.
emphysema	A condition causing permanent destruction of part of the lungs.
endocarditis	An infection of the inner lining of the heart, usually affecting the valves.
enzymes	Proteins that help stimulate chemical actions in your body.

epicardial implantation (of a pacemaker)	When the electrode lead of a pacemaker device is attached directly onto the outer surface of the heart (the epicardium).
epicardium	The outer surface of your heart.
exercise ECG	See 'exercise electrocardiogram' below.
exercise electrocardiogram	When the rhythm and activity of your heart is recorded while you are pedalling an exercise bicycle or walking on a treadmill. See also 'electrocardiogram' on page 31.
familial hypercholesterolaemia	An inherited condition in which the blood cholesterol level is very high.
fibrates	A drug used to reduce cholesterol and triglyceride levels in the blood.
fibrillation	See 'ventricular fibrillation' on page 66 and 'atrial fibrillation' on page 16.

fibrin	A protein formed by clotting factors in the blood, to act as part of the clotting process. Sometimes it can form on top of a blood clot in the arteries.
gastro-intestinal	To do with the stomach or intestine.
generic name	The official name (for example of a drug).
glyceryl trinitrate	A drug used as a spray or tablet under the tongue to relieve, or to help prevent, angina attacks. Also called GTN.
GP	General practitioner, or family doctor.
GTN	See 'glyceryl trinitrate' <i>above</i> .
HDL	See 'high density lipoprotein' on page 37.
heart attack	When one of the coronary arteries becomes blocked by a blood clot

and part of the heart is starved of oxygen. A heart attack usually causes severe pain in the centre of the chest. The pain lasts for more than 15 minutes, and may last for hours. (However, if the pain lasts longer than 15 minutes, you should dial 999 for an ambulance and phone your GP.) The pain usually feels like a heaviness or tightness in the chest, which may also spread to the arms, neck, jaw, back or stomach. In some cases the pain may be mistaken for indigestion. There may also be sweating, light-headedness, feeling sick, or shortness of breath. A heart attack may cause the rhythm of the heart to become disturbed. Sometimes a heart attack is 'silent' and produces little discomfort. It may even remain undiscovered until a medical investigation for other symptoms or a routine medical examination. (For more information on heart attacks see our booklet *Heart attack and rehabilitation*.)

heart block	When the electrical impulses of the heart are slowed down or delayed by an interruption in the heart's normal electrical activity. There are three different stages of heart block. Each stage needs a different level of treatment. Little or no treatment is needed for the first stage.
heart failure	When the pumping action of the heart is inadequate. (For more information see our booklet <i>Living with heart failure</i> .)
heart-lung machine	Blood is diverted through this machine during heart surgery, to keep the brain and other organs working while the heart is being operated on.
heart rate	The number of heartbeats each minute.

heart support group	A group which can offer heart patients and their families the chance to meet and talk to people who have gone through similar experiences. Some groups hold exercise classes, and invite speakers to talk on medical as well as general topics, and they try to promote a social atmosphere. To find out if there is a heart support group near you, contact Cardiac Care at the British Heart Foundation on 020 7487 7110.
high blood pressure	See 'blood pressure' on page 19. High blood pressure happens if the smaller blood vessels in the body become narrow and cause the pressure to build up. High blood pressure is also known as hypertension.
high density lipoprotein	The 'protective' cholesterol. Also called HDL. High density lipoproteins return excess cholesterol to the liver.

Holter monitoring	A 24-hour recording of an electrocardiogram (ECG).
homograft	A graft of tissue – for example, a heart valve – taken from one body and put into another of the same species.
HRT	Hormone replacement therapy.
hyper-cholesterolaemia	When there is too much cholesterol in the blood. Also called ‘hyperlipidaemia’.
hyperlipidaemia	When there is too much cholesterol in the blood. Also called ‘hypercholesterolaemia’.
hypertension	High blood pressure.
ICD	Implantable cardioverter defibrillator. See ‘implantable cardioverter defibrillator’ <i>on the next page</i> .
ICU	Intensive care unit.

immune system	The cells and proteins in the blood and tissues that help protect your body against attack from bacteria and viruses.
immunosuppressant drugs	Drugs which suppress the body's immune system.
implantable cardioverter defibrillator	A device which is implanted within the chest wall. It monitors the heart rhythm, senses if there is about to be a severe disturbance in heart rhythm and if necessary delivers an electrical impulse or an electrical shock, to stop the abnormal rhythm and allow the normal rhythm to start again. For more information see our booklet <i>Implantable cardioverter defibrillators (ICDs)</i> .
implantable defibrillator	See 'implantable cardioverter defibrillator' <i>above</i> .

implantable loop recorder	A recording device used for finding out about the cause of infrequent symptoms such as dizzy spells or blackouts. It is implanted just under the skin on the chest. The ILR continuously monitors the heartbeat for up to 14 months, and can record any abnormal events that it is programmed to detect.
incision	A cut.
incompetence	See 'valve incompetence' on page 64.
intermittent claudication	A cramp-like pain mostly in the calf and leg muscles, brought on by walking and relieved by rest. It is a symptom of peripheral arterial disease.
intravascular ultrasound	A technique for taking ultrasound pictures of the wall of an artery from inside the artery itself. These show the thickness of the artery wall and any narrowings of the artery. The pictures are taken using a fine ultrasound probe attached to the tip

	of the same type of catheter used for doing an angiogram (see page 11). This test is only used for a small number of patients.
intravenous	Into a vein.
introducer sheath	The device through which a catheter is inserted into an artery.
ischaemia	When not enough blood is being supplied to the tissues or muscle. Ischaemia causes the pain known as angina (see page 10).
ischaemic heart disease	When not enough blood is flowing through the coronary arteries to the heart. Also known as coronary heart disease.
isometric exercise	Exercises in which muscle tension is produced without moving a joint. Examples include weightlifting and press-ups.
isosorbide dinitrate	A form of nitrate (a drug) used to help prevent angina attacks.

isosorbide mononitrate	A form of nitrate (a drug) used to help prevent angina attacks.
ITU	Intensive therapy unit.
IVUS	See 'intravascular ultrasound' on page 40.
laser angioplasty	A treatment to improve the supply of blood to the heart muscle.
LDL	See 'low density lipoprotein' on the next page.
left heart failure	Heart failure caused by an inefficient pumping action of the left side of the heart.
left ventricular hypertrophy	When the heart muscle of the left ventricle becomes abnormally thickened.
lipid-lowering drug	A drug to lower cholesterol level.
lipids	Fatty material in the blood, including HDL cholesterol, LDL cholesterol and triglycerides.

lipoproteins	Combinations of cholesterol and proteins. Cholesterol has a special 'transport system' for reaching all the cells which need it. It uses the blood circulation as its 'road system' and is carried on 'vehicles' made up of proteins. These combinations of cholesterol and proteins are called 'lipoproteins'. There are two main forms of lipoproteins. Low density lipoproteins (LDL) carry harmful cholesterol from your liver to the cells. High density lipoproteins (HDL) return excess cholesterol to your liver.
loop diuretic	A type of diuretic drug, used to treat heart failure.
low blood pressure	When the blood pressure is below about 90/60.
low density lipoprotein	The more 'harmful' cholesterol. Also called LDL. Low density lipoproteins (LDL) carry cholesterol from your liver to the cells of your body.

Magnetic Resonance Imaging

Also called MRI. A technique which produces detailed pictures of internal organs of the body. Having an MRI scan does not cause any discomfort. You lie in a short 'tunnel' around which there is a large magnet. Short bursts of magnetic fields and radio waves from the MRI scanner allow images to be created, processed and analysed. You cannot have this test if you have a pacemaker or an implantable cardiac defibrillator. (For more information see our booklet *Tests for heart conditions*.)

mechanical valve

An artificial, manufactured valve. This is used to replace a diseased or damaged heart valve.

MIDCAB

Stands for 'minimally invasive direct access coronary artery bypass' surgery. This is surgery on the coronary arteries carried out while the heart is beating (instead of using a heart-lung machine).

minimally invasive surgery	Surgery which is carried out using a smaller wound than usual. This can be done with or without using a heart-lung machine.
mitral stenosis	Obstruction of the mitral valve caused by narrowing.
mitral valve	The valve which regulates the flow of blood from your left atrium to your left ventricle. (See the illustration on page 7.)
mitral valve prolapse	When a mitral valve bulges backwards into the left upper chamber (atrium).
mitral valvuloplasty	A procedure to stretch a narrowed mitral valve of the heart.
mmHg	Unit used for measuring blood pressure.
mmol/l	Millimols per litre. Unit used for measuring the level of cholesterol and other fats in the blood.

24-hour monitoring (of blood pressure)	When a recording device about the size of a large Walkman is strapped around your waist to take regular measurements of your blood pressure at intervals over a 24-hour period.
monounsaturated fat	A type of fat found in foods such as olive oil, walnut oil, rapeseed oil, avocado, and in some margarines and spreads. Monounsaturated fats can help lower the blood level of LDL cholesterol but do not lower the 'protective' HDL cholesterol level.
MRI	See 'Magnetic Resonance Imaging' on page 44.
murmur	An unusual sound from the heart, heard while listening with a stethoscope. It is different from the normal sound of the heart.
myocardial infarction	A heart attack.

myocardium	The heart muscle.
negative exercise ECG	A negative exercise ECG (electrocardiogram) is when there are no unusual or obvious changes on the ECG while you are exercising.
nicotine	A chemical found in tobacco smoke.
nicotine replacement products	Aids to help you stop smoking, which contain nicotine. They include patches, gum, nasal spray and inhalator.
nitrate	A drug used to relieve angina.
non-nicotine replacement products	Aids to help you stop smoking, which do not contain nicotine.
NRT	Nicotine replacement therapy. See 'nicotine replacement products' <i>above</i> .

obesity	Being very overweight, or carrying too much body fat.
oedema	Swelling.
omega-3	A type of fatty acid found in fish oils. It is found in large quantities in oily fish such as herring, mackerel, pilchards, sardines, salmon, trout, anchovies and fresh tuna. Eating foods containing omega-3 fatty acids can help prevent blood clotting and help reduce triglyceride levels.
osteoporosis	Thinning of the bones.
pacemaker	A device to stimulate contractions of the heart. It includes a pulse generator (the actual pacemaker) and either one, two or three electrode leads. The pacemaker is usually implanted in the upper left side of the chest and the lead is secured in position in the heart. The pacemaker gives the heart a signal to contract each time that

	<p>the heart fails to produce its own signal. (For more information see our booklet <i>Pacemakers</i>.)</p>
pacemaker registration card	<p>A card which has details of the make and model of your pacemaker. You can show the card to any medical professional who is treating you, including doctors and dentists.</p>
PAD	<p>See 'peripheral arterial disease' on page 51.</p>
palpitations	<p>When you become aware of your heartbeat, for example when it feels as if it is beating abnormally fast or slowly, or irregularly or heavily. (For more information see our booklet <i>Palpitations</i>.)</p>
paroxysmal	<p>Intermittent.</p>
passive smoking	<p>When a non-smoker inhales another person's smoke.</p>

patient-held record

A booklet, card or folder which you can use to keep a record of any visits made to the hospital, GP or practice nurse. In it you can make a note of any changes in your blood pressure, weight, cholesterol level and so on. It is for you to fill in, not for the doctors or nurses to complete. The aim is to help you understand how you can help yourself and feel more in control. Many NHS trusts produce their own cards.

percutaneous myocardial revascularisation

A technique used to try and improve blood flow to the heart muscle. A catheter (a fine, hollow tube) is inserted into an artery in the groin and is then guided through to the heart. A laser beam then creates channels through the heart wall to allow more blood to reach the heart muscle.

perfusion scan	A test to assess the level of function of the heart muscle. It also assesses the blood flow to the heart. A small amount of radioactive material (isotope) is injected into the blood. A large 'camera' positioned close to the chest picks up the gamma rays given off by the isotope. The test is usually done in two parts – the first while you are doing exercise and the second when you are resting.
peripheral arterial disease	Disease of the arteries that supply the blood to the limbs. (For more information see our booklet <i>Peripheral arterial disease</i> .)
PET scan	A test used for investigating coronary heart disease. PET stands for 'positron emission tomography'. The test involves having an injection of a small amount of radioactive material and then lying on a couch under a scanning device. This test allows doctors to examine the flow of blood and see how the heart muscle is working.

physiotherapist	A specialist who teaches breathing and coughing techniques, and encourages people to get moving again, for example after an operation.
platelets	Small blood cells which are essential for clotting.
PMR	See 'percutaneous myocardial revascularisation' on page 50.
pneumothorax	When the air leaks from the lungs into the chest cavity. This is a complication which sometimes happens as a result of procedures to the heart or lungs.
polyunsaturated fat	A type of fat found in foods which come from plants and fish, such as cornflower oil, sunflower oil, fish oil, and some margarines and spreads. Eating polyunsaturated fats rather than saturated fats helps to reduce the blood cholesterol level.

positive exercise ECG	A positive exercise ECG (electrocardiogram) is when significant changes are seen on the ECG during exercise. This may mean that you have coronary heart disease.
post-operative	After an operation.
potassium-sparing diuretic	A type of diuretic drug. See 'diuretic' on page 28.
pravastatin	A type of statin (drug), used to reduce cholesterol levels.
pre-admission clinic	A clinic where you can meet the hospital staff, and where all the medical tests and investigations that need to be done before an operation are carried out. If you go to a pre-admission clinic, you will not usually need to be admitted to hospital until the night before your surgery.
pre-eclamptic toxemia	A condition of pregnancy that includes high blood pressure.

pre-med	See 'pre-medication' <i>below</i> .
pre-medication	Drugs to make you sleepy before you are given an anaesthetic for an operation.
pre-operative	Before an operation.
prognosis	Outlook. Forecast of the course of a disease.
prophylaxis	Prevention.
proprietary name	Trade name (for example of a drug).
pseudoaneurysm	A balloon-like swelling in an artery or wall of the heart, which involves only a few layers of the vessel walls.
PTCA	Stands for 'percutaneous transluminal coronary angioplasty'. This is another name for 'angioplasty'.
pulmonary	To do with the lungs.
pulmonary artery	The artery that carries blood from the heart to your lungs. (See the illustration on page 7.)

pulmonary valve	The valve which regulates the flow of blood from your right ventricle to your pulmonary artery. (See the illustration on page 7.)
pulse generator	The part of a pacemaker that contains the electrical circuitry and the battery.
Purkinje system	The fibres in the heart which act like 'wires' to send electrical impulses through the heart.
radionuclide test	A test which provides information about the blood flow to the heart and heart muscle. A small amount of radioactive material (isotope) is injected into the blood, often while you are exercising on a stationary bicycle or treadmill. A large 'camera', positioned close to the chest, picks up the gamma rays emitted by the isotope. This shows which parts of the heart muscle are short of blood and measures how severe the condition is.

regurgitation	When a valve does not close properly, allowing blood to leak backwards.
rehabilitation	A way of helping a person to regain his or her independence. See also 'cardiac rehabilitation' on page 22, and 'rehabilitation programme' <i>below</i> .
rehabilitation programme	A programme for people who have had a heart attack or heart surgery, covering exercise, relaxation, and information on lifestyle and treatment. The structure of the programme can vary but people usually start the programme about four weeks after a heart attack or heart surgery. It may involve attending once or twice a week for between 6 and 12 weeks, although some programmes last longer. The programme might be run either at your local hospital or at a centre near you.

resuscitation	Actions to restore the breathing and circulation.
revascularisation	Any procedure that restores blood flow to a part of the body.
right heart failure	Inefficient pumping action of the right side of the heart.
risk factor for coronary heart disease	Something that can increase the risk of getting coronary heart disease. Risk factors for coronary heart disease include smoking, high blood pressure, high blood cholesterol, physical inactivity, obesity, diabetes and having a family history of heart disease.
saturated fat	A type of fat found mainly in food from animal sources (particularly dairy and meat products).
sick sinus syndrome	A condition in which a person experiences both slow and fast heart rhythms.

simvastatin	A type of statin (drug), used to reduce cholesterol levels.
single chamber pacemaker	A pacemaker with one electrical lead, either to the right ventricle or right atrium of the heart.
sino-atrial node	See 'sinus node' <i>below</i> .
sinus bradycardia	A normal but slow heart rhythm – less than 60 beats a minute.
sinus node	The part of the heart which produces the electrical impulses that control the heart's pumping action.
sinus tachycardia	A normal but fast heart rhythm – more than 100 beats a minute.
sodium	A chemical element found in salt. It can contribute to high blood pressure.
sphygmomanometer	An instrument used to measure blood pressure.

stable angina	Angina that comes on with a particular amount of exercise and is well controlled with drugs.
statin	A drug used to reduce cholesterol levels.
stenosis	An obstruction. Valve stenosis is when a heart valve does not open fully, and obstructs the flow of blood. Coronary stenosis is when the coronary artery becomes furred up, obstructing the flow of blood.
stent	A short tube of expandable mesh which is inserted at the part of the artery which is to be widened by coronary angioplasty. (See 'angioplasty with stenting' on page 12.) The stent helps to support the artery wall. See also 'drug-eluting stent' on page 29.
streptokinase	A drug used to help dissolve a blood clot which is blocking an artery. See also 'thrombolysis' on page 61.

stress echocardiography	When an echocardiogram (see 'echocardiogram' on page 30) is done after the heart has been put under stress – either with exercise or with a drug. If parts of your heart are damaged, they will contract less effectively and this may show up on the echocardiogram.
sublingual	Under the tongue.
supraventricular tachycardia	A disturbance of heart rhythm caused by rapid electrical activity in the upper parts of the heart. In these attacks the heart beats very fast, usually at a rate of between 140 and 240 beats a minute. In most cases the heart is normal in every other way.
suture	A stitch.
systolic blood pressure	When measuring blood pressure, systolic blood pressure is the highest pressure, which occurs when the beat or contraction of your heart forces the blood around the circulation.

tachycardia	A fast heart rate.
technetium	A type of radioactive substance used in radionuclide tests to study the size and pumping activities of the heart chambers.
thallium	A type of radioactive substance used in radionuclide tests to study the blood flow to the heart muscle. See 'radionuclide tests' on page 55.
thiazide	A type of diuretic (a drug), often used to treat high blood pressure.
thrombolysis	Drug treatment to help dissolve a clot blocking an artery.
thrombolytic drug	A drug used to dissolve a clot blocking an artery.
thrombosis	When a blood clot forms in the blood vessels or heart.
thrombus	A blood clot.

tissue valve	Valve from an animal or human. Sometimes used to replace a diseased or damaged heart valve.
transoesophageal	Across the oesophagus (gullet).
transoesophageal echocardiography	A procedure which involves taking detailed pictures of the heart from the gullet (oesophagus) which lies behind the heart. You 'swallow' a small probe which is mounted at the end of a fine, flexible tube. While the probe is in the gullet it takes 'pictures' of your heart. The tube and probe are then withdrawn. You will have a light sedative first, just to help you relax.
transplant (heart transplant)	An operation to replace the entire heart with one from someone else. (For more information see our booklet <i>Heart transplantation</i> .)
transvenous	Through a vein.

tricuspid valve	The valve which regulates the flow of blood from your right atrium to your right ventricle. (See the illustration on page 7.)
triglycerides	A fatty material found in the blood.
unit of alcohol	The amount of alcohol in a half pint of ordinary beer, or a small glass of wine, or a pub measure of spirits.
unsaturated fat	A type of fat found mainly in foods from plant and fish sources. Unsaturated fats include polyunsaturated fats and monounsaturated fats. Eating unsaturated fats rather than saturated fats helps to reduce the blood cholesterol level.

unstable angina	Angina which has just developed for the first time, or angina which was previously stable but has recently got worse or changed in pattern. If the pattern of your angina changes in this way, tell your doctor about it immediately. Or, call an ambulance if the pain does not go away after 15 minutes.
valve	A device to make sure that fluid flows only in one direction.
valve disease	See 'valvular heart disease' on <i>next page</i> .
valve incompetence	When a valve does not close properly, allowing blood to leak backwards.
valve stenosis	Narrowing of the valve.

valvular heart disease	When one or more of the four valves in the heart are diseased or damaged, affecting the flow of blood in the heart. If the valve does not open fully, it will restrict the flow of blood. If the valve does not close properly, it will allow blood to leak backwards.
varicose veins	Veins that have become stretched and dilated (widened).
vascular	To do with the blood vessels.
vein	A vessel carrying blood back from various parts of the body to the heart.
ventilator	An artificial breathing machine.
ventricles	The two main pumping chambers of the heart. (See the illustration on page 7.)

ventricular fibrillation	A life-threatening disturbance in the heart rhythm which causes the heart to quiver or 'fibrillate' in a disordered way.
ventricular tachycardia	A condition where there is a fast heart rate – between 120 and 200 beats a minute – in the ventricles (the two larger chambers of the heart).
warfarin	A type of anticoagulant drug, used to reduce the risk of blood clots forming.
xenograft	A graft using animal tissue.

For more information

British Heart Foundation website

bhf.org.uk

For up-to-date information on the BHF and its services.

Heart Information Line 08450 70 80 70

A helpline service for the public and health professionals, providing information on a wide range of issues relating to heart conditions.

Publications and videos

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For a complete publications list and order form, please contact:

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Heart Information Series

This booklet is one of the booklets in the *Heart Information Series*. The other titles in the series are as follows.

- 1 Physical activity and your heart
- 2 Smoking and your heart
- 3 Reducing your blood cholesterol
- 4 Blood pressure
- 5 Eating for your heart
- 6 Angina
- 7 Heart attack and rehabilitation
- 8 Living with heart failure
- 9 Tests for heart conditions
- 10 Coronary angioplasty and coronary bypass surgery
- 11 Valvular heart disease
- 12 Having heart surgery
- 13 Heart transplantation
- 14 Palpitations
- 15 Pacemakers
- 16 Peripheral arterial disease
- 17 Medicines for the heart
- 18 The heart – technical terms explained
- 19 Implantable cardioverter defibrillators (ICDs)
- 20 Caring for someone with a heart problem

Heart health magazine

Heart health is a free magazine, produced by the British Heart Foundation especially for people with heart conditions. The magazine, which comes out four times a year, includes updates on treatment, medicines and research and looks at issues related to living with heart conditions, like healthy eating and physical activity. It also features articles on topics such as travel, insurance and benefits. To subscribe to this **free** magazine, call **01604 640 016**.

Heartstart UK

For information about a free, two-hour course in emergency life-support skills, contact Heartstart UK at the British Heart Foundation. The course teaches you to:

- recognise the warning signs of a heart attack
- help someone who is choking or bleeding
- deal with someone who is unconscious
- know what to do if someone collapses, and
- perform cardiopulmonary resuscitation (CPR) if someone has stopped breathing and his or her heart has stopped beating.

About the British Heart Foundation

The British Heart Foundation (BHF) is the leading national charity fighting heart and circulatory disease – the UK's biggest killer. The BHF funds research, education and life-saving equipment and helps heart patients return to a full and active way of life.

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Heart health is a free magazine produced by the British Heart Foundation especially for people with heart conditions. See page 69 for more information.

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