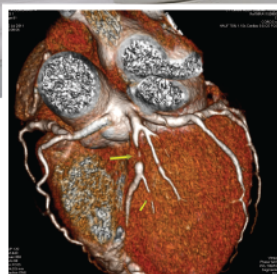


CT Coronary Angiography



What is Multi-slice CT Coronary Angiography?

It is a relatively painless non-invasive examination that uses Computed Tomography (CT) to look at the blood vessels that supplies the heart muscle (the coronary arteries). Advances in CT technology allow us to produce more accurate and high quality images of the coronary arteries. 3-D and angiogram-like representations can be created from the data obtained using sophisticated computing power.

The CT scan captures images of the lumen of the coronary arteries as well as the presence of calcified and non-calcified plaques in the wall of the arteries. This allows the doctors to assess the degree of coronary artery disease the patient has.

CT coronary Angiography is currently the only safe and non-invasive examination to detect such plaques directly.

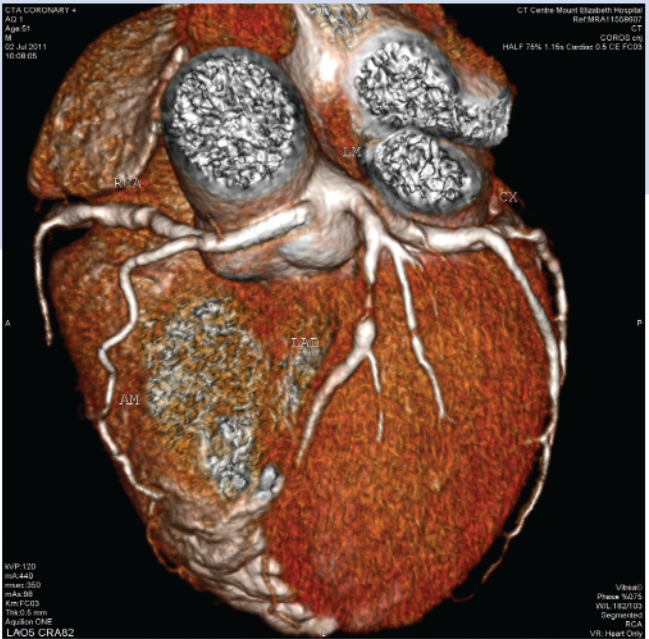
Who should have CT Coronary Angiography?

Coronary Artery Disease usually presents in two different mechanisms. In the first mechanism, there is progressive narrowing of a segment of the coronary artery with reduced blood flow to the heart muscles causing patients to suffer from progressive exertional angina or chest pain. In the second mechanism, there is acute rupture of a soft plaque causing acute blockage of coronary artery. This results in sudden loss of blood supply to the heart muscle resulting in a heart attack. This often occurs in patients without prior symptoms.

People who may benefit from the examination include:

- Patients with atypical or non-anginal chest pain
- Patients with equivocal stress tests
- Asymptomatic patients with one or more of the following risk factors
 - *smoker
 - *high cholesterol level
 - *family history of heart disease
 - *high blood pressure
 - *overweight
 - *diabetes
 - *sedentary lifestyle

CT Coronary angiography is also useful to assess whether the grafts in Coronary Artery By-pass Graft (CABG) are still open or blocked. It is also excellent in assessment of stent patency.



How should I prepare for the procedure?

- Avoid caffeinated drinks or food (e.g coffee, tea, energy drinks, chocolate) for 12 to 24 hours prior to your test.
- Do not eat for 4 hours or drink 1 hour before the test (this may vary, be sure to check with your doctor's office prior to your test).
- Do not take certain medications such as Viagra, Cialis or Levitra for at least 48 to 78 hours prior to your test.
- Do **NOT** stop usual cardiac medications.
- Please bring a list of medications that you are currently on.

On the day of the examination

Before the examination

- You will be asked if you have any history of allergies or impaired kidney function.
- Inform your doctor and the CT Radiographer or Nurse if you have prior reaction to injected contrast, your doctor may prescribe medication to reduce risk of such reaction.
- Sometimes oral medication (beta-blocker drug) may be prescribed if the patient has a high heart rate.
- An intravenous injection line will be set up in preparation for the injection of contrast.
- Diabetic patients on Glucophage (Metformin) will be advised to temporarily stop taking this drug for 48 hours after the examination.

During the Examination

- You will be positioned on a padded table and moved into the scanner.
- ECG (Electrocardiogram) electrodes will be placed onto your chest.
- The radiographer will be able to see and hear you at all times.
- You will be asked to hold your breath, a few times, during the scan. It is important to follow the instructions given to ensure that the examination is successful.
- During the Coronary CT Angiography, Contrast (iodine dye) is injected in your vein so that the coronary arteries can be seen.
- Most patients will feel a 'warm' or 'hot' flush sensation when the contrast goes through the body. Some patients report a metallic taste in the back of the mouth or a sensation that they had passed urine. These sensations usually disappear within a minute.

How long will it take?

Depending on the patient's heart rate, the total examination time from preparation could be from 30 minutes to more than an hour.

What are the benefits versus risks?

Benefits

- Cardiac CT with calcium scoring is a convenient and non-invasive way of evaluating the coronary arteries. It gives an idea of whether coronary artery disease (CAD) is present despite lack of symptoms, or is likely to develop in the next few years.
- Cardiac CT takes little time. The procedure is performed on an outpatient basis and patient is able to resume normal activities after the examination.
- The examination can suggest the presence of CAD even when the coronary arteries are less than 50% narrowed. Standard cardiac tests will not reliably detect this level of blockage, and more than half of all heart attacks occur with less than 50% narrowing.
- It has a negative predictive value of 98%.

Risks

- The examination exposes the patient to a limited amount of radiation, but the benefit of an accurate diagnosis far outweighs the risks. The effective radiation dose from this procedure is small but generally is about the same as the average person receives from background radiation from the sun and atmosphere every year.

- Pregnant women should never have Cardiac CT. If there is any possibility that you are pregnant, you should inform the radiographer or nurse.
- Nursing mothers should wait for 24 hours after contrast material injection before resuming breast feeding.
- The risk of severe allergic reaction is 1 in 10,000.
- The risks of extravasation where injury to blood vessel causes leakage of contrast to surrounding tissues which may cause arm swelling is 0.1% or 1 in 1,000.

When can you expect the results to be ready?

Images will be viewed by the doctor (radiologist). The report will be sent to your doctor who will then discuss the scan results with you. For further information, please contact our staff.



SERVICE IS AVAILABLE AT:

Radiology Department, Gleneagles Hospital
6A Napier Road Singapore 258500
Tel: (65) 6388 4333 Fax: (65) 6470 5749

CT Centre, Mount Elizabeth Hospital
3 Mount Elizabeth, Level 2
Singapore 228510
Tel: (65) 6388 4333 Fax: (65) 6238 0764

**Department of Radiology & Nuclear Medicine
Mount Elizabeth Novena Hospital**
38 Irrawaddy Road, Level 2, Singapore 329563
Tel: (65) 6388 4333 Fax: (65) 6933 0526

Radiology Department, Parkway East Hospital
321 Joo Chiat Place Singapore 427990
Tel: (65) 388 4333 Fax: (65) 6340 8670

www.parkwayhealthradiology.com.sg
BUSINESS REG NO. 32871800M