

CT – coronary angiogram

What is a CT scan?

Computed Tomography (CT) is a fast, effective and accurate way of using x-rays to take pictures in very fine slices through the part of the body that the doctor has asked to be investigated.

CT scanners can produce multiple slices of the body in one single rotation and the CT computer is able to stack these slices together to create images in multiple planes. With all of these different slices and 3D reconstructions, the radiologist will have a very detailed picture of the structures making up your body. This will help them to make a diagnosis so that the right treatment can be planned as soon as possible.

What preparation is required?

A CT angiogram of the coronary arteries will require you to have an iodinated contrast injection and therefore requires you to fast for two hours prior to the examination. You can take medications with water during this period if necessary.

We recommend you have a light breakfast on the day, you may continue to drink water or clear fluids. **No caffeinated drinks or chocolate are allowed for 12 hours before the examination, and no food is allowed 2 hours before the examination** – this includes coffee, tea, energy or sports drinks, Coke or Cola. Viagra or any similar medications need to be ceased for 48 hours prior to the examination time. Take all your other regular medications on the day.

If your referring cardiologist or physician has prescribed a beta-blocker medication for you to take the day prior to or morning of your examination, please take as directed.

Patients who have poor kidney function (renal impairment) or are taking Metformin for diabetes must have had a recent blood test, the results of which will help the radiologist to determine if x-ray contrast can be given. If you have any queries regarding this please contact using the number below.

What is involved?

CT Angiography (CTA) of the coronary arteries is a minimally invasive investigation. It is a study used for investigating chest pain, to evaluate the coronary arteries and assess cardiac function and anatomy and patency of bypass grafts.

The CT scanner acquires images at an extremely fast rate in order to obtain motionless pictures of the arteries in the heart. An injection of iodinated contrast is given at the same time the images are acquired to better visualise the arteries. After the data is processed, the images can be viewed in a 3D reconstruction of the heart.

Upon arrival you will be escorted to our procedure preparation area, where you will be asked to change into a gown. You will be given an explanation of the procedure and the chance to ask any questions. You will be asked to sign consent if you are comfortable with proceeding. The health questionnaire will be checked and your vital signs, height and weight recorded. ECG dots will be placed on your chest to check your heart rhythm and an IV cannula will be inserted into your arm. This is for the administration of the iodinated contrast injection during the scan.

If your heart rate is above 60 beats per minute you will be given a tablet, known as a beta-blocker, to slow your heart rate. An additional dose may be required if your heart rate remains above 60. Your heart rate, rhythm and blood pressure will be monitored regularly. The technologist will explain the breath-hold instructions required for the scan prior to starting.

When your heart rate is stable you will be escorted to the scan room where you will be asked to lie down on the CT table, ECG dots will be reconnected to your chest. Pre-contrast images are first obtained of the heart. A vasodilation medication called GTN (glyceryl trinitrate) will be administered next (a sublingual spray given under the tongue). This helps the coronary arteries to dilate so that they can be imaged at maximal size free of spasm and artefact. The CT table will move in and out of the CT scanner and a series of pictures will be performed. It is very important that you lie still for this test and hold your breath when requested. Any movement can blur the images, similar to when a moving object blurs a photograph and the test may need to be repeated.

The iodinated contrast injection is then given and the final imaging performed. You may experience a sensation of warmth and a strange taste, these usually go away within a few minutes. These are all completely normal to experience and are expected to pass within a short time (30 seconds to a minute).

On completion of the scan you will be monitored for approximately 20 minutes to ensure your heart rate and blood pressure are stable before sending you home. You need to allow two hours from your arrival to completion of your examination. You will be sent home with instructions and contact information should you have any concerns.

What is an iodinated contrast injection?

The administration of an iodinated contrast injection during a CT scan can give significantly more information by highlighting blood vessels. This helps the radiologist provide a more comprehensive diagnosis.

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If contrast is required for your test you will be asked to complete a questionnaire to assess your suitability. The contrast will only be given once your consent has been obtained and information will be provided detailing the benefits and risks.

The contrast is injected through a small cannula (plastic tube) inserted into a vein in your arm. This cannula remains in position for 10 minutes after your test has been completed.

Are there any side effects?

Some patients may experience an allergic reaction to the iodinated contrast. This may range from mild (rash, hives or sneezing) to severe (asthma, shock circulatory disturbance). This is very rare. If this occurs, medications are given to reverse the reaction and further monitoring and observation is required before you are able to go home.

Sometimes the beta-blocker medication can make people feel dizzy or lightheaded. Fluids or medication may be needed to correct this.

The GTN (glyceryl trinitrate) sublingual medication can cause some people to develop a headache. This normally persists only for a short time after the imaging examination has finished.

If you have any questions or an allergy to iodinated contrast please ring the CT department on 9508 1351 to discuss this before your appointment.

Please complete the patient health questionnaire and email the form back to us prior to your examination date. A financial consent will be required to be signed on the day of your examination.

If you have any concerns, please contact the department and speak with one of our staff.

How long will my scan take?

The entire procedure can vary between 45 minutes to 2 hours, depending on whether or not beta-blocker medication is needed to be given at the time. This medication takes a minimum of 45 minutes to take effect at lowering the heart rate. The actual scanning time required takes 10 - 15 minutes. We advise that you have someone to drive you home after the scan.

How do I get my results?

Digital images are immediately available to your doctor and your records will be kept permanently. This occurs through a system called PACS. **If a priority report is requested it will be issued within two hours and faxed or emailed to your doctor, however this can sometimes take up to 24 hours.**

If your referring doctor wants to see you on the day of your examination, please advise the reception staff when you arrive for your appointment, so the appropriate information can be made available for you to take to your doctor.

How much will this cost?

Please discuss this with the receptionist in Cabrini Medical Imaging at the time of booking your procedure.

Important

It is important to let us know when you make your booking if you are or think you may be pregnant or are breastfeeding.

It is important to bring with you your referral, previous x-rays and any other tests (only if previous ones were **not** done at Cabrini or I-MED).

Questions

For more information or to make an appointment, please contact Cabrini Medical Imaging using the number below.