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MYOCARDIAL PERFUSION SCANNING

This information booklet will talk you through all aspects of myocardial perfusion scanning, including:

- What the scan entails
- Preparation for the scan
- After the scan

Myocardial Perfusion Scanning

A myocardial perfusion scan is used to evaluate blood flow to the heart muscle and establish how well the heart muscle is functioning. Under stress the heart may not receive enough blood, resulting in symptoms such as angina (chest pain) and breathlessness. As such, in this test the heart is put under a controlled amount of stress, usually in the form of exercise unless you are unable to do this, following which a radioactive tracer is injected, allowing pictures to be produced that show the blood supply to the heart and how well the heart muscle is performing.

During the exercise part of the test an injection, usually a drug called adenosine, is given into a vein in the arm to dilate the heart (coronary) arteries while gentle exercise (pedalling on a stationary bike) is undertaken. Towards the end of the period of exercise the tracer is injected and approximately 45 minutes later the heart is scanned. During this time you lie still with both arms above your head while the camera moves around the chest and the images are captured. There is then a break, typically around 90 minutes although sometimes this may vary, following which another radioactive injection may be given. It takes approximately one hour for the tracer to perfuse sufficiently to allow the images to be taken and during this time you are able to leave the clinic and have a light lunch. On your return you are scanned for a second time. The whole process takes between three and five hours.

Preparing for the scan

It is essential that you do not consume anything caffeinated for 24 hours prior to the scan. Caffeine is found in many drinks, not just in coffee and tea. Chocolate, hot chocolate, cola and other fizzy drinks, and some painkillers and cold and flu remedies also contain caffeine (a list of some of the more common drinks and their caffeine content can be found below). You can otherwise eat and drink normally, and you may wish to bring a snack with you for the period in between the scans.

8 oz beverage	caffeine (mg)	8 oz beverage	caffeine (mg)
Coffee, Drip	115-175	Tea, brewed (avg.)	40.0
Coffee, Espresso (2 oz)	100	Tea, green	15.0
Coffee, Instant	65-100	Hot cocoa	14.0
Tea, iced	47	Coffee, Decaf, brewed	3-4
12 oz beverage	caffeine (mg)	12 oz beverage	caffeine (mg)
Red Bull (8.2 oz)	80	Diet Pepsi	36.0
Diet Coke	45.6	Coca-Cola Classic	34.0
Dr. Pepper	41	Cherry Coke	34.0
Sunkist Orange	40	Snapple Flavoured Teas	31.5
Slim-Fast Cappuccino Delight Shake	40	Slim-Fast Chocolate	20.0
Pepsi-Cola	37.5		

Figure 1: Caffeine content of popular drinks¹

Please bring along a list of all your current medications, including inhalers, sprays and any over the counter medications. If you take a medication called Dipyridamole (found in Persantin, Asantin and Asasantin) you will need to stop this 48 hours before the scan (you **must** first confirm this with your doctor), but you should take all your other medication as normal.

Please inform the clinic of your weight at least 48 hours prior to your scan if you are over 90 kgs (14 stone) as a higher dose of the tracer injection may need to be ordered in. Please note that if you weigh over 120 kgs (19 stone) the second set of images may need to be taken on a second day.

Radiation

As little radiation as possible is used during the scan, and the quantity injected equates to the amount of radiation that we are all exposed to environmentally over the course of a few years. The risk of harm from the radiation used in this test is approximately 1 in 2000² but it should be recognised that the benefits of the scan should far outweigh any risk to your health.

Myocardial perfusion scanning in pregnancy

Even small amounts of radiation can be harmful to unborn babies and children, so please telephone us in advance if you are pregnant, think that you may be pregnant, or are breast-feeding. Please do not bring children with you to the scan to avoid exposing them to unnecessary radiation.

Myocardial perfusion images

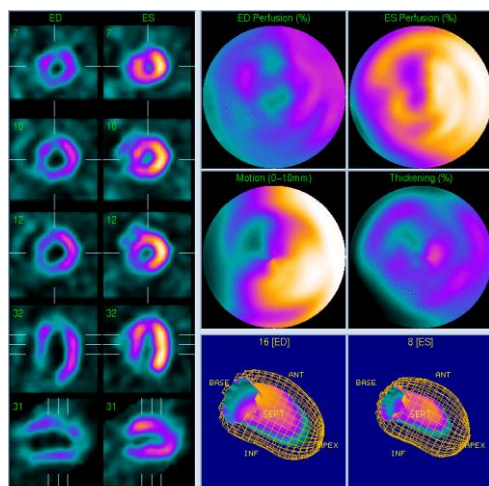


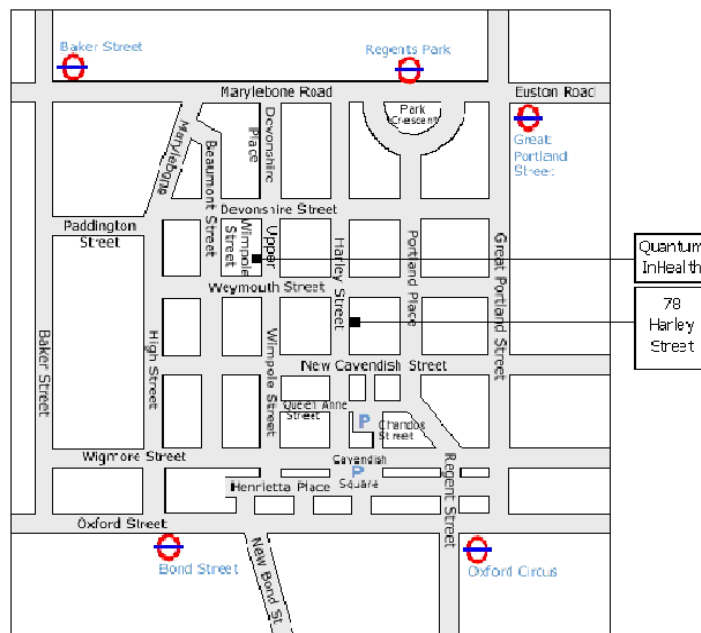
Figure 2: Representative images of your heart obtained during a myocardial perfusion scan, showing the pumping action of the heart, together with the blood supply at rest and with stress

After the scan

Following the scan you can carry out all daily activities as normal, including eating, drinking and driving. Please try to avoid prolonged periods of close contact with children aged 12 or under for 24 hours after the scan as a precautionary measure to avoid their unnecessary exposure to radiation. If you are planning to travel by air within a month of a thallium scan (please check with the technicians as to whether you are having a “thallium” or a “technetium” scan) you may wish to mention this when you visit, as occasionally the trace amounts of radiation left in the body following a scan can be detected by airport security equipment and you will be given a letter to explain this.

Finding Quantum InHealth

The clinic is located just a short walk from our consulting rooms:



Quantum InHealth

22 Upper Wimpole Street
London
W1G 6NB

Tel: 020 7935 9889
Fax: 020 7935 9883

Checklist for the day

On the day of your scan please:
Do not consume any caffeine.
Eat only a light meal prior to your scan.
Do not bring children under the age of 18 with you.
Wear comfortable clothing suitable for gentle exercise.
Bring along a list of your current medication.

If you have any questions or concerns, please contact the imaging centre on 020 7935 9889.

Sources

¹National Soft Drink Association, US Food and Drug Administration, Bunker and McWilliams, Pepsi, Slim

²Royal Brompton and Harefield NHS Trust