

Harefield Hospital

Your coronary angiogram





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This leaflet gives general information about your coronary angiogram. It does not replace personal advice from a qualified healthcare professional. If you have any questions, please ask your doctors and nurses.

What is a coronary angiogram?

A coronary angiogram is a test to look at the main blood vessels that supply the heart with blood and oxygen. These blood vessels are called the coronary arteries.

An angiogram shows your doctor how well your heart is working, and the exact location and seriousness of any narrowed areas in your coronary arteries.

Narrowing of the arteries is caused by a build-up of a fatty substance, called atheroma.

A thin flexible tube, called a catheter, is inserted into an artery in your wrist (radial artery) or groin (femoral artery). The catheter is guided through your arteries to your heart using X-ray images. Then a special dye is injected through the catheter, so the coronary arteries show clearly on the X-ray.

The X-ray pictures help your doctor plan the best treatment for your condition.

Before your coronary angiogram

Pre-admission appointment

About 1 to 2 weeks before your admission to hospital for a coronary angiogram, you have a pre-admission appointment. We check your general health and fitness, make sure necessary tests have been done and answer any questions you may have.

The appointment is carried out by video using the Attend Anywhere secure web-based platform.

You can view a video and find out more information about Attend Anywhere on our video consultations web page:

www.rbht.nhs.uk/patients-visitors/patients/outpatient-information/videoconsultations



If you are unable to access the video platform, we can telephone you.

We try to keep to your appointment time as closely as possible. Please wait if your appointment is a little later than the arranged time.

If you do not speak fluent English, please have someone with you who will be able to translate.

A nurse consultant or clinical nurse specialist (CNS) carries out the appointment. We will ask you to discuss your health record, symptoms, allergies, and medicines.

Before the appointment, please make sure you have:

- an up-to-date prescription list as we will ask for the names and doses of any medicines you are taking
- details of your height and weight in metres and kgs
- a pen and paper ready to write down any extra information we give you
- watched the Explain my Procedure video of a coronary angiogram (see page 5 for details)
- read the consent form

During the appointment, we give you:

- advice about any medicines you need to stop taking before coming into hospital
- information about the procedure and answer any questions you may have

Blood tests need to be taken no more than 6 weeks before you are due to be admitted into hospital. If you have not had any recent blood tests taken, we will arrange for you to come to Harefield Hospital to have them done.

You may need to have a test for MRSA (meticillin resistant staphylococcus aureus). MRSA is a common infection. We will let you know during your appointment if you need to be tested. If you have MRSA, we need to treat it before your coronary angiogram. If we need to delay your coronary angiogram, for any reason, we will explain what happens next.

Explain my Procedure video of coronary angiogram

Please watch our video about having coronary angiogram before your pre-admission appointment.

To access the video, scan the QR code (shown right) with your smartphone or tablet. You then need to type in a password. The password appears in a printed version of this leaflet sent to patients having this procedure.



Please note: the coronary angiogram video is called 'Angiography' which is another name for the test used to check the arteries to the heart.

Do I have to attend a pre-admission appointment?

Yes. The appointment is part of your admission to hospital. Even if you have had a coronary angiogram before, certain parts of the procedure may have changed, and it is important you are well informed.

We may also find problems that need treatment before your admission to hospital – from an abnormal blood test, for example.

Unfortunately, if you do not attend your pre-admission appointment, we will have to rebook the appointment which may delay your admission to hospital.



Benefits and risks of a coronary angiogram and alternative tests

During the pre-admission appointment we discuss the benefits and risks of a coronary angiogram and alternative tests. Please read more information about benefits and risks, and alternative tests below.

Benefits of a coronary angiogram

A coronary angiogram gives a better understanding of your heart and helps your doctor plan the best treatment for your condition.

Risks of a coronary angiogram

All medical procedures carry some risk. A coronary angiogram is a relatively safe test. Less than 1 in 1,000 people have a serious complication as a result of having a coronary angiogram.

The risks depend on your overall health and the condition of your heart. Your doctor will discuss the risks with you.

Common risks

Bruising

1 in 100 people may have bruising caused by the insertion of the catheter. Sometimes the bruising is painful for a few days, but disappears over time.

The bruising may cause blood to build up under the skin to form a lump (haematoma). The lump gradually disappears and does not normally need any treatment.

Bleeding

1 in 100 people may have problems with bleeding from the artery when the catheter is removed. Bleeding is controlled by applying firm pressure.

Feeling faint

1 in 100 people may feel faint. Fainting (also called vasovagal attack) is caused by a drop in blood pressure and heart rate. Feeling faint is treated by lowering the head of the bed, or raising your feet, and giving medicines. Intravenous fluids (fluids given straight into a vein) may also be given to increase the heart rate and raise the blood pressure.

Abnormal heart rhythm

Less than 1 in 100 people may develop an abnormal heart rhythm. If treatment is needed, an electrical shock may be used to restore the heart's normal rhythm.

Stroke

Less than 1 in 100 people have a stroke as a result of having a coronary angiogram. The risk increases with age. Strokes as a result of this test are usually small and people usually make a complete recovery.

Aneurysm

In less than 1 in 100 people the artery where the catheter was inserted during a coronary angiogram does not heal completely. This may be at the radial artery or the femoral artery, depending on where the catheter was inserted.

This may lead to a bulging (swelling) in the wall of the artery, called a femoral or radial aneurysm. You may need a separate procedure to repair the aneurysm.

Allergic reaction

1 in 100 people may have an allergic reaction to the dye used to show the blocked arteries. Allergic reactions may need to be treated with intravenous medicines.



Kidney injury

The dye we use during a coronary angiogram could affect your kidney function. The risk is very low if your kidney function is normal before your coronary angiogram.

However, the risk is higher if your kidney function is abnormal before the coronary angiogram. The blood tests you have before you are admitted to hospital will show how well your kidneys function. If your kidney function is abnormal before your coronary angiogram, we give you fluids intravenously (through a vein) to protect your kidneys during the procedure.

Radiation

This procedure uses X-ray which is a type of radiation. There is a small risk that exposure to radiation used in an angiogram may damage some cells in the body, possibly leading to cancer in the future. If you have any questions, please ask your doctor.

Rare risks

Heart attack

Less than 1 in 500 people have a heart attack (myocardial infarction or MI). A coronary angiogram may cause damage to a coronary artery, causing it to suddenly narrow or block (a heart attack). Damage is treated by:

- inserting a catheter, with a tiny balloon at the end, into the artery and inflating the balloon to open the blockage. This is called an angioplasty.
- using another vein or artery as a bypass to re-direct blood around the blocked arteries. This is called a coronary artery bypass operation.

Infection

1 in 500 patients develop an infection of the area where the catheter was inserted. Antibiotics may be needed to treat this.

Damage to the heart

1 in 1,000 people may have a small tear in one of the chambers of the heart caused by the insertion of the catheter during a coronary angiogram. This can lead to blood collecting around the heart. The blood may need draining, using a small tube inserted below the breastbone, or with a separate procedure.

Damage to an artery

1 in 1,000 people may have damage to the radial or femoral artery. The damage may lead to bleeding or blockage of the artery. A separate procedure would probably be needed to correct the damage. Very rarely, the lack of blood supply may lead to the loss of a limb.

Death

Less than 1 in 1,000 people die during a coronary angiogram, as a result of their heart condition or other complications.

If you have any questions about these risks, please ask your doctor.

Alternative tests

A coronary angiogram is the best way of finding out exactly where the narrowed areas in the coronary arteries are. A coronary angiogram is an essential test if you are going to have surgical or catheter treatment for your coronary artery disease.

Other tests, such as a perfusion scan, an MRI (magnetic resonance imaging) scan or an exercise test, can tell us if you may have coronary artery disease, but cannot show where and how severe the narrowed areas are.

If you have any questions about your treatment options, please ask your doctor.



Preparing to come into hospital

Medicines

We give advice about your medicines at your pre-admission appointment.

Please bring all your medicines with you when you come into hospital for your coronary angiogram. This includes any medicines you take for other conditions, such as inhalers.

On the day of your coronary angiogram, take all of your usual morning medicines (except for any medicines we have asked you to stop taking, see below).

If you have any questions about your medicines, please ask your doctor or nurse.

Warfarin and other blood-thinning medicines

You may need to stop taking warfarin or other blood-thinning medicines before your coronary angiogram. We advise you about this at your pre-admission appointment.

Metformin

Please stop taking metformin 48 hours before your coronary angiogram. You should start taking it again 48 hours after your coronary angiogram.

Diuretics (water tablets)

The coronary angiogram may take up to an hour, so you may prefer to stop taking any diuretics (water tablets) on the day of your coronary angiogram.

There may be other medicines that you will need to stop before your procedure. We will talk to you about this during your pre-admission appointment.

Female patients

A coronary angiogram uses X-rays that may be harmful to an unborn baby.

If you think you may be pregnant, please contact the patient pathway schedulers on **01895 828 963**.

If you have not had a period in the 10 days before your coronary angiogram, we carry out a pregnancy test when you come into hospital.

Eating and drinking

You may have breakfast on the morning of your procedure.

You may drink water until it is time for your procedure. During your pre-admission appointment, we remind you when you can eat and drink.

Shaving

Please do not shave or remove hair from your chest, arms, legs or groin before coming into hospital. If needed, shaving is done in hospital just before your coronary angiogram.

Hygiene

It is extremely important that you have a thorough shower or bath the night before you come into hospital. Please pay special attention to washing under skin folds such as under the breasts, the groin and genital area. When you attend for your blood tests, we give you an antiseptic body wash to use the night before and the morning of your admission. Alternatively, this is posted to you.



Complete and send the consent form

Please make sure you have completed the consent form giving your permission for treatment. The easiest way to do this is to use the web link to the online (electronic) version of the form. Just click on it, tick the boxes and submit the form.

Do not worry if you are unable to do this, we will complete your consent form with you when you are admitted to hospital.

What to bring into hospital

Remember to bring:

- any forms we have asked you to complete
- all your medicines
- a dressing gown
- slippers that fit well and have a good grip
- your washbag with toiletries, such as a toothbrush and toothpaste
- something to read

Date of your coronary angiogram

If you have any questions about the date of your coronary angiogram, or you need to change the date, please contact the patient pathway schedulers on **01895 828 963**.

Bed confirmation

Your admission letter tells you to go to the acute cardiac care unit (ACCU) or the Cherry Tree day case unit for your coronary angiogram.

If you are going to:

- ACCU – call the ward before you leave home to make sure a bed is available. If there is not a bed available, we will explain what happens next.
- Cherry Tree day case unit – you do not need to call the unit to make sure a bed is available.

We ask you to arrive at the hospital at either 7.30am or 10.30am on the day of your admission. We confirm the time during your pre-admission appointment.

Arriving at hospital

Please go to the main reception and ask for the admission office. An admissions officer will check your details and direct you to the ward.

On the ward

When you get to the ward, a nurse shows you a bed/chair, where you wait for your coronary angiogram. The nurse checks that nothing has changed since your pre-admission appointment. You have a cannula (small plastic tube) placed in your arm/hand to enable us to give you medicines. You are asked to sign the consent form for the procedure if this did not happen in the pre-admission clinic. You have plenty of time to ask any further questions you may have about the procedure.



On ACCU – male and female patients usually share the same ward but have separate bays and bathrooms. There are exceptions, when we have emergency admissions, for example.

The Cherry Tree day case unit is a mixed-sex ward. We do try to separate male and female patients on the unit, although sometimes that is not possible.

Patients asked to arrive at 7.30am usually have their coronary angiogram carried out first.

We try to keep waiting times to a minimum, but sometimes there are delays when other patients need to be seen in an emergency. We will keep you informed of any changes.

If you have any questions, please ask the nurse looking after you or the matron.

What happens during your coronary angiogram?

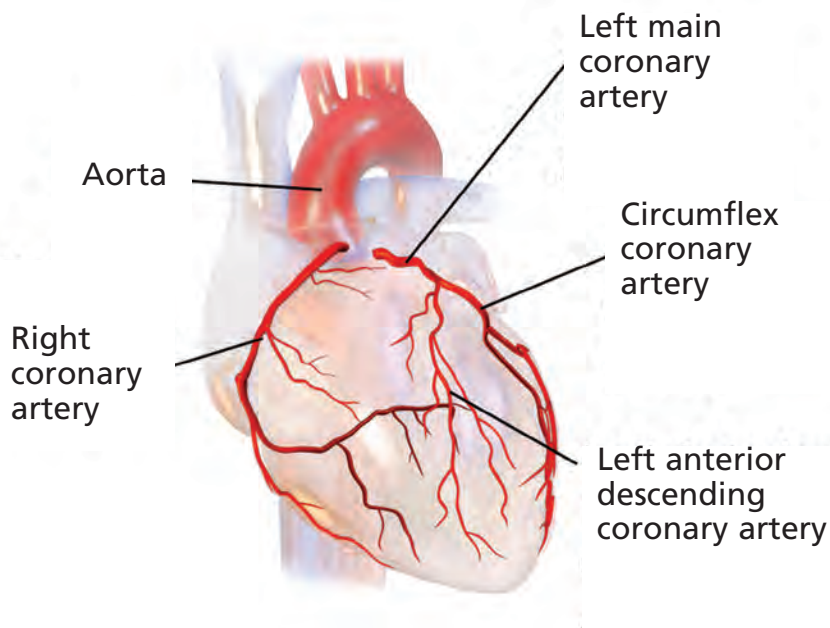
You have your coronary angiogram in a cardiac catheterisation laboratory (cath lab). The coronary angiogram takes about 30 minutes to 1 hour.

A local anaesthetic is injected in your wrist or groin to numb the skin. Then a small cut is made, to insert a small tube into the artery.

The procedure is done under a local anaesthetic, so you are awake throughout. If you feel anxious you can have a sedative. A sedative is a medicine that calms you down.

The doctor inserts the catheter through the small tube and guides it gently towards the heart. The doctor watches the catheter on a TV monitor, using a low dose X-ray. This is called fluoroscopy.

The picture on page 15 shows the coronary arteries of the heart.



When the catheter reaches your heart, the doctor injects a special dye into the arteries. The dye shows any narrowed areas or blockages in your arteries on the X-ray.

After the dye is injected, you may feel warm, flushed and as though you need to pee for a few seconds. You may also feel an occasional missed or extra heartbeat, but you should not have any pain.

We take a few X-ray images. The doctor may also ask you to take a few deep breaths and hold your breath.

If you sometimes get angina (pain in the heart), you may have chest pain during the coronary angiogram, but it should be no worse than usual.

During the coronary angiogram, we use a heart monitor to check your heart rate and rhythm. If you have new pain or other symptoms, such as shortness of breath, please tell a doctor or nurse.



When we have finished taking the X-ray images, we remove the catheter and the tube.

You will have a small wound in your wrist or groin, where the catheter has been removed.

The doctor applies firm pressure to stop bleeding from the wound. If your coronary angiogram is carried out through:

- **your wrist**

The doctor puts a band called a TR band on your wound. The TR band is inflated with air, to stop bleeding.

- **your groin**

The doctor may use a small plug, called an angioseal, to stop bleeding. The angioseal is made of collagen and is absorbed by the body over 90 days.

After your coronary angiogram

After your coronary angiogram, we will take you back to the ward. You need to rest in bed or in an armchair for 1 to 2 hours and have some food and drink when you feel ready.

If you have a TR band, the nurses will gradually remove the air, and then remove the band, and apply a dressing.

The nurses will also monitor your pulse and blood pressure.

You need to stay in hospital for at least 2 hours after your coronary angiogram.

We expect you to get up, dressed and moving as soon as possible after your procedure. Being active will help you to recover more quickly.

Visiting times

Please contact the ward that you are going to be admitted to for details of visiting times.

Your test results

Your cardiologist looks at the X-ray images and may suggest one of the following

- No further treatment, as your arteries do not have any significant narrowing.
- Carry on with your current medicines or change your medicines.
- Treatment to widen your coronary artery using coronary angioplasty and/or a stent. Please ask for a leaflet called 'Your coronary angioplasty'.
- Surgery to redirect blood around the blocked arteries, by using another vein or artery. This is known as a coronary artery bypass graft. Please ask for a leaflet called 'Your heart surgery'.

If you need further treatment, your cardiologist discusses this with you.

Going home

You need to arrange for someone to take you home after your coronary angiogram. This is because you must not drive for 24 hours after a coronary angiogram.

You are able to go home on the same day of your coronary angiogram. Sometimes you will need to stay overnight and go home the next day.

Before you go home, we ask you to walk up and down the ward several times to make sure that the wound in your wrist or groin has healed adequately.



If you have any questions when you are at home, please contact the ACCU or Cherry Tree day case unit. The contact details are at the end of this leaflet (see Useful contacts on page 19).

If you feel you need treatment urgently, please contact your GP, or go to the nearest accident and emergency (A&E) department.

Please remember that Harefield Hospital does not have an accident and emergency (A&E) department.

Getting back to normal

We give you a leaflet called 'After your angiogram or angioplasty' that gives more information about your recovery.

Work

It is normal to have 1 to 2 days off work after your angiogram. Please discuss this with your doctor or nurse.

Exercise

Do not do any exercise for 2 days after your coronary angiogram, while the wound in your wrist or groin is healing.

After 2 days you can build-up exercises gradually, but rest after exercise and avoid heavy lifting.

You should be back to normal in 4 to 5 days. If you have any questions about exercise, please ask your doctor or nurse.

Hygiene and wound care

You have a dressing on your wound when you go home. You can take the dressing off the next day.

You may have some bruising and a little tenderness around your wound. Remember to keep the wound clean and dry. It is okay to have a shower, but do not have a bath for 24 hours after your coronary angiogram.

Driving

You must not drive for 24 hours after the coronary angiogram.

Follow-up appointment or further treatment

If a follow-up appointment or further treatment is needed, we will give you an estimated time for an appointment before leaving hospital. You will then get a letter with the date and exact time.

Useful contacts

ACCU	01895 828 667 or 01895 828 648 (24 hours)
Pre-admission co-ordinators	01895 828 827 (Monday to Friday, 8am to 4pm)
Patient pathway schedulers	01895 828 963 (Monday to Friday, 8am to 4pm)
Cherry Tree day case unit	01895 828 658 (Monday to Friday, 7.15am to 8pm)
Cardiac rehabilitation team	01895 828 944 (Monday to Friday, 8am to 4pm)



Your notes



If you have concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call the Patient Advice and Liaison Service (PALS) on:

- Royal Brompton Hospital – 020 7349 7715
- Harefield Hospital – 01895 826 572

You can also email gstt.rbhh-pals@nhs.net. This is a confidential service.

Royal Brompton Hospital
Sydney Street
London
SW3 6NP
Phone: 0330 12 88121

Harefield Hospital
Hill End Road
Harefield
Middlesex
UB9 6JH
Phone: 0330 12 88121

Website: www.rbht.nhs.uk

Royal Brompton and Harefield hospitals are part of Guy's and St Thomas' NHS Foundation Trust

إذا كنت ترغب في الحصول على ترجمة فورية لمضمون هذه الوثيقة إلى اللغة العربية، يرجى منك الاتصال بأحد مستخدمينا بجناح المصلحة التي يتم فيها استشفائك. أحد موظفينا سيسعى لترتيب إجراءات الترجمة وإتمامها في الوقت المناسب لك.

Brosurteki bilginin Türkçe tercumesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercümenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

