Coronary Angiography
Information for patients

This leaflet tells you about the procedure known as Coronary Angiography, (also known as having an angiogram or cardiac catheter). Please ensure you have had sufficient explanation and you understand the procedure before you sign the consent form.

Why do I need an angiogram?
The heart is a muscle and like all muscles in the body it needs to have a good blood supply in order to work properly. Your heart gets blood from three main blood vessels called the coronary arteries. Your doctors feel you may have a problem with the blood supply to your heart muscle and a coronary angiogram will confirm this.

What is a coronary angiogram?
The angiogram is an x-ray test used to show the blood flow in the coronary arteries. A special dye known as contrast fluid is injected into the coronary arteries via an artery in your groin or your arm. The dye can be seen when x-rays are taken and this will show whether the coronary arteries are normal, narrowed, irregular or blocked. The procedure is performed under local anaesthetic and usually takes around 20 minutes.

Benefits of angiography
The angiogram provides detailed information about your coronary arteries. The results of the angiogram are important to help you and your doctor decide the best treatment option for you.

What are the risks?
Although coronary angiography is a very safe procedure, the angiogram procedure cannot be performed without some element of risk. The majority of patients have no major problems but the following complications can occur.

- Bleeding at the puncture site; this usually settles with pressure over the puncture site.
- Bruising around the puncture site; this is common and may take some weeks to go. Sometimes more pressure over the puncture site is necessary. Very rarely the bleeding or bruising is very severe and a minor operation may be needed.
• Some people may have an allergic reaction to the x-ray dye. If you have any allergies you must tell your doctor and nurse. This reaction almost always responds rapidly to medical treatment.
• Major complications are extremely rare but can include damage to the leg artery, heart attacks, strokes and death.

You will have the opportunity to discuss these risks and how they may affect you further prior to the procedure.

Are there any alternatives?
A number of other tests can be used to get an idea of the blood supply to the heart muscle including a treadmill test, a special exercise echo scan or a special exercise nuclear scan. You may have already had one of these.

It is important to remember that the angiogram is the only test that shows your coronary arteries in detail so that further treatments, if necessary, can be planned thoroughly.

What happens before the procedure?
Most angiogram procedures are carried out locally in the Cardiac Catheter Labs at either Kent and Sussex Hospital or Maidstone Hospital. A small number of patients who require more complex investigations have these at a London Hospital.

Most patients are admitted on the day of the procedure though very occasionally, some patients may need to come in the evening before. If you need to contact someone before your admission you can:

• Speak to your GP
• Phone the admissions team in the Catheter Lab
• Phone the secretary to your Cardiologist

If you cannot attend your appointment please contact the admissions team, as soon as possible, on the telephone number given on your appointment letter.

PLEASE READ CAREFULLY
Preparing for your procedure:
Take all medications (other than Warfarin and Metformin) as usual. Please bring your current medications with you (or a list of what you are taking) so that we can prescribe these correctly.

• If you are taking WARFARIN or PHENINDIONE this must be stopped 4 days before your procedure
• If you are diabetic and take METFORMIN this must be stopped 24 hours before your angiogram. This should not affect your diabetes management. You can recommence your Metformin 48 hours (two days) after the procedure.
• If you are taking insulin you should miss your usual morning dose. We will measure your blood sugar when you arrive and give you insulin as needed.

On the day of admission:
• Take a bath or shower and carefully shave a patch of skin about 4 inches around the skin crease at the top of your right leg. Do not worry if you are unable to do this, it can be done for you before your procedure.
• If you are coming for a morning appointment please have a light early breakfast and then nothing to eat or drink after that, but please continue to drink water.
• You will be asked to put on a hospital gown and asked to walk to the Catheter Lab - please bring a dressing gown and slippers with you.

Please do not bring any money or valuables with you. The ward telephone will be available for you to use if required.

You must let the Catheter Lab staff know if:
• You have any allergies.
• You have had a previous reaction to intravenous contrast medium, (the dye used for kidney x-rays and CT scanning).
• You may be pregnant; if applicable you will be asked to confirm this on the day of your procedure.
What can you expect in the laboratory and who will be there?

The angiography laboratory can seem intimidating as it is full of medical equipment such as monitors and a big x-ray machine within quite a small space. There is a team of three people who will assist your Cardiologist with the procedure. They are a specialist trained nurse, a radiographer to take the x-rays of your heart and a technician to watch the monitors. They will do everything they can to put you at your ease.

You may have to wait for a short time in one part of the lab until the team are ready for you.

What happens during the angiogram?

You will be asked to lie on your back on the couch while the angiogram is carried out. First the doctor will give you a local anaesthetic to make your skin numb, this stings to begin with but will soon settle.

If you are anxious before or during the procedure ask for some medication (sedation) to help you relax; this is given through the needle in your arm. You will be awake during the procedure and be able to talk.

The doctor will then thread a small tube (sheath) into your artery using a needle. Thin tubes or catheters are then passed through this sheath into your arteries up to your heart. To make it possible for the doctors to see your heart’s arteries in detail x-ray dye can then be injected into each of them. Pictures are taken from a number of different angles so that if there are narrowings present these can be seen clearly.

The whole procedure usually takes less than half an hour. When the doctor is satisfied with the pictures taken the catheters and sheath are removed from the artery. The puncture hole in your groin is usually plugged with a special device called an Angio-Seal.

What happens after the angiogram?

You will be taken back to the recovery area on a trolley. Nurses in recovery will carry out routine observations. Your pulse and blood pressure will be taken and the pulse in your foot or arm will also be checked. The nurses will monitor your groin or wrist puncture point to make sure there is no bleeding.

You will generally stay in bed for an hour, although it may be longer, until you have recovered – the time period may differ for each patient and your nurse will tell you when you can get up. You may eat and drink once you are sitting up in bed. Most patients are allowed home on the same day after a discussion with a member of the medical team. You must not drive for 48-72 hours after your procedure so you will need to arrange for a responsible adult to collect you and take you home.

When you go home

Before being discharged from the unit you will see your Cardiologist and given the results of the angiogram, as well as being given a discharge advice sheet by the nursing staff looking after you.

Resuming Activities

- You are advised to rest for the remainder of the day and you should ensure that a responsible adult stays with you on the first night as a precautionary measure.
- After 24 hours you may be as active as normal but if you have any concerns about exercise or returning to work after your procedure please discuss this with the ward staff.
- Avoid heavy lifting for a couple of days.
- We advise you not to drive for a couple of days after your angiogram.
- You may bath or shower 48 hours after your procedure, earlier than this may encourage bleeding. If there is a plaster on your wound you may remove this the next day.
Diet
- You may eat and drink as usual when you get home but avoid alcohol for 24 hours.
- You should also drink plenty of non-alcoholic fluids to clear the contrast fluid from your body.

Medications
- Your doctor will advise you of any changes to your medications when they discuss your results with you on the day of your procedure or at your follow-up outpatient appointment.
- If you are on Metformin please restart taking your Metformin two days after your procedure.
- If you are on Warfarin your doctor will advise you on recommencing and dosage before you leave the department.

Wound Care
It is normal for your groin or arm to be tender for a few days after the angiogram. It is also normal for a bruise or tiny lump to develop.

The Angio-seal plug used to close your artery will dissolve within three months (90 days). Your nurse will give you an information card about the Angio-seal and you should carry this with you for three months.

What to look out for
- A larger area of swelling is observed in your groin; apply firm pressure to the puncture site for 10 minutes. If the swelling does not disperse or continues to grow, contact your GP immediately, or come to the A&E Department.
- If bleeding at the site occurs, press fingers very firmly over the site for 10 minutes or until bleeding stops. If bleeding persists, contact your GP immediately or come to the A&E Department.
- If your foot/toe/arm/fingers becomes more pale or colder than usual or you experience uncharacteristic tingling or numbness in these areas, contact your GP immediately or come to the A&E department.

DO NOT DRIVE YOURSELF – You must get someone to take you to your GP or to the hospital.
- You should also contact your GP if you have increased pain, swelling, redness &/or discharge at the site.

Chest Pain
You should NOT expect to experience any increase in chest pain due to the procedure.

Any CHEST PAIN should be dealt with as below:
- If you have angina, stop, sit down and take 2 puffs of your GTN spray. Wait 5 minutes. If you still have chest pain use your spray again. Wait another 5 minutes. If you still have pain after a further 5 minutes repeat once more (three times altogether) If the pain has not gone phone 999.
- If you do not have angina and you experience chest pain, stop and sit down for 10 minutes. If the pain has not subsided phone 999 and take 300mg of aspirin if you are not allergic to it.

Who to contact if you have any queries or concerns?
CCU (Maidstone Hospital) ☏ 01622 224643
CCU (Kent & Sussex Hospital) ☏ 01892 632417
Cardiac Catheter Lab K&S ☏ 01892 632602/3
(Mon-Fri; 08:00-16:30)
Your GP
NHS Direct ☏ 0845 46 47
NHS Direct online www.nhsdirect.nhs.uk
Patient Advice and Liaison Service (PALS)

If you would like to comment on Trust services, have concerns or need information, you can contact the Patient Advice and Liaison Service (PALS). PALS will listen to your views and using a wide range of contacts and resources, help find ways of resolving any queries or difficulties. The PALS Officers can be contacted at Maidstone or Kent and Sussex Hospitals where the offices are situated in the main entrance, Monday to Thursday 9.00am to 5.00pm, Friday 9.00am to 4.30pm.

Telephone: Maidstone Hospital 01622 224960
Kent & Sussex and Pembury Hospitals 01892 632953

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