

Cardiology services

Having a diagnostic coronary angiogram

Information for patients, relatives and carers

Contact details

Booking team: **020 3313 1661** or email: ICHC-tr.cathlabs@nhs.net

Cardiac day ward: **020 3313 1663** or **020 3313 4034**

**Due to Covid 19, visiting restrictions remain in place to keep everyone safe. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > visiting.

Pre-assessment Care Team: **0203 313 3412**

Transport booking team: **033 0678 1245** (Monday to Friday: 08.00-20.00, Saturday and Sunday: 10.00-13.00)

Above contacts are available Monday to Friday 09.00-17.00.

For out of hours, please contact NHS **111** for advice and health information.

What is a coronary angiogram?

Coronary artery disease (CAD) is a disease of the build-up of fatty substances in coronary arteries (the blood vessels of the heart) restricting the oxygen-rich blood supply to the heart muscle.

Coronary angiogram is a technique used in diagnosing CAD. It involves using an x-ray examination and a special dye that show up on the x-ray images (known as contrast). This contrast is injected into the coronary arteries to provide information on the site and severity of any narrowing of the coronary arteries.

In some cases, a special wire can be used to assess the severity. This is known as Pressure Wire (PW) study.

During a coronary angiogram procedure, the pressure inside each of the heart chambers can also be measured. This is also known as a Left and Right Heart Study. Other tests like assessing the contraction of your heart function can also be achieved. This is known as Left Ventriculography or LV gram. All these detailed information helps your doctor to decide on the best treatment for you.

A coronary angiogram is a day case procedure that takes between 1 and 2 hours. You should be able to go home in the afternoon.

As part of NHS safety measures in response to Covid 19, there are restrictions in place when visiting

our hospital. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > visiting.

Your friends/relatives can phone up the cardiac day ward to find out how you are doing and what time you will be discharged.

Why has a coronary angiogram been recommended for me?

Your doctor may recommend a coronary angiogram if you have:

- symptoms of CAD such as chest pain (angina), unexplained pain or pressure in your chest. This can sometimes spread down to your shoulder, arms, neck, jaw or back
- sudden cardiac arrest (SCA) where the heart unexpectedly stops beating
- an abnormal electrocardiogram (ECG) when resting or during exercise
- previous heart surgery such as coronary artery bypass grafting (CABG)
- heart diseases such as aortic stenosis

Are there any alternatives to a coronary angiogram?

A coronary angiogram will only be requested by your doctor if they feel that this is the best way to find out more information about your condition. Other tests such as ultrasound, computerised tomography (CT) scans and magnetic resonance imaging (MRI) scan can give some information but may not give the same level of detail as a coronary angiogram procedure.

What are the risks and complications involved in having a coronary angiogram?

The risks involved in having a coronary angiogram procedure vary from patient to patient. Your cardiologist will discuss the risk factors in detail with you on the day of your procedure and you will be asked to sign a consent form.

Complications may include:

Fairly common but not serious:

- bleeding or bruising around or from the puncture site

Uncommon but more serious:

- damage to the blood vessels
- blood clot formation and possible stroke or heart attack
- damage to kidney function
- infection at insertion site
- reaction to the contrast medium. This is very rare and only occurs in a small handful of patients
- death

What I need to know before having my coronary angiogram

Before the procedure, you will need to attend a nurse-led pre-assessment clinic as the next step in your care pathway. Currently, this pre-assessment service will be either a telephone or face to face appointment. For further enquiries, please contact the pre-assessment care team at 0203 313 3412.

It is important that you **arrange for a relative or a friend to take you home** after your procedure by car/taxi. You will not be able to drive or use public transport (on your own). **Your relative or friend will need to stay with you overnight or you may choose to stay with them for the night.**

If you do not have anyone to take you home or stay with you after your procedure, you **must** contact the booking team to **arrange a new date** or **pre-arrange an overnight hospital stay**. If you do not contact us, we may cancel your procedure on the day.

If you are pregnant or think you may be pregnant, you must contact your cardiologist for appropriate advice about your treatment.

If you have had vomiting or diarrhoea, a cough, cold or skin infection with or without a fever during the 3 days before your procedure, please contact the booking team.

Plan your hospital journey beforehand. Wear a face mask (if possible) while travelling using public transport, hospital transport, a family car or a taxi. Please note that Hammersmith Hospital has a small number of general and disabled car parking spaces. Please visit our website for more details <https://www.imperial.nhs.uk> > our hospitals > hammersmith > parking.

What if I cannot keep my appointment?

If you cannot attend your appointment, please contact the booking team immediately. This allows us to agree a new appointment date and time with you and offer your original appointment to another patient. We will always aim to re-schedule your procedure appointment to the next available date.

If you are running late on the day of admission, please contact the cardiac day ward to notify them your estimated arrival time.

What happens if I need transport or an overnight stay?

In line with Department of Health guidelines, we provide a non-emergency transport service for patients whose clinical condition or mobility makes it very difficult for them to attend hospital without transport assistance. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > help and support > patient transport.

Short stay studio flats are available for you and your visitors. We have purpose-built accommodation next to Hammersmith Hospital on Du Cane road. For further enquiries, please contact 020 3313 4873 or email imperial.accommodation@nhs.net for more information. Note that your relative or friend will need to stay with you overnight after your procedure.

How should I prepare for my coronary angiogram?

In response to Covid 19, we are taking every precaution to protect our patients and staff. We ask all patients and their carers to familiarise themselves with our new procedures for coming into hospital. Once you arrived at the hospital, please follow physical distancing rules (keep a two-metre distance from others), wear a face mask and practise good hand hygiene. Please visit our website for latest information on coronavirus infection prevention and control measures in place across our hospitals <https://www.imperial.nhs.uk> > patients and visitors > patients > coronavirus latest information.

Before coming to the hospital to attend your procedure, it is important to shower or bath. Please ensure any nail polish is removed and avoid applying heavy makeup. As monitoring equipment will be placed on your chest, it is advised not to apply moisturising skin lotion on your chest or on the procedure insertion sites - wrist or groin. To minimise the risk of infection, you may prefer to shave or remove any hairs from the chest, wrist and groin areas (if possible) on your own. If not, this can be done for you on the day of the procedure.

Please only bring essential items and avoid wearing jewellery or other valuables. Bring a dressing gown, loose clothing, and comfortable footwear such as a pair of slippers for ease. As you may be in the hospital for around 4 to 6 hours, we suggest bringing something to read or listen to with a headset or earphones while you wait.

It is important that you do not eat or drink before your procedure to reduce the risk of food and drinks going into your lungs:

- **no food or milky/flavoured drinks for 6 hours** before your procedure
- **only plain (non-flavoured) water** is allowed **until 2 hours** before your procedure

For more details on how to prepare for your planned procedure, please visit our website <https://www.imperial.nhs.uk> >patients and visitors > patients > planned procedures and surgery.

Medication

The pre-assessment care team and your doctor will have advised and discussed with you about stopping any medications before your procedure. Please bring all your medications that you are currently taking with you when attending your procedure.

If you have any drug allergies, please ensure that you inform the team.

If you have asthma, please bring your inhaler medication with you.

If you are taking any 'water tablets' (diuretics), you may wish to postpone having them and only take them after your procedure has been performed.

If you have diabetes:

- Please continue taking metformin unless advised otherwise by your doctor.
- You may be required to stop your insulin on the morning of your procedure or half your insulin dosage. The pre-assessment care team will be able to instruct you more during your pre-assessment clinic appointment. (Please bring your insulin medication with you on the day of

your procedure. If required, a sweet drink or glucose can also be given to correct your low blood sugar on the day of procedure).

If you are taking any blood thinning medications such as Warfarin, Dabigatran, Rivaroxaban, Edoxaban or Apixaban, please speak to your doctor or the pre-assessment team on how to manage these medications at least a week before your procedure or during your pre-assessment clinic appointment.

Please note the effects of Warfarin can vary between individuals. Your procedure can be cancelled and postponed if your International Normalized Ratio (INR) value is not suitable to proceed with the procedure.

If you are taking other medications that are not stated above, please continue your medications as per prescribed with a glass of water at 06.00 on the morning of your procedure unless advised otherwise by your doctor or the pre-assessment team.

Renal (kidney) dysfunction

If you have kidney disease, please speak to your doctor or the pre-assessment team about any precautions you may need to take to reduce the risk of developing dye-induced worsening of your kidney function.

Your doctor or the pre-assessment team will be able to advise you on any pre-treatment such as stopping some medications like diuretics, ACE-inhibitors or Angiotensin receptor blocking drugs and giving intravenous saline on the day.

A blood test (48 hours after the angiogram) may be required to assess your kidney function.

What happens on the day of my appointment?

Please arrive at the hospital at the time stated in your admission letter. Note that this will not be the actual time of your procedure. You will need to go to the cardiac day ward that is located beside the heart attack centre on the first floor of Block A, above the outpatients department. Please check in at the reception desk. Visit our website for our internal site map <https://www.imperial.nhs.uk> >our hospitals > hammersmith > hospital map.

A bed/chair space will be allocated to you where blood samples will be taken, and your medical history discussed. The cardiologist will explain the risks and benefits of the procedure to you. Once you have understood these and agree to go ahead with the procedure, we will ask you to sign a consent form.

If you are very anxious about the procedure and would like some sedation beforehand, please speak to the cardiologist or to a member of the nursing team. If you have any specific requests about the procedure (e.g., you want it done from a particular route), please let the cardiologist know and he/she can assess what is right for you.

You will change into a hospital gown and a member of staff will escort you to the procedure room.

We will ask you to lie down on the x-ray table and will connect you to the monitoring equipment. We will clean your groin area or wrist with antiseptic fluid and cover it with a sterile sheet.

The procedure

The cardiologist will inject local anaesthetic, which may cause some stinging initially, to numb the area. This stinging sensation will only last for a short period of time. When the insertion site is numb, the cardiologist will place the catheters into your coronaries from the large artery with the use of x-ray imaging. You may feel some pressure or pushing at the insertion site to begin with, but it should not be painful. If it does become uncomfortable, tell the cardiologist and they will give you some more local anaesthetic.

When the catheters are in the correct positions, the cardiologist will inject the contrast, a special dye used to highlight blood vessels on x-rays. As the dye is injected into your blood vessels, x-rays will be taken to provide the cardiologist with more detailed information of your coronaries. You may experience a warm sensation throughout your body when the contrast medium is injected - this is very common and normal.

When all the images are taken, the cardiologist will remove the catheter from the insertion site. If your wrist is the insertion site used for your procedure, a compression device called the TR band will be placed around your wrist to stop the bleeding.

If your groin is the insertion site, a closure device or plug will be used to stop any bleeding. In cases when a closure device or plug cannot be used, the nurse will stop the bleeding by pressing on the dressing covering the site for about 10 to 15 minutes.

Once you are back on the recovery ward, you will need to lie flat for at least 1 hour to avoid any bleeding from the insertion site at the groin. Afterwards, we will ask you to sit in a chair and/or mobilise (move around).

If your procedure insertion site was from the wrist, you will be able to sit in the chair after the procedure.

The nursing team will continue to record your pulse and blood pressure during this recovery time. If you feel unwell, please tell a doctor or nurse immediately.

What happens after the procedure?

It is normal to feel some slight discomfort around your insertion site (either on the groin or wrist). You should keep an eye out for any unusual pain, bleeding and abnormal discoloration.

It is important to keep the insertion site clean and dry. If it becomes sore and swollen or there is excess discharge or oozing, please contact the cardiac day ward immediately.

For out of hours, please go to your nearest urgent treatment centre: <https://www.imperial.nhs.uk> > our services > accident and emergency > urgent treatment centres.

You will not routinely require any new medications following your procedure. Any medications prescribed for you as a result of the procedure will be supplied by the hospital.

At home

Depending on your insertion site, most patients recover within a day. Return to work after the procedure will depend on what type of work you do and the overall state of your health. It is advisable to avoid any strenuous exercise or heavy lifting activities.

Before you leave hospital, the doctor or nursing team will be able to provide more information about showering/bathing and when you can return to work or your normal routine.

Driving - when to notify the Driving and Vehicle Licensing Agency (DVLA)

You may need to inform the DVLA about your procedure.

Group 1 licences (car, motorcycle): You do not need to notify DVLA but you **should not drive for 3 days to 1 week** after your procedure. Driving can be resumed if there is no disqualifying condition. More detail information can be found on DLVA website.

Group 2 licences (Lorries, buses): You must not drive and will need to inform the DVLA of your heart condition using form VOCH1. You may need additional tests to fulfil the DVLA requirements for a group 2 licence. You may be relicensed/licensed after 6 weeks if there is no disqualifying condition.

Please refer to DVLA website for further guidance <https://www.gov.uk/guidance/cardiovascular-disorders-assessing-fitness-to-drive>.



Or scan

Please note these guidelines are subject to change, always refer to the DVLA website for latest updates.

Is it safe to travel?

If there have been no complications, you will be able to travel after 1 week of your procedure. The UK Civil Aviation Authority has advised all passengers to discuss their individual medical circumstance with their doctor before making travel arrangements and always ensure that you have adequate travel insurance.

Useful links:

British Heart Foundation - <https://www.bhf.org.uk/>

How do I make a comment about my visit?

We aim to provide the best possible care and would like to hear about your experience of our services. By telling us about your experiences and raising any concerns you may have, it helps us to make improvements.

Please visit our website for more information <https://www.imperial.nhs.uk> > patients and visitors > help and support > your feedback.

If you have any general queries or would like to raise a concern, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) **020 3312 7777** (10.00 – 16.00, Monday to Friday). You can also email PALS at imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

If, despite our best efforts, we are not able to resolve your concerns informally with the staff caring for you or via PALS, you have the choice to make a formal complaint.

To make a complaint please email our complaints office at: ICHC-tr.Complaints@nhs.net or send a letter addressed to:

Complaints department
Fourth floor
Salton House
St Mary's Hospital
Praed Street
London W2 1NY

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages.

Please email the communications team: imperial.communications@nhs.net

Wi-Fi

Wi-Fi is available at our Trust. For more information visit our website: <https://www.imperial.nhs.uk> > our locations > hammersmith > our facilities.