

Are there any risks or side effects?

Most patients report very few side effects and tolerate the test very well. The main feeling is an awareness of the heart rate racing. It feels rather strange because you are not exercising. The drugs can make you feel tingles on your face and scalp, a feeling that you want to pass urine, warm flushing, a dry mouth and occasionally nausea. These are normal and minor side effects and wear off quickly once the drug is stopped. If you are having the scan as part of an investigation into chest pain, this may be provoked during the test. If this happens we may stop the test and the symptoms usually resolve very quickly. You can also use your nitrolingual spray if you wish.

Serious side effects are extremely rare in our practice but may include severe angina or severe palpitations. If this occurs, we start appropriate treatment but may recommend admission for monitoring.

Drugs: Information on all the drugs potentially utilised during a stress CMR are available in the CMR unit. Please ask if you wish to read this information. Alternatively you may wish to use web based information such as the United Kingdom Medicines Information Pharmacists Group (UKMIPG) website (www.ukmi.nhs.uk).

1. Dobutamine; Is a synthetic stress hormone conventionally labelled as a sympathomimetic drug. By acting on specific receptors, present in heart and vessels, it increases the contraction of the heart muscle and speeds up the heart rate, at lower doses it dilates the peripheral arteries but this effect is reversed at higher doses.

2. Atropine; Is a antimuscarinic/antivagolytic drug that counteracts the influence of the parasympathetic nervous system. It acts fast (within 30 seconds, max effect 3-5 minutes, lasting effects up to 2 hours. Its effect/side effects include fast heart beat, dry mouth, constipation, difficulties passing water (in particular on background of an already enlarged prostate gland), glaucoma attack, visual disturbance, heat sensation and agitation.

How long does it take?

The preparation time takes around 20 minutes. The scanning process usually takes 50 minutes, but may take longer in some patients.

What happens after the test?

The senior doctor analyses all the images and sends the results back to the consultant who referred you for the scan. This will normally take up to 5 working days. The effects of Dobutamine wear off by the time you leave the department. The effects of Atropine (a dry mouth mainly), if given, may take a little longer.



Intelligent imaging

Dobutamine Stress Cardiac MRI

What to expect from your scan



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What is Dobutamine stress CMR and why do I need one?

A stress CMR is a test which allows us to look at your heart at rest and also during 'stress' when it is beating faster. The main aim of the test is to detect reduced blood flow to the main pumping chamber of the heart. The test can also be performed for assessment of other abnormalities of the heart if specifically requested by your doctor, such as assessment of valvular heart disease.

A stress CMR is usually performed if an exercise ECG test is unhelpful or impossible or if your doctor needs more detailed information that cannot be provided by a standard exercise test.

Do I need to do anything before the test?

Confirmation: There is an enormous demand for these tests and it is important for you to confirm your appointment by calling the unit on the telephone number shown on your appointment letter.

Arriving without confirmation will lead to you being turned away as your appointment will have been given to another patient.

Medication:

If you are taking any of the medications listed below, please stop taking them 48 hours before the test.

● Beta Blockers:

Atenolol	(Tenormine, Co-tendione, Tenoret)
Bisoprolol	(Cardicor, Emcor)
Carvediol	(Eucardic)
Acebutolol	(Sectral)
Nebivolol	(Nebilet)
Metoprolol	(Lopresor)
Propranolol	(Inderal, Half Inderal)
Nadolol	(Corgard)
Oxprenolol	(Trasicor, Trasidrex)
Sotalol	(Sotacor, Beta-Cardone)

● Calcium Blockers:

Verapamil	(Securon, Univer, Cordilax, Vertab, Verapress)
Diltiazem	(Tildiem, Adizem, Agitil, Dilcardia, Dilzem, Slozem, Viazem, Zemtard)

You should take all other medication as normal.

If you use a Nitrolingual spray or inhalers you should bring these with you to the appointment. You should also bring along a list of all the medications you are taking.

- **Clothing:** Please wear your normal clothes. You will be asked to remove outer garments. We provide gowns to all patients.
- **Travel:** Ideally, you should arrange for someone to drive you home.

What will happen on the day?

Once you have arrived for your appointment, you will need to change into a gown, you will be weighed and your height will be measured.

Either a senior doctor or our specialist radiographer will explain the procedure to you and ask you some questions, many of which you may have already answered in your MR safety questionnaire.

One or two small cannulae will be sited in a vein, usually in the crease of your elbow or the back of your hand. This is used to administer the drugs required for the scan.



You will be escorted into the scanning room and positioned comfortably onto the scanner table. You will be given ear defenders (the scan is rather noisy) and an alarm button. Special ECG stickers and leads will be attached to your chest and a Dobutamine drip will be connected to your cannula. Your blood pressure will be checked and monitored throughout the procedure. Other equipment will be positioned which will allow collection of the images.

You will be brought into the scanner and imaging will take place in order to acquire images of your heart at rest. Most of the images are taken whilst you are holding your breath (usually for about 10 seconds). Instructions for breath holding will be given by the radiographer through the ear defenders.

After inspection of the first images the Dobutamine infusion will be started and more images will be taken. The doctor may decide to give you another drug called Atropine via the cannula. This may be used to achieve your target heart rate.

At the end of the study the doctor may slow your heart rate back to normal by giving you an injection of either a beta blocker or a calcium channel blocker. Alternatively, you will remain on the table until your heart rate has returned to normal without further medication and until any other possible symptoms have worn off.

At the end of the examination, a gadolinium based contrast agent is also given via the cannula if the doctor feels that it may add information to their scan report. More images will be acquired after this drug has been given.