

Computed Tomography Coronary Angiogram

A patient's guide

Having a computed tomography coronary angiogram

This leaflet gives general information about a computed tomography coronary angiography (CTCA) scan. It does not replace the need for personal advice from a qualified healthcare professional. Please ask us if you have any questions.

What is a CTCA scan?

A CT (computed tomography) scan is a special X-ray test that allows us to take detailed images of the body. A CTCA scan takes pictures of your heart and coronary arteries. This allows us to see narrowing or blockage of the arteries around your heart.

How is a CT coronary angiography scan carried out and are there any risks?

A radiographer will ask you to lie on the CT table. Sticky patches called electrodes will be placed on your chest so that the ECG can monitor your heart during the test. The scanner will then be triggered to take pictures at certain points during your heartbeat.

This gives us high quality images of your heart. The table moves through the scanner so we can take pictures of your heart and arteries.

You will be given an injection of X-ray contrast (sometimes called dye, although the liquid is clear) so that we can see your heart and arteries clearly.

The dye (which contains iodine) is usually safe and adverse reactions are rare. We will ask you some safety questions prior to the procedure that will include your allergy status. Please inform us if you have had a previous reaction to X-ray dye, even if it was mild.

Adverse effects, the majority of which are minor and managed within the CT department, occur in approximately 0.15% (fewer than two in a thousand) of contrast administration.

Severe reactions, including persistent vomiting, urticarial rash (commonly known as hives), face and mouth swelling and very severe reactions, including anaphylaxis, are

extremely rare and only occur in 0.004% (four in one hundred thousand) of cases.

The dye passes through your system and will be removed by your kidneys. If we do not have a recent result readily available we may perform a test in the department to assess your kidney function.

It can be difficult for us to get a clear picture if your heart is beating too quickly. Your heart rate will be checked before your scan, when you are settled on the table. If it is faster than the ideal rate, you may be given some medication to slow it down, probably a drug known as a beta-blocker. This is usually given as an injection but may be in the form of a tablet. If the beta-blocker is given orally it can take up to an hour to start working, but as soon as your heart rate is slower we will perform the scan.

You will probably not notice any side-effects from this medication but it is important to tell us if you suffer from asthma. If your heart rate

becomes too slow a medication may be required to reverse the beta-blocker, but this is extremely rare.

We may also give you another medicine in a spray or tablet form under your tongue before the scan. This is to open up the arteries in the heart as much as possible making it easier to assess them on the scan. You may get a slight headache or feel a little dizzy from this, but this will pass after a short time.

When you breathe it can cause the image to blur. To help us to get a clear picture of your heart we will ask you to hold your breath for no more than 15 seconds at some point during the scan. We will practise this with you before your scan and go through exactly what you should expect during the procedure.

Please try to avoid cycling or driving to or from your appointment as the medication can make you drowsy. It is a good idea to ask someone to come with you to the appointment.

How long will the scan take?

The scan itself should take only around 15 to 30 minutes. Please remember that we have to prepare for the scan and may give you medication as described above. Please be prepared to stay between 1 and 2 hours.

How should I prepare for the scan?

For the 12 hours before your scan it is important that you do not have any caffeinated or decaffeinated drinks or medication. This includes:

- Tea/coffee (including decaffeinated)
- Hot chocolate
- Ovaltine or Ovaltine-style drinks
- Horlicks or Horlicks-style drinks
- Fizzy drinks
- Caffeine-containing painkillers (many painkillers do contain caffeine. Please check the label)

It is also important that you do not have any chocolate or anything containing chocolate for the 12 hours before your scan.

You may otherwise eat normally and you may drink fruit juice, squash, milk and water.

In the four hours prior to your scan please do not have a heavy meal.

Unless you have been informed by a doctor to restrict your fluid intake, please ensure that you are not dehydrated before the appointment.

Please bring a list of your current medication.

If you have diabetes and are taking metformin, you should contact the CT department in advance of your scan.

If you have any kidney problems, please contact the department before your appointment.

If you are asthmatic and use an inhaler, please bring it with you to your appointment.

If you have been prescribed a GTN spray, please bring it with you to your appointment.

You should be able to return to your normal daily routine after your scan and you can eat and drink as normal.

What are the benefits of a CTCA scan?

A CTCA scan gives detailed pictures of your heart, which help us to make a diagnosis or to assess any health problems. Your clinician or doctor can then suggest the best treatment for you. Although other tests provide information on how well your heart is functioning, a CTCA scan gives us information about the structure of your heart.

Is there any risk to me from the radiation used in the scan?

The amount of radiation used to perform a CT scan is kept to the minimum needed to answer the clinical question. The amount you are exposed to will vary depending on the type of scan and how much of your body is scanned. CT scanners are designed to make sure you are not exposed to unnecessarily high levels¹.

We are exposed to natural background radiation all the

time. Generally, the amount of radiation you are exposed to during each scan is equivalent to between a few months and a few years exposure to natural background radiation¹.

The benefits and risks of having a scan will always be weighed up beforehand¹.

Radiation can cause cell damage which may, after many years, develop into cancer. This risk is thought to be very small (less than 1 in 2,000)¹.

We try to make sure that every patient fully understands the risks and benefits of the procedure. Please ask if you have any questions. Also please let us know if you are pregnant.

What happens if I don't have the scan?

If you don't have this scan, your doctors will have less information to help to diagnose or assess your health problem. This will make it harder for them to give you the best treatment for your condition.

How will I get my results?

The results will be sent to the consultant who referred you for the scan.

Use of images for research, publication and audit.

Teaching, audit, research and publication of research results are important parts of Papworth Hospital's function.

They all contribute directly or indirectly to the maintenance and improvement of the quality of care. In order to support this you may be asked to provide consent for the use of your medical images for teaching, audit, research and publication purposes.

This is voluntary and will not influence the care you are given. If images are used for these purposes all information that might enable the patient to be identified or traced is removed.

Patient surveys

We value your opinion on our service and in order to deliver, maintain and improve this we may, on occasion, ask you to complete a short patient questionnaire survey. Completion of these surveys is entirely voluntary.

Further information

If you have any other questions before you come for your scan, you can ask your family doctor, the doctor who sent you for the test or the X-ray department. You can also find further information at the following websites:

- www.rcr.ac.uk/patients
- www.hpa.org.uk/radiation
- ¹www.nhs.uk/conditions/CT-scan/Pages/Introduction.aspx
- www.gov.uk/government/publications/medical-radiation-patient-doses/patient-dose-information-guidance

Questions and contacts

If you experience any problems following the CTCA please contact the CT department.

Tel: 01480 364345

09:00 and 17:00 - Monday to Friday.

Outside these times please contact your GP or NHS111.

For further information about Diagnostic Imaging Services at Papworth Hospital, please contact:

Papworth Hospital NHS Foundation Trust,
Papworth Everard,
Cambridge
CB23 3RE

Telephone: 01480 364808

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Papworth Everard, Cambridge, CB23 3RE

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