



preparing for the **Cath Lab**

**Cardiac and Interventional Suite
Raigmore Hospital
Inverness**



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Welcome to the Cath Lab

You have been referred to the “Cardiac and Interventional Suite” otherwise known as “Cath Lab”.

This is staffed by a specialised team consisting of cardiologists (heart doctors), nurses, cardiac physiologists (who monitor the heart) and radiographers (who control the x-ray machine).

You have been listed for one of the following procedures.

If you are unsure which one, please phone one of the cardiology secretaries (*contact details at the back of this booklet*).

1. Diagnostic Coronary Angiogram (“angio”)

Passage of catheters to the heart to take x-ray pictures

2. Percutaneous Coronary Intervention (PCI or “Angioplasty”)

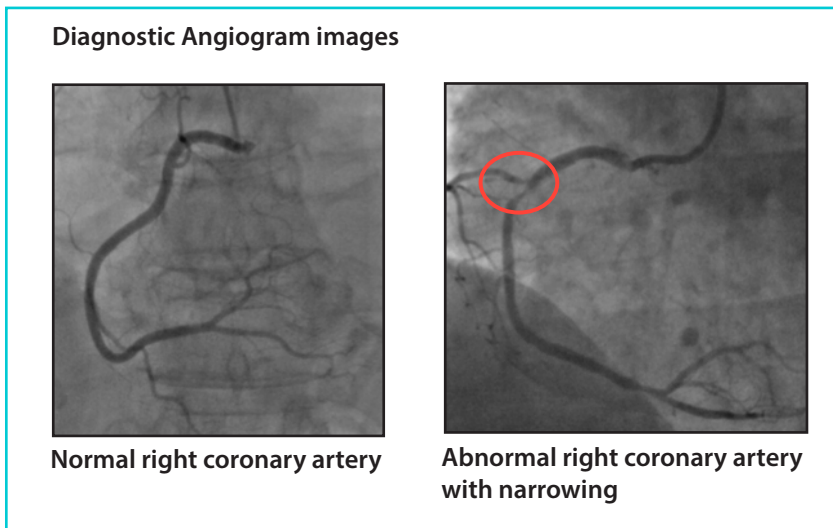
Ballooning and stents to open blockages (also known as coronary angioplasty)

3. Diagnostic Coronary Angiogram +/- PCI

Information about the procedures

1. Diagnostic Coronary Angiogram (or “Angio”)

This is a procedure to study the blood vessels (heart arteries) that supply blood and oxygen to the heart muscle. It is performed by injecting x-ray visible dye (contrast) through long, thin flexible hollow tubes (catheters), usually from the wrist or sometimes the top of the leg. These tubes extend all the way to the opening of the heart arteries, which are near the centre of your chest. X-ray pictures are obtained like the ones below. The one on the left shows normal arteries and the one on the right shows narrowings, which can limit blood flow to the heart muscle. These are caused by fatty deposits called “atheroma” or “plaque”.



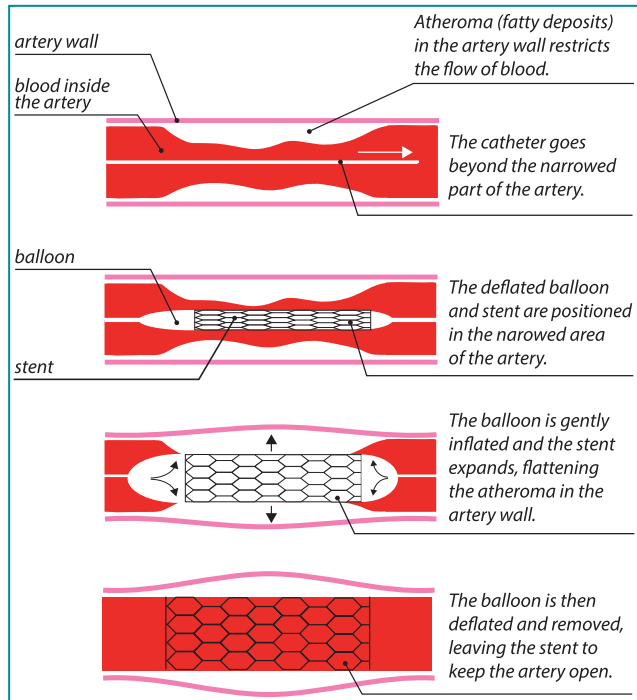
If you are having coronary angiogram, you can find out more information on the **British Heart Foundation (BHF) website (www.bhf.org.uk)**. If you type “angiogram” into the search box, you can watch an excellent video showing the procedure, along with additional information.

2. Percutaneous Coronary Intervention (PCI or “Angioplasty”)

PCI is performed using the same technique as the coronary angiogram.

Through similar hollow tubes, we can pass very small wires, balloons and stents (tiny metal mesh scaffolds) and this enables us to squash the fatty deposits against the walls of the heart arteries.

The stents stay in place for life and make the inside of the artery wider, allowing the blood to flow through it more easily.



Coronary angioplasty can be performed as a pre-planned procedure in a stable patient, or as an emergency procedure for someone typically suffering a heart attack caused by one of the heart arteries suddenly blocking.

If you are having coronary angioplasty, you can find out more information from the [BHF website \(www.bhf.org.uk\)](http://www.bhf.org.uk). If you type “angioplasty” into the search box, you will be guided to very informative documents.

3. Diagnostic Coronary Angiogram +/- PCI

If you have been listed for a coronary angiogram +/- PCI, then the team will perform a diagnostic angiogram first and then may be able to perform a coronary angioplasty, depending on the result and after discussion with you.

Preparing for the day



—— Starting medication

For patients having a diagnostic coronary angiogram, you do not need to start any new medication. For patients undergoing PCI (angioplasty) or coronary angiogram +/- PCI, you may be prescribed aspirin or clopidogrel or both. These 'antiplatelet' medications help to prevent blood clots forming on the stents. Do not be concerned if you are not already prescribed these medications, because the doctor may prescribe them on the day of your procedure.

If you have previous allergies or major problems with aspirin or clopidogrel, or if you have any serious bleeding problems, then please let us know beforehand, by phoning your consultant's secretary (telephone numbers at the back of this booklet).

—— Stopping medication

If you are prescribed **warfarin** and your consultant has not told you what to do with it, please contact your consultant's secretary at least a week before the procedure.

If you are prescribed **edoxaban, apixaban, rivaroxaban or dabigatran**, take your last dose two days before the day of your procedure, unless you have been told not to stop it.

If you are prescribed water tablets (**furosemide or bumetanide**), do not take these on the morning of your procedure and our staff will inform you on the day when to restart them.

Do not stop any other medications, unless you have been specifically asked to.



Arrangement for the day / commonly asked questions

Q: What arrangements do I need to make for after the procedure?

A: Someone to collect you from the ward, stay with you the rest of the day and overnight.

You will need a relative or friend to accompany you on public transport or drive you home. You cannot drive for 24 hours after an angiogram and for 1 week after a PCI (coronary angioplasty).

If you are having a PCI (coronary angioplasty); you should stay within 60 miles of the hospital on the night of the procedure date. If you live further away, then you should arrange accommodation locally beforehand.

There is sometimes accommodation available in the hospital grounds, telephone Kyle Court (01463 705560) to discuss if you are eligible. You will still need to have someone staying with you at this accommodation the night after the procedure.

Please contact your consultant's secretary if you are unable to make these arrangements. We can sometimes organise a bed overnight in hospital, but your procedure is more likely to be cancelled if the hospital is busy.

Q: What should I bring with me on the day of the procedure?

A: An overnight bag and a list of your medication. These tests are usually planned as day cases, although you may be admitted overnight for medical reasons. This is much more likely if you have a PCI (coronary angioplasty).

Reading material / personal music players etc to entertain yourself with, as you may be here the whole day with long periods of waiting. You should bring comfortable clothing to wear after the procedure.

Q: Do I need to fast for the procedure?

A: No, please have breakfast before you leave home.

Q: How long will I be in hospital?

A: Make plans to be with us for the whole day. Your appointment time is not your procedure time, we use the same Cath Lab for patients with emergencies, which may take priority over your procedure. Therefore there can be delays, so please be patient.

Q: Will I get the result of the test /treatment on the same day?

A: Yes, your cardiologist will discuss the results before you go home.

Read consent form and write down any questions

Please read the consent form included.

There is a section to write down any questions, which we can answer when you come in.

The doctor will discuss the procedure and any concerns you have and then they will ask you to sign the consent form. It is sometimes useful to discuss the procedure and the consent form with your family.

How the day will go

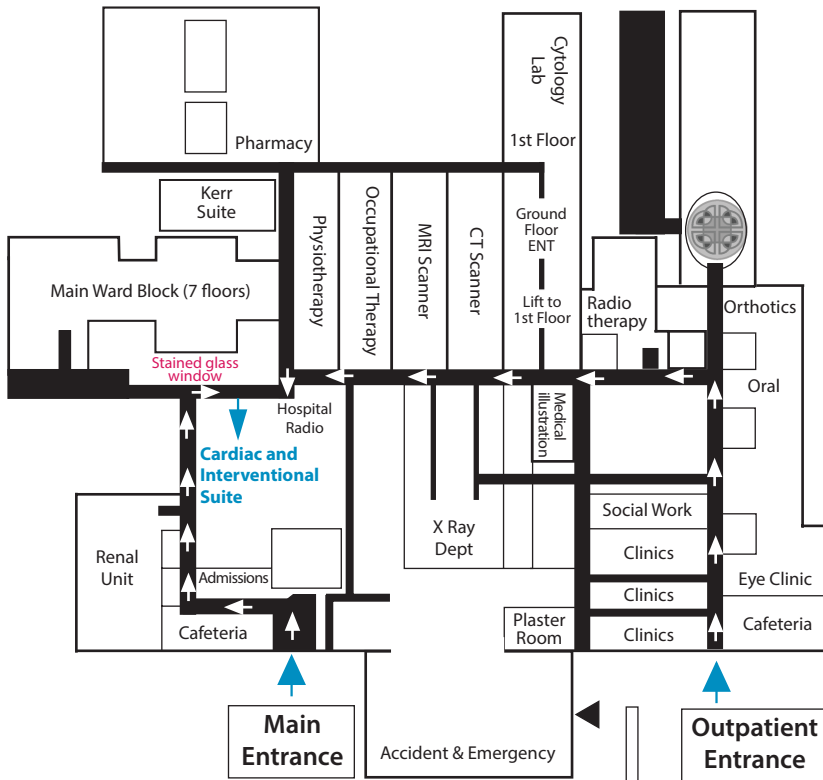
Where to go on the day

We are located in **Zone 5**. If you arrive at the main entrance, walk past the coffee shop, follow the corridor around to the right and walk straight ahead where you will see a **stained glass window**.

Turn right here and you will see a sign **“Cardiac and Interventional Suite”**. It is before hospital radio.



Cardiac & Interventional Suite



Before the procedure

You will be greeted by our receptionist, who will make sure your registration details are up to date and that we have any phone numbers we might need. A nurse will collect you from reception and show you to your bed or chair, allowing you to settle before asking you all the usual admission questions.

Your blood pressure, pulse, temperature, height and weight will be recorded and a heart tracing performed. Your nurse will place a tube (cannula or “venflon”) into a vein in your arm. This is needed to give fluids and sometimes medication during the procedure.



Your doctor will discuss the procedure with you and answer any concerns or questions you have. They will ask you to sign the consent form if you are happy to go ahead. You will then have a variable amount of time to wait for the procedure.



Once in the Cath Lab, you will lie on the x-ray table, be connected to the ECG monitor and you will be covered in a sterile sheet.

You will be awake throughout the procedure, but we are very happy to give you some sedation if you are at all anxious.

The doctor will inject local anaesthetic to numb the skin before placing a tube (sheath) in the artery. This is most commonly in your wrist, but if this is not possible, then the artery at the top of your leg can be used.

Small flexible tubes (catheters) are then passed from the sheath towards your heart. The x-ray camera will move around and you will be asked to move your head from side to side and occasionally to take a deep breath. We ask you to lay as still as possible during the procedure. Most patients have little or no discomfort during the test. The arm can ache with the tubes going up and down. Some patients feel a few extra heart beats

while we find the arteries. Some feel a hot sensation when contrast is injected and some feel some chest tightness on injecting the contrast as blood is displaced from the artery, but this only lasts a short time. All these symptoms are normal, but feel free to keep us informed at all times.

For an angiogram, the procedure may take just 20-30 minutes, but if you have an angioplasty, the procedure could take from 30 minutes to a couple of hours.

At the end of the procedure, the sheath will be removed. If it was in your wrist, a tight band will be placed to seal the puncture for 2-3 hours.

If it was your leg, then the doctor will remove the sheath and press at the top of your leg or sometimes seal the puncture with a small plug. You will have to lie on your back for 1-3 hours.

— After the procedure

Once back on the ward, you will have your blood pressure, pulse and puncture site monitored by the nurse. The recovery varies between patients, depending on exactly what procedure you had and what medications you are on.

You will be offered tea/coffee, toast or a sandwich during the recovery period. Once we are happy with your puncture site and there is no evidence of bleeding, then we will allow you to move around.

The doctor will come and discuss with you and your family (if you want) the results of your procedure.

Most patients who have had only an angiogram will get home, as long as they have someone to collect them and stay with them.

Your cannula will be removed and you will be ready to be discharged. Patients who have had an angioplasty may need to stay in hospital, depending on the complexity of the procedure.

Your nurse will explain to you and whoever is collecting you (ideally the person who is staying overnight with you) how to care for the puncture site when you go home.

You will be given a report with the procedure results and any changes to your treatment, which you can take to your GP.

After you get home

- You will not be discharged if you have any ongoing problems. Once you get home, if you develop any minor symptoms which are not controlled by your usual means, then you need to call **NHS 24 (111)**.
- If you have more serious problems such as significant bleeding from the area where the catheter was inserted, or if you feel unwell with chest pain that lasts more than a few minutes and is not relieved by GTN, then you should call **999**.
- For non-emergency problems related to the procedure, you can call the **Cath Lab day case** area during weekday working hours (**01463 705012**).

Risks of the procedure

Most complications are minor and may include a bruise under the skin where the tubes were inserted. This is not serious but can be sore for a few days. The discolouration can take a few weeks to completely resolve. Very rarely, you can get inflammation or infection where the tubes were inserted. Call us to discuss or tell your GP if the wound becomes red and tender, or you develop a temperature.

Serious complications are very rare, but do sometimes occur and therefore we do need to make you aware of them. Below is a table listing the complications for an angiogram in the first column and for coronary angioplasty in the second column. You will have the opportunity to discuss these risks and any other concerns with your doctor before you sign the consent form on the day.

This is the same table of complications listed on your enclosed consent form which we would like you to read carefully.

Serious Risks	Angiogram	Angioplasty/stent
Major artery damage or bleed (only if leg used)	1 in 100	1 in 100
Bleeding around the heart	N/A	1 in 500
Kidney damage requiring temporary dialysis	1 in 1,000	1 in 750
Stroke	1 in 1,000	1 in 1,000
Death	1 in 5,000	1 in 500
Major heart attack	1 in 5,000	1 in 100
Emergency heart bypass surgery	1 in 10,000	1 in 2,000
Serious adverse reaction to dye	1 in 10,000	1 in 10,000

The diagram below illustrates that if there is a 1 in 100 risk of a complication, then for every one hundred patients we perform a procedure on, 1 patient will have that complication.



Further Information

For general advice regarding the procedure or preparation for it, you are very welcome to telephone the cardiac day case nurses or your consultant's secretary.

Cardiac Day Case - 01463 705012

Dr Smith and Prof Leslie's Secretary - 01463 705462

Dr Mahrous Abouzaid and Dr Clarkson's Secretary - 01463 705005

Dr Watt and Dr Iskandar's Secretary - 01463 705943

Kyle Court - 01463 705560

The **BHF** has lots of information about heart conditions and procedures at www.bhf.org.uk

Scotland's health information service is a good source of information about illnesses, tests, treatment and services at www.nhsinform.co.uk

The Chaplaincy Department is a Highland-wide service which seeks to deliver Spiritual, Religious and Pastoral care. If you wish to see a member of the Chaplaincy team, then please let a member of the nursing staff know or you can contact them directly on **01463 704463**.

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