

Cardiac Services

You and Your Heart

Coronary Angiogram

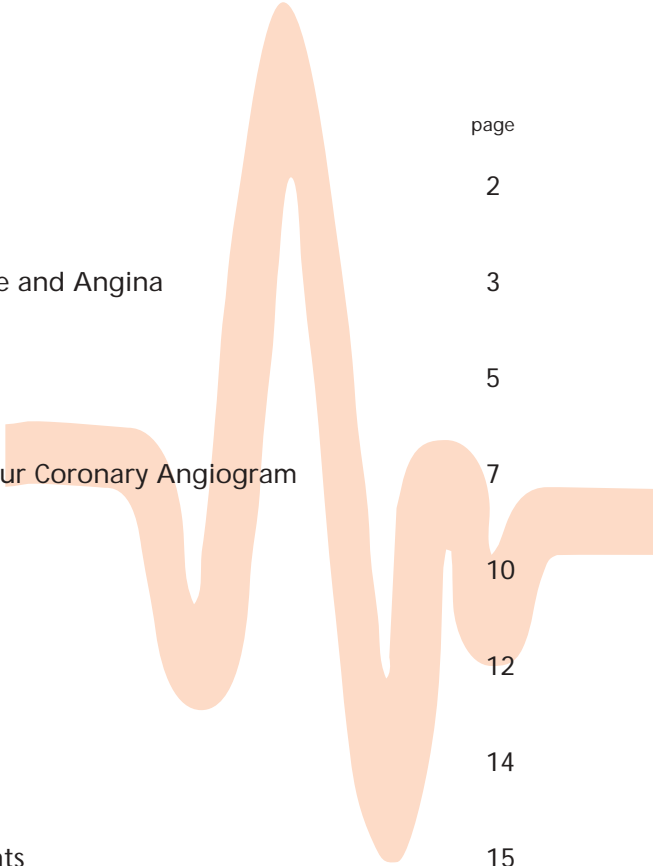


This booklet has been written to help you and your family/carers to understand:

- more about your heart
- how to prepare for your angiogram
- the angiogram test
- your stay in hospital
- your recovery
- possible treatments following the test.

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Part One

Your Heart

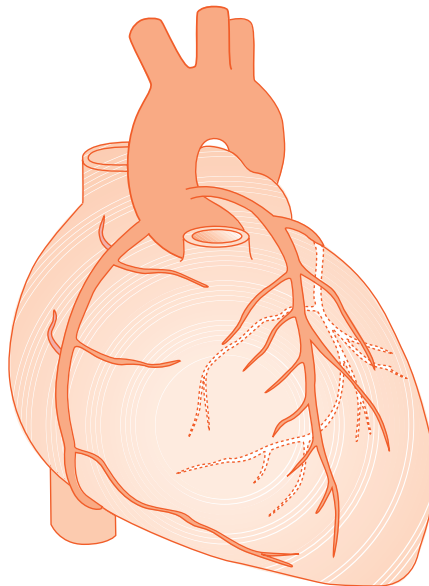
The heart is a muscular pump in the centre of the chest, the bottom end pointing slightly to the left. It is divided into two: right side and left side. Each side is then divided into two again, the top part is called the atrium, and the bottom is called the ventricle.

It has four valves; two on each side, which open and close like a one-way door to make sure the blood only flows in a forward direction. The blood is pumped, by the left ventricle, round the body and returns to the right upper chamber (atrium). From here it is pumped into the lower chamber (ventricle) and then into the lungs where it receives oxygen and nutrients. It is then pumped into the left atrium, into the left ventricle and all round the body.

The heart muscle itself needs its own blood supply and gets this from a network of blood vessels called coronary arteries. The two main coronary arteries are the right and left. The left artery divides into two, one part to the back of the heart (circumflex branch) and the other to the front (left anterior descending branch). Each artery is 3–4mm wide and spreads out like branches of a tree into smaller arteries so that all parts of the heart muscle receive a blood supply.

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Normal Heart



Part Two

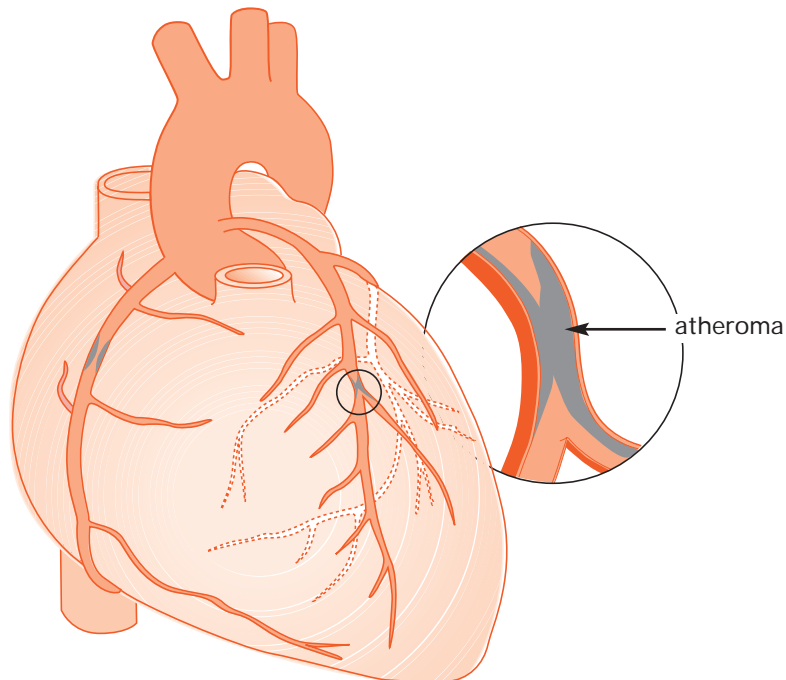
Coronary Heart Disease and Angina

Coronary heart disease occurs when the coronary arteries become narrowed or blocked by a fatty substance (atheroma). When this happens the heart muscle doesn't get enough blood and oxygen. This can cause pain or discomfort and is called angina. The pain can happen at any time. Strenuous activity, exercise, excitement, sexual intercourse, anger and cold weather can bring it on. Some patients get angina at rest.

The pain can be described as discomfort, heaviness, tightness or burning. It can be felt in the arm/arms, shoulders, neck or in the jaw. Some people also experience breathlessness.

Rest may relieve the pain.

Heart with Narrowings



Glycerine Trinitrate (GTN)

Some patients are prescribed Glycerine Trinitrate (GTN) spray or tablet. This drug widens the blood vessels and increases the blood supply to the heart and can act quickly to relieve an angina attack. The usual dose is one or two sprays or one tablet under your tongue.

If rest does not relieve the pain you should use your spray or take a tablet as instructed. If pain persists, use your spray again at five minute intervals. If, after 15 minutes, there is no relief from the pain you should call an ambulance.

Part Three

Coronary Angiogram (Cardiac Catheterisation)

Coronary Angiogram, sometimes called Cardiac Catheterisation, is performed to give detailed information about the coronary arteries, the blood vessels that supply the heart with blood and oxygen. This is done by inserting a catheter (a fine tube) into the artery in the right groin or wrist which is then guided to your heart. A clear dye, which is visible on x-ray, is injected and x-rays are taken to provide a clear picture of the heart arteries.

This test will help your doctor to decide on the best treatment for you.

Benefits

Angiogram gives yourself and your doctors detailed and accurate information about your heart and coronary arteries. Complete blockages, significant narrowings, mild irregularities or no disease at all are the range of possible findings from this test.

Although there are other tests to assess the blood supply and function of the heart, at present, there is no alternative to an angiogram that provides such a comprehensive assessment of the heart's blood vessels.

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Risks

Complications are rare but any of the following could occur:

- ♥ discomfort in the arm or leg
- ♥ bruising
- ♥ nausea
- ♥ tear, split or blood clot in the artery wall
- ♥ one in 500 risk of reaction to x-ray dye
- ♥ one in 1000 risk of death, stroke or heart attack
- ♥ one in 1000 risk of emergency heart bypass operation.

These figures are a general guide only and will be discussed with you when you attend the pre-assessment clinic and on your admission. Your doctor will discuss with you the risks of the procedure on the morning of your test and then ask you to sign a consent form. You will be given a copy of the form.

Heart Valves

If there is a possibility that you require a heart operation because of an abnormal heart valve, the cardiologist and heart surgeon may also wish to know about your coronary arteries and would want to perform an angiogram.

A lot of information about an abnormal valve may have already been discovered by an echocardiogram. This is an ultrasound scan, which can show narrowed or leaking valves.

Part Four

How to Prepare for your Coronary Angiogram

Information and Pre-assessment Clinic

Approximately one to two weeks before your angiogram you will be sent an appointment to attend the pre-assessment clinic where you will be seen by a nurse. Its purpose is to provide support and information for you and your family/carers whilst you are waiting for your investigation. Your relative/friend is welcome to accompany you. The clinic helps you to understand your medical condition and your forthcoming angiogram.

At the clinic we

- ♥ assess your physical health. Be sure to tell the nurse if you are asthmatic, diabetic, or have kidney problems or if you have hay fever or any allergies
- ♥ arrange blood tests and other investigations if needed
- ♥ discuss the benefits and risks of the angiogram
- ♥ answer any questions you may have.

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Please bring the medication you take with you. This will help us ensure you continue to receive your correct medication whilst under our care.

If you are diabetic you will be given specific instructions about your medication.

If you are taking Warfarin tablets, it is essential that you DO NOT take them for three evenings before the day of angiogram.

Before your Admission

You will receive a letter from the hospital to inform you on what date your test will be carried out.

If you are coming as a day-case admission, you can have a light breakfast of tea/coffee and toast before 6am. Please take all pills that you normally take in the morning at this time.

You will be discharged home approximately four hours after the angiogram.

Do not eat after 6am. You can drink clear fluids.

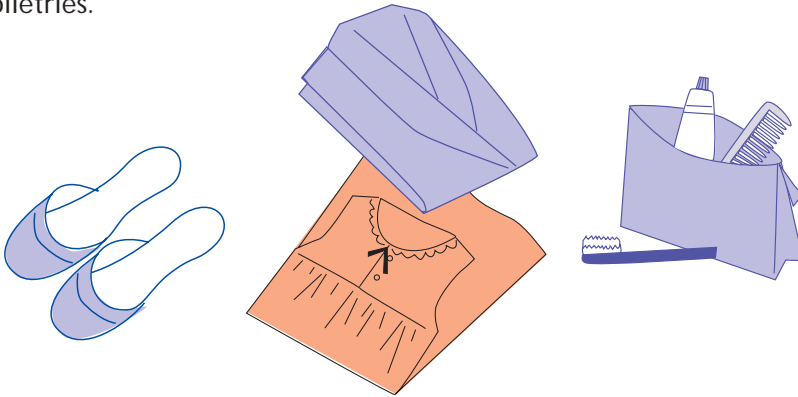
- ♥ Please remove any nail polish/make-up and jewellery.
- ♥ Bring your tablets/medicines, or a list of them, with you.
- ♥ If you take a diuretic (water) tablet you may prefer to bring it with you to the ward when you are admitted. One of the nurses will then advise you when you should take it.

Occasionally further tests or treatments need to be carried out which could make it necessary for you to stay in hospital overnight or longer.

Please bring

- ♥ night-dress or pyjamas
- ♥ slippers
- ♥ dressing gown
- ♥ toiletries.

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On your Admission

You will be greeted by a nurse who will complete your admission form.

He/she will

- ♥ take and record your temperature, pulse and blood pressure
- ♥ take an ECG (recording of the electrical activity of your heart),
- ♥ arrange for you to have blood tests if you take Warfarin.

A doctor will visit you. He/she will examine you, ask questions about your health and will answer any questions you have. The test will be explained to you. The benefits and risks involved will be discussed with you. You will be asked to sign a consent form and will be given a copy of the form for your reference.

The Day of your Test

You will be given a gown to wear. A nurse from the cardiac angiography department will collect you from the ward and take you to the angiography laboratory. On arrival there you will be introduced to the staff who will be with you during your test.

You will be taken into the room where the test will take place. You will probably notice that the room is quite cold. This is because the temperature has to be kept low because of specialist equipment used. If you feel cold be sure to let the nurse know and he/she will provide you with a blanket.



Part Five

The Angiogram Test

The Test

During the test you will lie on a special table, which you may find quite hard and fairly narrow. You will be given one pillow to support your head to make you comfortable.

You will be awake during the test. You may feel nervous and apprehensive. Try not to worry. Tell your nurse how you're feeling and he/she will help to make you more comfortable.

You will probably see a number of staff in the room who will look after you. The nurse and the doctor will be wearing sterile gowns and gloves.

The test usually takes about 30–40 minutes.

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Any hair where the catheter is to be inserted (your arm, groin or wrist) will be shaved. The nurse will clean the area with an antiseptic solution. It will probably feel cold. This area will then be covered with a sterile sheet and a local anaesthetic given to numb the area. The catheter is then put into the artery through a fine tube called a sheath.

You should not feel any pain during the test. You may feel slight discomfort in your chest, which may be similar to angina pain. If this happens, tell the doctor or nurse. You will not feel the catheter move inside you, as there are no nerve endings in the walls of the artery. An x-ray camera will rotate around the outside of your chest enabling us to take X-rays of different views of your heart.

Near the end of the test you will feel a sensation, like a hot flush, through your body. You may also feel you have passed urine. Don't worry, you haven't. This feeling is caused by the dye we use to show us your coronary arteries. This sensation will pass after a few seconds.

When the test is finished the catheter will be removed.

If the test is done through your wrist a pressure band will be applied round your wrist. This will be removed before you go home.

If the test was done through your groin, a closure device may be inserted into the wall of the artery. This seals the puncture site and helps stop any bleeding. These seals reduce the time it normally takes to stop any bleeding and speeds up the time when you can be sent home. You will not need stitches to the groin area.

Sometimes, if the doctors cannot use a closure device, the nurse will remove the tube. He/she will press on your groin for 10 to 15 minutes to stop any bleeding.

A nurse and porter will take you back to the ward/unit. You will be expected to stay in bed for one to three hours.

Your blood pressure and pulse will be taken and recorded frequently.

Your wound site will be checked regularly.

You will be asked to drink lots of fluid to flush the dye out of your system as the dye is excreted through your kidneys. The dye does not change the colour of your urine.

You will be able to eat and drink.

When the tests are completed you will be given the results and a treatment plan. Please feel free to ask questions.

Part Six

Your Recovery

Advice and Follow-up Care

If the angiogram was performed through your groin, you will have bed rest for about three hours, the first hour you will need to lie flat, and then you will be allowed to sit up. You will be expected to stay on the ward for at least another hour. You can walk around the ward area.

If you feel bleeding from the angiogram site, you must let the nurse know immediately, as he/she will need to press on your groin again for a short while to stop it bleeding.

If your wrist was used a special pressure device will be applied and will be kept in place for two to four hours. You will not have any stitches.

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Advice for Going Home

You will usually be able to go home in the afternoon. Remember you can't drive after the angiogram. We ask you not to use buses or the underground. The reason for this is that you are likely to be jolted on public transport. It would also be more difficult to get help in the unlikely event of you feeling unwell. We suggest that you return home by car, taxi, or on a main line train. You will need an escort to accompany you home.

Take things easy, limit walking for at least 48 hours.



Don't (unless otherwise advised)

- ♥ drive for 48 hours
- ♥ lift anything heavy and avoid unnecessary bending for two to three days
- ♥ bath for two to three days if closure device was used (in your groin); a warm shower is ok
- ♥ resume sexual activity for two to three days.

Wound Care

- ♥ If you have a closure-pad/angioseal dressing remove it after 24 hours.
- ♥ You may notice some bruising; this will gradually disappear.
- ♥ Do not put soap, talc or cream on your wounds for the first week after the test.

Consult your GP if

- ♥ your wound becomes red or tender
- ♥ you have a temperature
- ♥ you have extensive bruising and you are concerned
- ♥ you get pins and needles or numbness in your fingers.

Medication

Please continue with all your medicines as before unless your doctor tells you differently.

Your results and details of any new treatment that you need will be sent to your GP and local hospital consultant within about six weeks.



Part Seven

Possible Treatments

You will be given the results of your test and the treatment plan before you are discharged home.

You may be told that:

- ♥ no abnormalities have been found
- ♥ medicines/tablets are the best treatment for you
- ♥ you need an angioplasty (balloon treatment) and stent
This is a similar procedure to the angiogram to stretch narrowings in the coronary arteries and insert a stent which is a metal spring-like mesh tube. It is performed under local anaesthetic with light sedation, if needed.
- ♥ you need a heart bypass operation
- ♥ you need a heart valve operation.

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Whilst you are in hospital discuss any queries or concerns you may have with your nurse or doctor. After you go home our community liaison nurse will be happy to help. Your practice nurse or GP will also answer your queries.

Helpline Service

This service is available to give you and your family/carers advice and support. Please feel free to contact them if you have any questions or concerns.

The service is managed by cardiothoracic (heart and lung) health advisers between 9am and 5pm, Monday to Friday. You may leave a message on the answer machine outside these hours.

However in case of emergency or if you need a more prompt response you can contact your GP, NHS Direct (Tel no. 0845 4647), or your local Accident and Emergency department.

Helpline numbers are:

The London Chest Hospital	020 8983 2357
St Bartholomew's Hospital	020 7601 7891
The Royal London Hospital	020 7377 7344

Part Eight

Travelling Arrangements

Possible Routes of Travel

To St Bartholomew's Hospital

By train to Liverpool Street Station, then London Underground:

- ♥ Central Line—westbound to St Paul's or
- ♥ Hammersmith and City Line, Circle Line and Metropolitan Line to Barbican and Farringdon.

To The London Chest Hospital

By train to Liverpool Street Station, then London Underground:

- ♥ Central Line—eastbound to Bethnal Green.

Taxis are available outside Liverpool Street Station.

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If travelling by car, parking is limited. There is some off-street parking at The London Chest Hospital and an NCP car park near St Bartholomew's Hospital.

Further information can be obtained from British Heart Foundation:
www.bhf.org.uk.

Useful Telephone Numbers and Directions

The London Chest Hospital

Ground Floor

Outpatient's Department (OPD) 020 8983 2249

Angio Day Case Ward 020 8983 2405

First Floor

Coronary Case Unit (CCU) 020 8983 2354

Second Floor

Riviere Ward 020 8983 2341

Cardiac Admissions

020 8983 2459

020 8983 2254

020 8983 2398

020 8983 2384

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Cardiac Rehabilitation

020 8983 2357

Healthcare Governance Coordinator

020 7601 7811

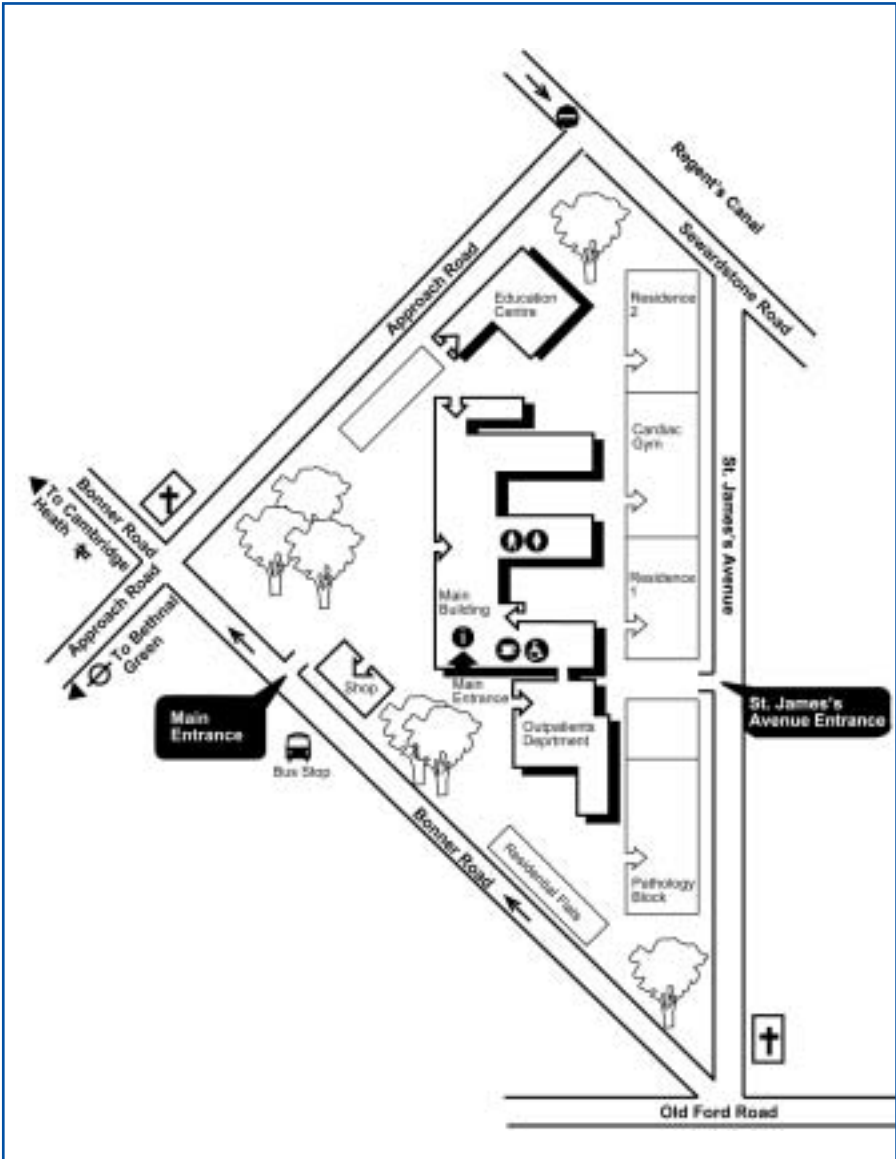
Accommodation for Patients & Relatives

020 8983 2422

(12:30 - 4:30pm)



The London Chest Hospital



St Bartholomew's Hospital

Queen Elizabeth II Building:

Ground Floor

Out Patient's Department (OPD) 020 7601 7402

First Floor

Angio Day Case Ward 020 7601 7051

Fourth Floor

Harvey Ward/Coronary Care Unit (CCU) 020 7601 7110

Cardiac Admissions 020 8983 2254

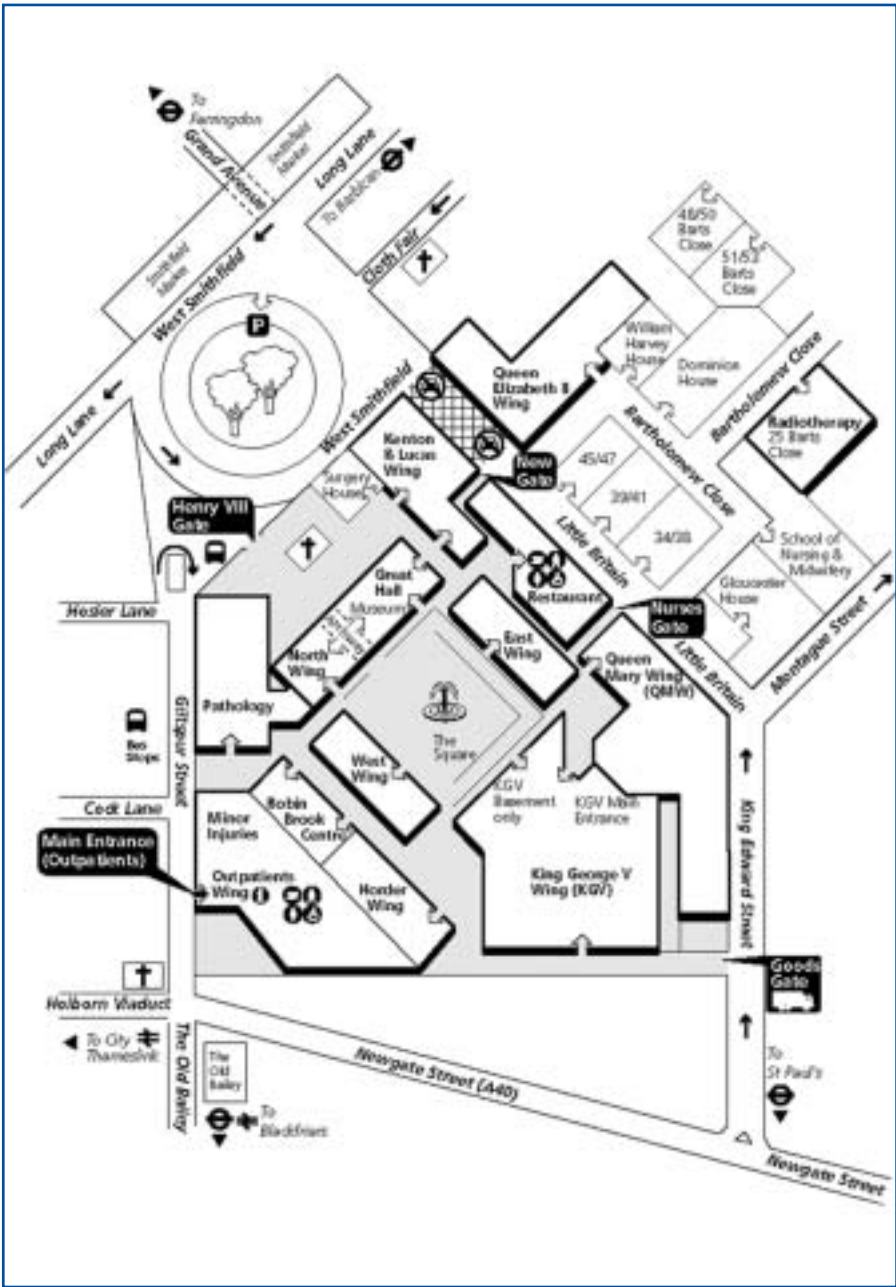
Cardiac Rehabilitation 020 7601 7891

Healthcare Governance Coordinator 020 7601 7811

Accommodation for Patients & Relatives 020 7601 7208
(9am - 1pm)



St Bartholomew's Hospital



Cardiac Rehabilitation Programmes

The following hospitals offer cardiac rehabilitation programmes. If you wish to attend one of these centres please contact the hospital concerned, or your GP.

Hospitals		Rehabilitation Coordinator Telephone Number
Basildon	Basildon, Essex	01268 394078
Barnet	Barnet, Middlesex	020 8216 4824
Broomfield	Chelmsford, Essex	01245 516376
Chase Farm	Enfield, Middlesex	020 8375 1887
Clacton	Clacton, Essex	01255 201520
Colchester General	Colchester, Essex	01206 742794
Great Western	Swindon, SN36	01793 604268
Homerton	Hackney, E9	020 8510 7642
King George's	Ilford, Essex	020 8970 8460
Newham General	Plaistow, E13	020 7363 8422
North Middlesex	Edmonton, N18	020 8887 4618
Princess Alexandra	Harlow, Essex	01279 827548
Queens	Romford, Essex	01708 435000 (ext.3223)
Royal London	Whitechapel, E1	020 7377 7344
Southend General	Southend on Sea	01702 385028
United Bath	Bath, BH1	01225 825028
Whipps Cross	Leytonstone, E11	020 8535 6749
Whittington	Archway, N19	020 7288 5649



Revised by Cardiothoracic Nurse Specialist:
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