AFTER THE PROCEDURE

When will the catheter be removed?

After the procedure is finished, the catheter will be withdrawn and pressure will be applied over the area to prevent Heeding. If the incision was in your groin area, the nurses may then apply a weight such as a small sandbag or a pressure dressing. This is not uncomfortable, but while present it is necessary for you to restrict movements of your limb for up to six to eight hours. If the arm was used, stitches may be used to close the incision. These should be removed five to seven days later. Once the examination is over, you will be returned to your room. You may read a book or listen to a radio while you are resting.

What happens immediately after angiography?

You may eat immediately after returning from the laboratory if your doctor approves. You may want to sleep but there will be periodic checks of the dressing and your blood pressure and pulse. Your doctor will speak to you later about the results of the test.

Will I feel any pain after the angiography?

It is not uncommon to feel some soreness in the area where the catheter was inserted. If you do feel uncomfortable, ask the nurse or doctor for something to relieve this. There is often some bruising around the groin, which will gradually disappear completely. If the discoloration spreads or if you have any questions about the incision area, or feel you are experiencing undue discomfort in the groin, leg or arm, do not hesitate to bring this to the notice of a nurse or doctor. If you see bleed oozing through the dressing, you should call for attention.

What will the doctor discover about my coronary arteries?

The angiogram will show the doctor exactly where your coronary arteries are narrowed or blocked. At these points, blood does not flow through the arteries freely and this is the cause of the chest pain known as angina. When angina is severe and an angiogram has shown significant narrowing or blockage of one or more arteries, your doctor may recommend surgery or other alternatives to relieve the condition. Sometimes the angiogram may show that no important disease exists.

Cardiac catheterization is also used to show the function of the valves and muscular walls of the heart. It may be used to diagnose an aneurysm (a bulging of the heart wall) or a birth defect of the heart such as a hole in one of the walls between the chambers of the heart.

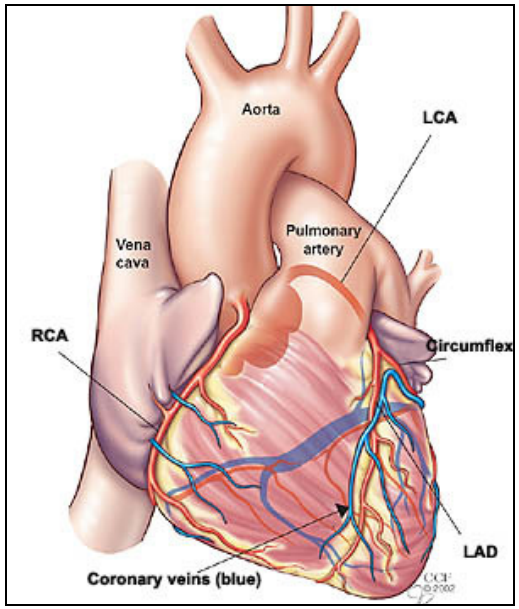
Why do narrowed arteries cause pain?

The coronary arteries surround the outer surface of the heart and feed the heart muscle itself. All muscles of the body have a network of arteries and veins in them. The arteries bring blood that carries oxygen and nutrients to the muscle. When an artery to the heart is narrowed or blocked, the heart muscle, which needs oxygen to provide energy to continue pumping, may then be working with insufficient blood supply.

Physical exertion and sometimes, strong emotion increase the need of the heart muscle for blood and oxygen. When the extra blood cannot be supplied because of narrowed or blocked arteries, pain results.

Your doctor may use the diagram showing the coronary arteries on both the front and back of the heart (below) to explain his/her findings. You may need to continue the medication or medical treatment you were receiving in the past or, alternatively, the possibility of surgery, angioplasty or other measures may be discussed with you.

Edited and reformatted by Dr. Brandon Wong, General Physician and Cardiology. (7/11/2006)



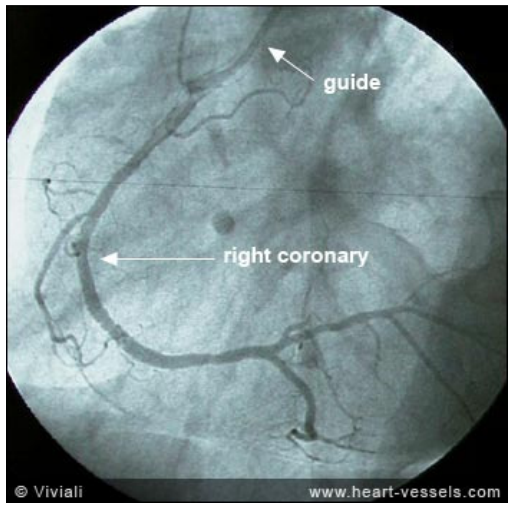
PATIENT INFORMATION FROM

DR. BRANDON WONG

WHAT IS CORONARY ANGIOGRAPHY?

Coronary angiography (often called a cardiac catheterization or coronary arteriography) is an X-ray procedure which s used to examine the arteries of your heart. It is carried out in a cardiac catheterization laboratory (“cath lab”)

A thin, flexible, plastic tube called a cardiac catheter is inserted into an artery in your arm or leg and threaded to the part of the aorta near the heart from which the coronary arteries arise (see diagram). When the catheter is in place, a special fluid, which contains iodine is injected to outline the coronary arteries and a series of X-ray pictures is recorded on film or laser disc. The blood within the heart and coronary arteries is not ordinarily visible on X-rays, but the injected fluid (called contrast medium or dye) is used to make the arteries and the chambers of the heart visible by X-ray. The purpose of the test is to obtain vital information about the exact severity and position of narrowings in the coronary arteries to measure the blood pressure within the heart chambers and check the functioning of the heart valves.



THE ANGIOGRAPHY PROCEDURE

While each hospital has its own routine for coronary angiography, the answers to the following questions apply in most hospitals.

Will I need to be admitted to hospital for coronary angiography?

If you are not already a patient in the hospital, you will usually be admitted only on the day you are scheduled to have your catheterization. You may have blood tests, an electrocardiogram, chest X-ray, and possibly an exercise test.

How will I be prepared for the angiography?

Your doctor/cardiologist will decide what food and drink you may have the night before and the day of the test. **If you have been taking medication, your doctor will decide whether you should continue this before your test.** If in doubt, ask your doctor/cardiologist. You should bring your tablets with you into hospital. You will be taken to the catheter laboratory on a wheelchair or a movable bed. An area of either your arm or groin, depending upon the technique to be used, will be cleaned, shaved and draped with sterile towels.

Is angiography painful?

You will be given a local anesthetic similar to that used by a dentist to numb the area in your arm or groin before the numbness sets in. Only a small nick in the skin or a special needle is used to place the catheter in the artery. Movement of the catheter to the heart is not usually felt.

The injection of the contrast fluid does not cause pain but it does produce a feeling of warmth, flushing or tingling. This will last about 20 or 30 seconds and you will be warned when to expect this.

Very occasionally some patients may be allergic to the contrast fluid and may develop hives, itching or other reactions, which can be treated during the examination. If you have a history of allergies or asthma, or if you have had an allergic reaction to the dye used in X-rays of the kidneys or other arteries or veins, tell the doctor before the test.

You may experience slight angina, but it should subside rapidly

Should I expect to have the test when I am scheduled?

Yes, but occasionally emergency patients may need to be taken first or other patients' angiography may take longer or shorter than expected. You will be told if changes are necessary.

Where will I be in the laboratory?

Once you have been brought into the catheterization laboratory you will be moved on to the examination table. This is directly under an X-ray camera through which the angiography procedure can be viewed. Depending on the way the room is designed, you may be able to see parts of the procedure on a TV monitor. A number of nursing, X-ray staff and cardiac technicians will be present.

Does the camera move?

The doctor will need to make several injections of contrast to enable the coronary arteries to be filmed from different angles.

This involves rotating the camera or moving you. Throughout these procedures you will be secure on the table. Your electrocardiogram and blood pressure will be continuously recorded.

Will I be awake during the procedure?

You will need to be awake to assist the doctor during the test. About an hour before the procedure you may be given a sedative to help you relax. It will not usually put you to sleep. While the films are being taken you will usually be told to take a deep breath and hold it for about ten seconds. After this you may be asked to cough and then resume normal breathing.

As part of a standard measurement you may also be asked to breathe out over a period of a few minutes

When will the catheter be inserted?

You may not even realize that the catheter has been introduced because the area of insertion has been anaesthetized and there are no nerves in the arteries. Minor discomfort may sometimes be experienced at the time of insertion of the catheter through the skin. The doctor will usually tell you when to expect his.

Does the catheter have any function besides carrying the contrast?

Yes, by connecting it to a gauge the catheter may be used to measure the pressure in the chambers of your heart and blood vessels. Blood samples from those chambers may be withdrawn for tests.

How long will the procedure take?

The time required for each catheterization is different. Coronary angiography usually takes less than half an hour. Other types of catheterization procedures may take up to two hours depending on the information required.

Is there any risk?

Like any medical procedure, coronary angiography occasionally has complications associated with it. In skilled hands these are rare. The doctor performing the investigation will talk to you about this before the test, but you should feel free to ask about any matters which concern you or on which you are not clear.