

Computerised Tomography (CT) Coronary Angiogram

Radiology Department



Patient information leaflet

This leaflet tells you about having a CT Coronary Angiogram (CTCA) scan. It explains what is involved and what the possible risks are. It is not intended to replace informed discussion between you and your doctor, but can act as a starting point for such talks. If you have any questions about the procedure, please ask the consultant who has referred you for the test or the department which is going to perform it.

What is a CT scan?

Computerised Tomography (CT) is a special type of X-ray that uses a computer to create very detailed images of the body.

The CT scanner is a large open-ended machine which is often likened to a polo mint.

What is CT Coronary Angiogram (CTCA)?

Angiography is a test to produce images of blood vessels in the body. A CT coronary angiogram scan shows the coronary arteries (blood vessels supplying the heart) and is specifically for identifying blockages or calcium deposits in these vessels.

An iodine-based dye is used to highlight the blood vessels. This is injected through a cannula (a small plastic tube) placed into a vein of the arm. The images are made while the dye flows through the blood vessels, so that we can see them.

This dye is removed from your blood stream by your kidneys. Your doctor may ask for you to have a blood test before your scan to check your kidneys.

After scanning, the images will be studied carefully by the radiologist (X-ray doctor) and the cardiologist (heart doctor).

Why am I having this test?

Your cardiologist has decided you need this test to help them find a cause for your symptoms. In order to help treat you, it is important to gain clear and accurate images of your heart vessels.

What preparation is required?

Please contact the radiology department before your scan if you are:

- Pregnant
- Asthmatic
- Allergic to iodine or X-ray dye
- Diabetic and taking metformin

You will need to have someone to drive you to and from the hospital for this test. This could be a friend or relative.

For their safety, your relative or friend will not be able to accompany you into the examination room.

For a 24 hour period before your scan, you must not take

- Food or drinks that contain caffeine, such as tea, coffee, fizzy drinks and chocolate.
- Stimulant medicines such as antihistamines, decongestants or pain relief containing caffeine.

Please **do** take any other medicines that you need unless otherwise instructed.

It is important that you are as relaxed as possible before your scan, as this helps to keep your heart rate low and results in clearer images. Caffeine and certain medicines can raise the heart rate, meaning we will be unable to scan you.

You will be given a gown to wear during the scan. Metal objects, such as necklaces and bra fastenings, affect the images and must be removed prior to the examination while you are changing.

You will then be taken to a private area where a radiology nurse will ask you some questions about your health and take your heart rate and blood pressure using a monitor. If your heart rate is too fast to scan your heart clearly, you may be given some medication before and during your scan. This slows your heart rate and results in much more accurate images.

A cannula will be placed into a vein in your arm and through this you will receive the injections of dye during your scan.

What will happen during the scan?

You will be taken into the CT scanning room where your identity will be checked. The radiographer will explain the procedure to you and answer any questions you might have. If you agree to have the scan, you will be asked to lie down on the couch.

You will be attached to the heart rate monitor and the pump which injects the dye through the cannula.

The couch will be moved slowly to position your chest within the 'polo mint'. The radiographers will retire to the control room they but will be able to hear you talk over the intercom and see you throughout the scan. During the scan, the couch will move in and out of the machine a few times.

You will need to hold your breath at certain times during the scan. This is very important in order to ensure clear and accurate images. The radiographers will explain the breathing instructions to you.

The radiographers will tell you over the speaker before you receive the injection. When the dye is injected it is common to experience a 'hot flush' sensation, particularly across the neck and chest. This feeling goes away quite quickly and is normal. Many people experience the hot sensation around the rest of the body. Some people also get a metallic taste in their mouth. As the examination requires two injections of dye, you may experience these sensations twice.

Will the scan be uncomfortable?

You will need to lie on your back for the scan. The radiographers will endeavour to make you comfortable for the short time that you are on the couch. You will be asked to bring your hands up above your head for the scan as this results in clearer images. Most people find that the process of scanning is not uncomfortable.

How long will the procedure take?

Please expect to be in the department for at least 1-2 hours.

The scanning process will take up to twenty minutes. Sometimes there may be a delay in the department due to emergency cases which may result in you being seen later than your appointment time. We try to keep patients informed of any delays where we can.

What happens after the scan?

The cannula will be removed. You will be asked to wait in the department for at least 30 minutes if you had medication whilst in our care. During this time a nurse will check your heart rate and blood pressure.

Following the scan, you can eat and drink normally. You will not be able to drive yourself home.

The radiologists and the cardiologists will report the scan pictures and you will be able to discuss the results with your cardiologist during your next clinic appointment.

What are the benefits vs. the risks?

Benefits

- This scan can identify narrowing or obstruction of the blood vessels supplying the heart
- The scan is relatively quick and simple
- This procedure is less invasive than a cardiac angiogram and provides detailed images

Risks

Most patients will experience no adverse effects during or after the scan.

- Patients with impaired renal function need special care for this procedure as the injection of the dye can put additional strain on the kidneys. We may decide to do a different test.

- On rare occasions, it is possible for the dye to leak out of the vein into the surrounding tissues. If a large amount leaks out it may cause discomfort and damage to the tissues. If this does occur, the radiographer will treat the area if necessary and advise you on any aftercare.
- There is an extremely small chance that you might have an allergic reaction to the injection. A reaction may involve feelings of intense hot flushing, nausea, developing a rash or becoming breathless or wheezy. Severe reactions to the dye are extremely rare.

The amount of radiation used during a CT scan is more than an ordinary X-ray of the chest or body, but provides a great deal more information than an ordinary X-ray as it acquires very detailed images. As with all radiographic examinations, the amount of exposure to radiation is kept to an absolute minimum.

Your doctor will have considered possible risks and decided that the benefits to you outweigh any risk from the examination.

Privacy and dignity

Sometimes tests, although necessary, can be embarrassing or undignified for patients but we promise to do everything we can to make you as comfortable as possible during your visit to the department.

We hope that the information in this leaflet will answer any questions you may have, but please feel free to contact us if you have any particular worries, questions or concerns.

Patient surveys

We value your opinion on our service and in order to deliver, maintain and improve this service, we ask you to complete a short patient questionnaire found with your appointment letter. Completion of this survey is entirely voluntary.

For further information about Diagnostic Imaging Services at RoyalSurrey County Hospital NHS Foundation Trust, please contact:

Royal Surrey County Hospital NHS Foundation Trust

Egerton Road

Guildford

Surrey

GU2 7XX

www.royalsurrey.nhs.uk

Reference source and other sources of information

Websites:

The Royal College of Radiologists website, for general information about radiology departments

- www.nice.org.uk
- Information on health and care standards

For information on radiation:

- <https://www.gov.uk/government/publications/ionising-radiation-from-medical-imaging-examinations-safety-advice/exposure-to-ionising-radiation-from-medical-imaging-safety-advice>

Contact details

If you have any questions after reading this leaflet, please contact us.

Radiology Department

Telephone: 01483 464151

PALS and Advocacy contact details

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located on the right hand side as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

Telephone: 01483 402757

Email: rsc-tr.pals@nhs.net

Opening hours: 9.00am–3.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

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