



# Cardiac Catheterization / Coronary Angiogram

# **Procedure Information Sheet**

#### Introduction

Cardiac catheterization is used to investigate the structure and function of the heart. Coronary Angiogram is used to investigate for any narrowing of the coronary arteries (arteries that supply blood to heart muscle). Both procedures are performed with the use of X-ray. Apart from exceptional cases, both procedures can be performed together.

## Indication

Symptoms of coronary heart disease include chest pain, shortness of breath, dizziness and palpitation, etc.

#### **The Operation / Procedure**

- 1. This invasive procedure is performed under local anesthesia in a cardiac catheterization centre. Patient is alert during the procedure, but sedation may be given for calm down purpose.
- 2. Electrodes are adhered to the chest to monitor the heart rate and rhythm. Blood oxygen monitor through finger tip will be set up. Measurement of blood pressure from the arm will be taken during the examination.
- 3. A small wound is made over the groin, arm or neck for access to arteries or veins. Catheters are advanced to the heart under X-ray guidance.
- 4. Pressures within the heart are measured. Blood may be drawn from various heart chambers.
- 5. Contrast is injected and films are taken.
- 6. During the procedure, patient will be asked to hold breath or cough. Patient may experience a hot flush when contrast is injected.
- 7. When indicated, Percutaneous Coronary Intervention (PCI) can be performed at the same setting of cardiac catheterization and coronary angiogram. Patient will be informed of this possible arrangement before the procedure. Please see the information leaflet on PCI for detailed information. If agree, patient also need to sign the informed consent on PCI.

## Before the Operation / Procedure

- 1. Some preliminary tests including electrocardiogram, chest X-ray, and blood tests will be done in ward or clinic. Allergy history will also be checked. These can be performed days before the procedure or on the day of admission.
- 2. Doctor will explain the details of the procedure together with the possible risks and complications. This information leaflet will be provided. Patient have to sign an informed consent.
- 3. Blood thinning drugs or metformin (for diabetes) may have to be stopped several days before the procedure. Special anti-platelet drug should be taken before the intervention. Steroid will be given if there is history of allergy.
- 4. Fasting of 4-6 hours is required prior to the procedure. An intravenous drip may be set up. Shaving may be required over the puncture site.
- 5. If patient is a female, please provide last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

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#### After the Operation / Procedure

- 1. After the procedure, catheters will be removed. The wound site will be compressed to stop bleeding.
- 2. Nursing staff will check blood pressure, pulse and wound regularly.
- 3. Bed rest may be necessary for 4 hours. In particular, please do not move or bend the affected limb. Whenever cough or sneeze, please apply pressure on the wound with hand.
- 4. Should inform nurse if blood oozing is found from the wound site.
- 5. Once food or fluid intake is allowed, please take more fluid to help eliminate contrast by passing urine.
- 6. Usually can be discharged 1 day after the procedure.
- 7. The wound will be inspected and covered with light dressing. Please keep the wound site clean and change dressing if wet. In general, showers are allowed after 3 days.
- 8. Please avoid vigorous activities (household or exercise) in the first 3 days after the procedure. Bruising around the wound site is common and usually subsides 2-3 weeks later. If any signs of infection, increase in swelling or pain over the wound, please contact your Doctor immediately, or come back to hospital for consultation.
- 9. Usually doctor has explained the results of the procedure before discharge. Any further questions, discuss with your doctor during subsequent follow-up.

#### **Risk and Complications**

- 1. The procedure carries certain risks. Total major complications account for <1%. These include death (0.1%), heart attack (0.05%), stroke (0.07%), perforation of heart chamber (0.03%), aortic dissection and severe bleeding. Other major complications include arrhythmias, vascular complications, contrast anaphylactic reaction and hemodynamic complications.
- 2. Minor complications include allergy to contrast reaction, nausea, and groin complications.

#### **Alternative Treatment / Investigation**

Even though there exists other alternative investigative tools, the information they provide are indirect and less specific. (Please ask your doctor for details)

#### Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

#### Reference

Smart Patient Website by Hospital Authority: Cardiac Catheterization and Coronary Angiogram (4/2019)

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