

Patient Information and Consent for Coronary CT Angiography

Introduction

CT scanning of your coronary arteries is a relatively new way of looking at the coronary arteries, the traditional test being a coronary angiogram. Heart Vision and Christchurch Radiology Group's St George's Radiology site have one of the most advanced CT scanners currently available. This allows us to look at your coronary arteries in detail never before possible on CT. The scanner is extremely quick meaning that the arteries are not blurred by the motion of the heart as the images are formed.



A CT Scan of the heart

Why a CT Scan of the Coronaries?

The main advantage of a CT scan is that you can go home shortly after the procedure. It is very quick and has very few potential complications.

Unlike a coronary angiogram, which requires admission to hospital for a needle to be inserted into an artery (high pressure blood vessel) in your groin, a CT scan simply involves a needle in a vein in your elbow (similar to a blood test). The needle is removed leaving a flexible plastic tube (IV line) through which contrast (x-ray dye) is injected to show the coronary arteries. This is removed before you head home.

What to Expect:

The procedure is very quick; the actual time in the scanner room is about 10-20 min although the appointment will take 30-40min.

The scan itself is over in approximately 10-20seconds. You will need to hold your breath for this, so please let us know if you have difficulties breathing or lying flat for any length of time.

A puff of GTN (Nitrolingual spray) is given under the tongue just before the scan to relax your coronary arteries, helping us to obtain the best images possible. If you are taking Cialis, Viagra or Levitra it is important that you stop taking these for the 36hrs prior to the scan.

You will have ECG (electrocardiogram) leads attached to your chest, which give important information to the scanner to help form the images of your heart.

During the scan you will feel a warm sensation throughout your body. This is the contrast (dye) flowing through your veins. This may be accompanied by a slightly metallic smell or taste. This is quite normal. The contrast washes out through your kidneys.

The scanner is shaped like a bagel/donut. The scanner is much more open than an MRI scanner, and a lot less noisy! If you tend to get claustrophobic (fear of enclosed spaces), let us know before you attend. It often helps people to come in and see the scanner beforehand.



The CT Scanner

What are the Risks?

As with any medical procedure, there are some small risks associated with the scan:

- **Contrast:** Very rarely people experience an allergic reaction to contrast (dye). This usually manifests as an itchy rash, which settles down by itself. Asthmatic patients may experience worsening of their asthma shortly after the injection. If you are taking any inhalers for your asthma, you should bring these with you. Please let us know if you have any kidney problems. Your doctor will also check your kidneys with a blood test prior to the scan.
- **Radiation:** x-rays are used during the scan. The amount of radiation used during the scan varies but is around 2-3 times the amount that you naturally receive in a year from background natural sources such as cosmic rays and from rocks in the Earth's crust). To put this in perspective, the lifetime risk of developing cancer due to the x-rays involved in the scan is around 1:4000 compared with a background risk of developing cancer of 1:300 per year. Your doctor will have considered the risk of this versus the risk of dying from a heart attack before advising you to have this scan. If you want more information on this, a useful website is: . If you are still concerned, please contact CRG and ask to speak to one of the radiologists. The type of scanner (Siemens Definition) is designed to rigorous European standards to minimize the amount of radiation involved in the test.
- **Bruising at the injection site:** Very rarely the contrast (dye) goes into the tissues under the skin in your arm rather than the vein. This can cause bruising and swelling which may require ice packs. The injector used is designed to detect this happening and stop immediately if it does, also a member of staff is with you whilst the injection is running to keep an eye on you.

- **Incidental findings:** Because the CT scanner takes such detailed images there is a chance that we will find another abnormality in the part of your chest which we have scanned. This is usually a “pulmonary nodule” (a spot on the lung in layman’s terms), which almost always turns out to be benign. Very occasionally however, a nodule might be a very small lung cancer in its early stages of growth. For this reason if we find one of these in your lungs, we will refer you to a respiratory specialist to plan further investigation. If caught early, lung cancer has more chance of being successfully treated. In fact there is a great deal of interest in using CT scanning to screen for lung cancer with several large trials currently underway in North America and Europe.

Summary of what you need to do:

- If you are taking Cialis, Viagra or Levitra, do not take this medication in the 36 hours prior to your scan.
- Take your other medications as you normally would.
- Have a blood test to check your kidney function prior to the scan.
- If you are asthmatic, bring your inhalers with you.
- Let us know if you have had a previous reaction to contrast (x-ray dye).

Remember you can:

- Expect to spend 30-40min at your appointment
- Expect a needle (I.V. line) in the vein in your elbow, and a warm sensation during the injection
- Expect ECG leads to be stuck to your chest
- Expect a spray of GTN under your tongue
- Expect a 15sec breath hold and to lie flat for about 5-10min.

After the scan:

- The IV line will be removed from your elbow
- Drink plenty of fluids to help flush the contrast (dye) through your kidneys
- Cialis, Viagra and Levitra can be restarted an hour after the scan.
- The results will take around one to two weeks. This reflects the massive amount of information obtained on the scan, which the radiologist and cardiologist have to interpret.

If you have any questions about the test, there are radiographers and radiologists on hand at St George’s Radiology who will be able to address any of your concerns. Your doctor and/or cardiologist will be able to advise on the results and any further treatment.



Please sign below if you are happy to proceed with the scan and bring this form with you:

I, _____ understand the above and give my consent to undergo CT scanning of the coronary arteries.

Signature: _____

Date _____