



**Royal Papworth Hospital**  
NHS Foundation Trust

# Computed Tomography Coronary Angiogram

A patient's guide

## **Having a computed tomography coronary angiogram/angiography**

This leaflet gives general information about a Computed Tomography Coronary Angiography (CTCA) scan (also known as a cardiac or heart scan). It does not replace the need for personal advice from a qualified healthcare professional.

**It is important that you read this leaflet carefully, even if you have had a CT scan before.** Please ask us if you have any questions.

### **What is a CTCA scan?**

A CT (computed tomography) scan is a specialised scan using x-rays that allows us to take detailed images of the body. A CTCA scan takes pictures of your heart and coronary arteries (and grafts if present). This allows us to see narrowing or blockage of the arteries around your heart.

### **What happens during the scan and are there any risks?**

When you arrive in the department we will go through some questions with you on a pre-test checklist

(including your allergy status), measure your BP and heart rate and put a small needle (cannula) into a vein in your arm; you may be asked to change into a gown

A radiographer will ask you to lie on the CT table and raise your arms above your head. Sticky patches called electrodes will be placed on your chest so that the ECG can monitor your heart during the test. The table moves through the scanner so we can take pictures of your heart and arteries; the scanner will be triggered at certain points during your heartbeat to take pictures which gives us high quality images of your heart. The scanner is doughnut shaped and not a tunnel.

You will be given an injection of x-ray contrast (sometimes called dye) so that we can see your heart and arteries clearly. The dye (which contains iodine) is usually safe and adverse reactions are rare, although it is common to get a 'hot-flush', a metal taste in your mouth and/or a feeling that you have 'wet the bed' (please be assured you will not do so). These sensations

are perfectly normal and pass within a couple of minutes.

**Please inform us if you have had a previous reaction to X-ray dye, even if it was mild.**

Very occasionally, the contrast can leak outside the vein which causes temporary swelling and discomfort in your arm. If this does happen we will provide you with further instructions and advice to follow)

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 administrations.

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. We may perform a test in the department to assess your kidney function if we do not have a recent result readily available.

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 and when you are settled on the table. If it is faster than the ideal rate you may be given some medication, known as a betablocker, to slow it down. This is given as an injection and as soon as your heart rate is slower we will perform the scan. If you are already prescribed a beta blocker please take this on the morning of 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 before the scan (called GTN) in spray form

under your tongue. 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 but they will not be able to routinely accompany you into the imaging department.

### **How should I prepare for the scan?**

**Continue to take all prescribed medications.**

If you require an interpreter please contact our booking office on 01223 639924 as soon as possible.

For 4 hours before your appointment:

- Avoid drinks containing caffeine (tea, coffee, hot chocolate, fizzy drinks etc). You can drink as much water/flavoured water as you need so that you do not become dehydrated.
- Do not smoke.
- Do not eat.
- 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 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.

### **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. Your appointment time does include preparation time.

You will need to remain in the department for 20-30 minutes following completion of the scan.

Please be prepared to stay between 1 and 2 hours; sometimes you may be in the department longer if there are emergencies requiring scanning at short notice. We will do our best to keep you informed of any delays.

### **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 levels<sup>1</sup>.

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 radiation<sup>1</sup>.

The benefits and risks of having a scan will always be weighed up beforehand.<sup>1</sup>

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)<sup>1</sup>. 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..

### **Use of images for research, publication and audit**

Teaching, audit, research and publication of research results are important parts of Royal 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.

### **How will I get my results?**

You will not get the results on the day. Once a report on your scan is complete, the results will be sent to the consultant who referred you for the scan.

### **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](http://www.rcr.ac.uk/patients)
- [www.hpa.org.uk/radiation](http://www.hpa.org.uk/radiation)
- <sup>1</sup>[www.nhs.uk/conditions/CT-scan/Pages/Introduction.aspx](http://www.nhs.uk/conditions/CT-scan/Pages/Introduction.aspx)
- [www.gov.uk/government/publications/medical-radiation-patient-doses/patient-dose-information-guidance](http://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 between 08:00 and 18:00, Monday to Friday on 01223 638404. Outside these times please contact your GP or NHS111.

The address for your appointment is:

**Royal Papworth Hospital NHS  
Foundation Trust  
Papworth Road  
Cambridge Biomedical Campus  
Cambridge  
CB2 0AY**

For any other queries regarding your appointment or further information about

Diagnostic Imaging Services at Royal Papworth Hospital, please contact the booking centre.

Telephone: 01223 639924

Royal Papworth Hospital NHS Foundation Trust is committed to adhering to all Data Protection Legislation, including the General Data Protection Regulations that came into force in May 2018. If you would like more information with regard to how we process your information, please visit our website here:

<https://royalpapworth.nhs.uk/our-hospital/information-we-publish/privacy-request>

If you would prefer a paper copy, then please show this to the receptionist and request that they print it for you.

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