

Myocardial perfusion scan



Myocardial perfusion scans are used to try to find the cause of unexplained chest pain, or chest pain brought on by exercise. This test uses scans to compare the blood flow to the heart muscle during rest and during exercise.

This test may be done to:

- Show blood flow patterns in the heart walls
- See whether the coronary arteries (arteries that feed blood to the heart) are blocked and if so, by how much
- Find out how much damage has been done to the heart after a heart attack (myocardial infarction).

What happens?

This test will take most of the day. There are two parts to the test:

1. the resting scan and
2. the stress scan (which involves exercise).

There is usually a 2-3 hour gap between the scans.

1. The resting scan

You will have a small injection of a harmless dye to help get a clearer image of the heart and vessels.

This dye has no lasting effects. After waiting about 40 minutes for the dye to reach the heart muscle, you will be asked to lie flat on a scanning bed.

A camera above you will record images at various positions around your chest. You will need to lie still while the scanning takes place. This will take about 30 minutes.

2. The stress scan, involving exercise or medication

Several leads will be connected to your chest and an intravenous (IV) line put in your arm. You will be asked to walk on a treadmill for as long as you can. This will help make the test more accurate and improve the quality of the images.

If you cannot exercise, the stress symptoms can be drug-induced (see 'dobutamine stress echocardiogram').

As you walk the changes in your heart rate and blood pressure will be monitored. At peak exercise, the dye is injected through the IV line. You will be asked to exercise for another minute to make sure the heart takes up the dye under increased blood flow conditions.

Once the exercise is over, you can rest for 30 minutes before your heart is scanned again.

After the scan

Drink plenty of fluids to help remove the dye. The dye has a small amount of harmless radioactivity. This amount is about what you would be exposed to in an X-ray or CT scan.

How do I get ready for a myocardial perfusion scan?

There are eating and drinking restrictions for this test. Please don't eat or drink caffeine in the 24 hours before the test (avoid tea, coffee, cola drinks and chocolate).

In the last four hours before the scan, you cannot eat anything at all but you may drink water.

For this scan, you may need to stop taking some of your medication. If so, you will be told this either by phone or by letter when you make an appointment.

What do I need?

- A list of current medications
- Comfortable clothing.

What are the risks of a myocardial perfusion scan?

Most people have a myocardial perfusion scan without any problems.

Risks of a stress scan with exercise

Exercise may cause chest pain, breathlessness and tiredness in some people. Rarely, the exercise could cause an abnormal heart rhythm (arrhythmia) or heart attack.

Risks of a stress scan with medication

The medication used in the stress scan may occasionally make some people 'wheezy'. The risk of this happening is higher if you have asthma or other lung conditions. The medication could also cause an abnormal heart rhythm (arrhythmia) or heart attack.

Key points

- A myocardial perfusion scan uses a harmless dye to check how blood flows to and through your heart
- You will have two scans done, one when you are rested and another when you have been exercising
- The appointment takes most of the day
- Most people have a myocardial perfusion scan without any problems.