



Angiogram and Angioplasty

Procedure Guide

Coronary Angiogram

Coronary Artery Disease (CAD) occurs when fatty deposits (plaque) build up on the inside of the arteries causing narrowing. This leads to decreased blood flow causing chest pain (angina) or complete blockage of the artery causing a heart attack. If the Doctor suspects that you have CAD, they may recommend a Coronary Angiogram.

A Coronary Angiogram is a specialized x-ray taken of your coronary (heart) arteries to see if they are narrowed or blocked when CAD is suspected.

The procedure is carried out in the Coronary Catheter Laboratory (Cath Lab/CCL) of the hospital.



Source: Google Images

Preparation for the test

When admitted to the hospital you will be interviewed by nursing staff about your previous medical and surgical history and record your vital signs.

You will be advised by your Doctor to have nothing to eat or drink for some time before the procedure. If you are a Diabetic you will be given instructions by your cardiologist about your medications before going to the procedure room. It is important to take your usual cardiac medications, anticoagulants (except Warfarin and Clexane as instructed by your doctor). You should not take your antidiuretic medication.

Prior to your procedure you will have one/ both groins shaved/ clipped, and are asked to shower with a medicated sponge (if you are on the ward). Once



Mater Health Services NQ Cardiac Catheter Laboratory

showered, you need to dress in a theatre gown (that does up down the back) and pants (that tie each side) to go to the Cath Lab/CCL. You will not be able to apply deodorants, make up or talcum powders prior to your procedure.

You will have an Intravenous Cannula (IVC) put into your vein in your hand/arm on the night before (if in the ward) or early morning of the procedure in which the nurse may start some intravenous fluids if ordered by your doctor prior to going to Cath Lab/CCL.

Before going into the Cath Lab/CCL some doctor's will order medication which will relax you. You may/maynot be awake throughout the procedure. The procedure is painless however if you are feeling anxious, medication can

be given through a vein in your hand/arm to relax you. It is a good idea to visit the toilet prior to the procedure as there will be an interval that you must lay flat in the bed after the procedure.

The procedure

On arrival to the Cath Lab/CCL you will have a short wait in the Recovery Unit while staff prepare the procedural lab for your procedure. You will be taken into the Cath Lab/CCL on your bed. Once in the Cath Lab/CCL you will be transferred to a special bed surrounded by x-ray equipment. You will be connected to a heart monitor and covered with sterile drapes. The doctors and nurses will be wearing sterile gowns, gloves and possibly masks. The test will take around 30 mins to 1 hour. It is necessary for you to lie quietly in the Cath Lab/CCL and not move or touch the sterile drapes.

The usual site for insertion of the catheter is the femoral artery in the groin, although it is possible to gain access from other sites such as the wrist. Once the doctor has decided which point of entry is the most suitable, this area will be injected with local anaesthetic. A small incision is made over the artery and a small



Mater Health Services NQ Recovery Unit

plastic tube is inserted into the artery in your groin. Insertion of this plastic tube (catheter) into the main blood vessel of the body is guided by x-ray into the coronary arteries. An x-ray sensitive dye is then injected through the tube which allows the doctor to see the arteries supplying the heart. Any blockages or narrowing can then be seen on x-ray. There should be no pain during the procedure however you will experience different sensations. You may feel pressure during the insertion of the catheter and when the dye is injected it may cause a hot flush that travels all over the body and may last for 10 - 15 seconds. Sometimes the dye may make you feel like you need to urinate or have a bowel movement but this sensation will pass quickly.

Once the catheter is in position the



doctor may perform a number of tests. The x-ray machine will move around you to allow for different pictures to be taken.

After the tests are finished, the fine catheters are removed and depending on the doctor's preference a closure device is used on the artery puncture site to control bleeding.

After the procedure

You will be transferred back to the Recovery Unit on your bed where staff will monitor your blood pressure and heart rate and the sheath insertion site in your groin. If the sheath is still in place it will be removed by the nurse who will need to place firm pressure for about 15 minutes to ensure bleeding does not occur.

You will be monitored every 15 minutes following sheath removal for at least ½ hour.

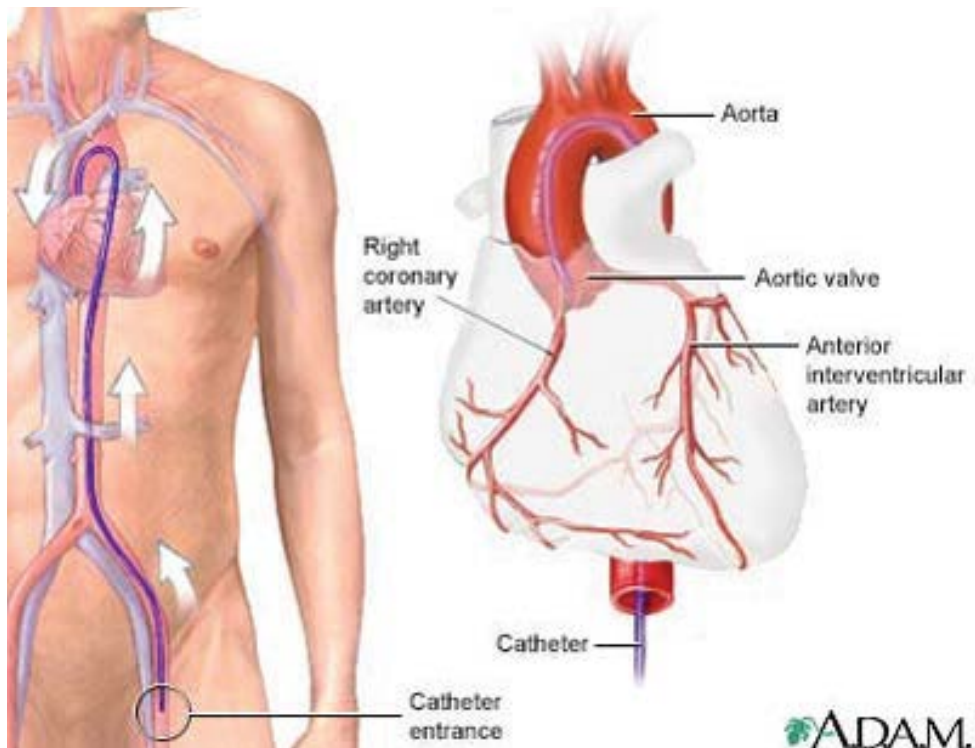
You will then have to remain in bed for 4 – 6 hours, during which time you will be asked to lie flat on your back for some hours. It is important that you keep your affected leg straight during this period. You will be slowly raised to a sitting position before you are able to mobilise.

It is important to notify the nursing staff if:

- You have any chest pain or pain at the insertion site
- The arm or leg where the catheter was inserted becomes cold or numb, or you feel warmth or wetness around the site as this may be a sign of bleeding

- Tightness or swelling in the side of the procedure.

Your doctor will discuss your angiogram results with you before discharge. If there is a problem with your heart, he will discuss the options for further treatment.



Source: www.righthealth.com/adam/graphics/images

When you go home

- No sitting in a bathtub or swimming for 1 week post discharge.
- No heavy lifting for 1 week post discharge.
- Do not drive a vehicle or operate machinery for 48 hours.
- No excessive exercise, no squatting, no bending at the groin for this period of time.
- Light activities for 48 hours,
- If you have a plastic dressing over the wound, this should be removed after 2-5 days depending on doctors orders.
- Gently wash the wound area and pat dry.
- Patients should expect to have minimal discomfort and some bruising around insertion site.
- If patients need to cough, sneeze or strain during the first 48 hours post procedure, they should be shown to support the insertion site with palm of their hand.
- Have a responsible adult carer available for first 48 hours should the groin bleed and digital pressure is necessary.

You should call your doctor if you

- Have chest pain – Call 000.
- Have persistent pain at the insertion site.
- Develop a large swelling at the insertion site.
- The insertion area bleeds.

Apply firm pressure above the insertion site if it begins bleeding and hold pressure until it ceases.

If necessary take a mild analgesia such as panadol (taken as directed) for any discomfort.

In addition to the above, for 24 hours following your sedation you

MUST NOT

- **Consume alcohol.**
- **Make important decisions.**
- **Sign legal documents.**
- **It takes your body 24 hours to clear itself of the anaesthetic drugs.**

Radial Approach Post Procedure Instructions

What to expect

- Minimal discomfort at insertion site.
- Some bruising around the insertion site.

What to do

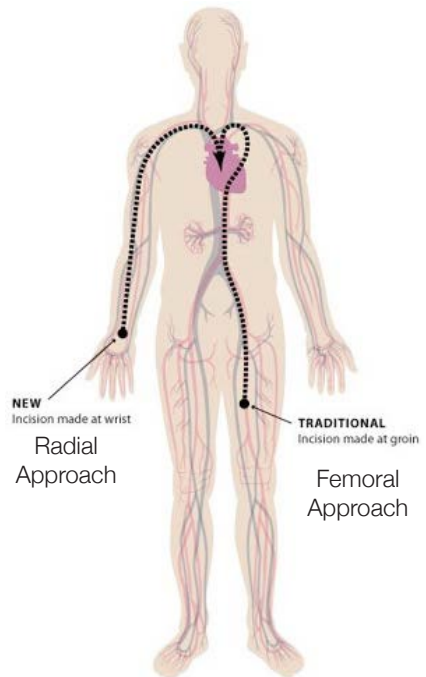
- Do not drive for 24 hours
- Arrange a follow up appointment as per Doctor's orders.
- No excessive exercise or heavy lifting for this period of time - DO NOT use affected arm.
- If you have a plastic dressing over the site this should be removed after 2 days, shower then pat dry.
- Do not swim or immerse in a bath for 4-5 days.

Contact your doctor or practice nurse if you

- Have a persistent pain at the insertion site.

- Develop a large lump at the insertion site.
- Apply firm pressure above the site if a lump forms or if it begins bleeding.
- If you have chest pain – call the ambulance on 000.

If necessary mild analgesia such as Panadol can be taken as directed.



Source: www.google.com.au/images/radial+angiogram+procedure

Coronary Angioplasty

Your doctor will discuss with you how angioplasty will help your heart disease. Angioplasty is a technique where the blood supply to the heart can be improved by opening up any narrowed arteries supplying blood to your heart.

The procedure is similar to an angiogram and the preparation will be much the same. You will fast from midnight the night before the procedure, and will have both groins shaved. On the morning of the procedure, you will shower with a medicated sponge, and will wear theatre gown and pants. The procedure is carried out in the Cath Lab/CCL. You will be given some medication to help you to relax, and will be asked to lie on a flat table, where you will be covered with sterile drapes. The doctor and nurses will be wearing theatre clothes, and there will be a large x-ray camera above you, which will move during the procedure.

The skin around the insertion site will be numbed, the doctor will make a small incision, and the introducing catheter will be inserted into an artery in your groin. A guiding catheter will be inserted

through the sheath and will be passed up to the blocked artery.

The doctor will watch closely on the x-ray equipment, until the catheter has reached the blocked artery.

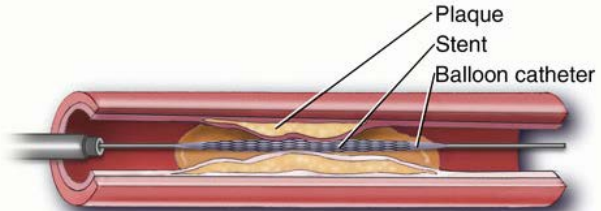
When the catheter reaches the blockage, a guide wire will be inserted through the blockage, and a balloon may be inflated to compress the plaque against the artery wall. If a stent is to be inserted, it will be introduced through the catheter, and will be left in place to act like scaffolding around the blockage.

Post procedure

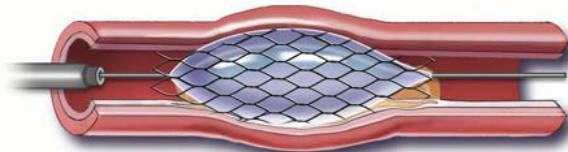
After the stent has been put in place, the catheter will be removed, and the sheath will be taken out from your groin. The nurse will put pressure on the area for 15 to 20 minutes to prevent any bleeding. You will stay in the recovery area of the Cath Lab/CCL for a short time, and the nurses will check your blood pressure and the groin site regularly. You will have to lie flat for a few hours afterwards, depending upon the type of seal that your doctor uses on the groin site. It is important that you lie as still as possible and keep your leg as still as possible, until your nurse tells you that you can get up.

Source: www.summitmedicalgroup.com

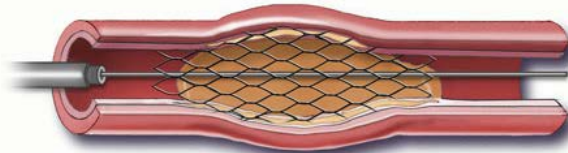
Coronary Artery Stent



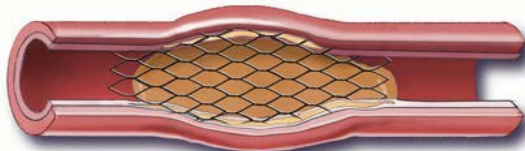
Balloon catheter is inserted into the artery.



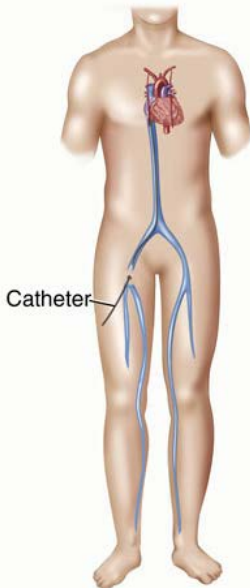
Balloon is inflated to expand the stent.



Balloon is deflated.



Catheter is removed. Stent remains to hold open artery.



Site of catheter insertion

You will be monitored overnight in the ward, and your doctor may allow you to go home the next day. You will have to take things easy for a day or two, and gradually begin exercising and resuming your normal routine. You should expect to be back to normal in about 10 days to 2 weeks.

Going home

You may experience some bruising around the groin area, and may notice a small swelling about the size of an olive. This should subside in a week or two. If you notice a larger swelling or are experiencing pain in your groin, you should see your GP.

Unfortunately angioplasty is not a cure for heart disease.

The blockage in your coronary artery will have been widened and the blood flow to your heart will be better than it was before, but you will still have the potential to develop further coronary artery disease.

However, with a few simple lifestyle changes, you can prevent any further damage being done.

Exercise – 30 minutes per day of moderate exercise on most days of the week.

Diet – cut down on saturated fats, eat 2 serves of fresh fruit and 5 serves of vegetables daily.

Smoking - stop completely.

When you go home

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- No heavy lifting for 1 week post discharge.
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