



National University
Heart Centre
Singapore



Coronary Computed Tomography Angiography

What is Coronary Computed Tomography (CT) Angiography?

- ♥ It is an advanced imaging modality that uses X-rays, coupled with computer technology, to produce detailed cross-sectional images of the internal organs of the body.

Coronary CT Angiography uses a 256 or 384 slice scanner to capture cross sectional and detailed images of the heart and is a highly accurate alternative to the conventional coronary angiogram.



Comparison of lesions on conventional coronary angiogram (left) and coronary CT angiography (right)

What can I expect before the procedure?

- ♥ Fasting is not required for the scan. You may take your morning medications as per usual, unless you are specifically instructed to omit certain medicine (such as metformin). You will be advised to go to one of the locations below for the scan:



Diagnostic Imaging at:

- **Main Building Zone G, Level 2, G02-13**
- **Kent Ridge Wing Zone C, Level 3, C03-04**
- **Medical Centre Zone B, Level 4, B04-02**

- ♥ Wear loose and comfortable clothing on the day of the scan. You may be asked to change into a gown. You will be given a locker to store your personal belongings.

What can I expect during the procedure?

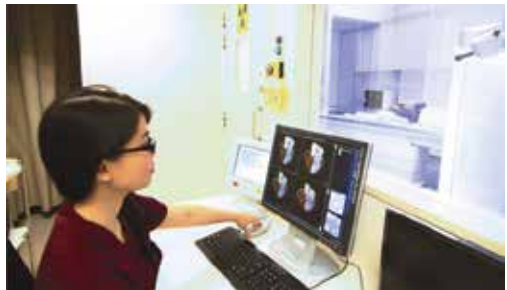
- 1** As intravenous contrast is required for the scan to indicate the exact position of your heart vessels, a plastic cannula will be inserted into one of your veins by a nurse. During the injection of contrast, you may experience a warm sensation followed by a metallic taste in the mouth which should disappear after a few minutes.



- 2** A radiographer will position you appropriately on a padded couch that will move through a round opening of the scanner. A liquid will be sprayed under your tongue for better visualisation of the heart vessels. Electrodes will be attached to your chest to monitor your heart. The radiographer may instruct you to hold your breath for 10 to 15 seconds while the scan is being performed. For optimal imaging, it is important that you remain still during the scan and follow the breathing instructions.



- 3** As the couch moves through the opening, images of your heart will be taken. The scan takes no more than 15 minutes to complete. After the scan, your blood pressure and heart rate will be monitored for about 10 minutes to ensure you are well before leaving. Depending on the nature of the scan, the entire procedure, including preparation, may vary from 30 minutes to 2 hours.



What can I expect after the procedure?

- ♥ You can resume your normal activities after the procedure. If a contrast agent has been administered, special aftercare instructions may be given. Your doctor will advise you of the results at your next appointment.



What are the potential risks/complications with this test?

- ♥ Main risks of the procedure include:
 - Allergic reaction to the contrast agents
 - Leakage of the intravenous contrast outside of the vein

These risks are low and all necessary precautions will be taken to minimize such occurrences.

Important points to note

- ♥ You may be given oral medication (a beta-blocker such as metoprolol, ivabradine) to slow your heart rate to an optimal level for the scan. It usually takes between 45 to 90 minutes for the medication to take effect. **You should take this medication before the scan according to your doctor's instructions.**
- ♥ If you are regularly taking ivabradine or a beta-blocker (such as bisoprolol, carvedilol, metoprolol, atenolol, nebivolol), please take the medication as usual in the morning before coming for the scan.
- ♥ Please inform us if you have **asthma, diabetes, kidney disease, hypertrophic obstructive cardiomyopathy or any drug allergy.**
- ♥ Patients who are diabetic may be required to stop a medication called metformin 48 hours before the scan. If you have asthma, previous minor reaction to CT contrast media ("dye") or multiple drug allergies, you may be prescribed a steroid medication called prednisolone to be taken before the scan.
- ♥ Do inform your doctor and the CT radiographer if you are pregnant or if you're unsure whether you may be **pregnant.**
- ♥ Do not take Viagra, Cialis, Levitra for 48 hours before and after the scan.

Should you have any queries or require further clarifications, please contact:

Department of Diagnostic Imaging

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Email : ddi_appt@nuhs.edu.sg

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