

Department of Cardiac Investigations

Patient's guide to a Dobutamine Stress Echocardiogram (DSE)

You have been asked to attend to have a Dobutamine Stress Echocardiogram (DSE). This leaflet is designed to help you understand the procedure.

What is a Dobutamine Stress Echocardiogram (DSE)?

A dobutamine stress echocardiogram (DSE) is an ultrasound scan of the heart taken whilst exercising the heart with a drug called dobutamine. Dobutamine mimics exercise and allows us to see how the heart responds to performing exercise (stress). You will **not** need to perform any exercise during this test as the dobutamine drug simulates this.

This is performed for one of 3 reasons:

(1). To assess for narrowings in the heart arteries (most common reason): When the heart is resting, it does not need much blood flow so it pumps well. When your heart rate increases and exercises with dobutamine, the heart muscle needs more oxygen and more blood. If the blood flow is good, the heart muscle pumps and contracts more strongly. If however there are significantly narrowed blood vessels known as angina, the heart muscle fails to reach the required blood flow and this can lead to the affected areas of heart muscle becoming tired for a few minutes. The DSE allows the doctor to assess the adequacy of blood flow to the heart muscle to guide your treatment.



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(2). To assess narrowing of the aortic valve: Valves are doors that open and close in the heart, allowing blood to flow in the correct direction. Narrowing of a valve is known as 'stenosis'. In some cases of narrowing of the aortic valve (aortic stenosis) it is not clear whether the narrowing is mild or severe. By exercising the heart with dobutamine and it pump more strongly, a more accurate assessment of the degree of narrowing of the aortic valve can be made. This can then guide your treatment.

(3). To assess the heart muscle in patients with heart muscle disorders: Assessing the ability of the heart muscle to pump more strongly when exercised with dobutamine can be helpful in the assessment and treatment of some heart muscle disorders, known as cardiomyopathies.

Eating and drinking before the test

Please do not eat for 2 hours before the test. Please do not consume caffeine for 4 hours before the test. **Being well hydrated is however important so please drink plenty of water before the test.**

Do I still take my medications?

PLEASE READ CAREFULLY

Certain medications must be stopped for 48 hours before the test (i.e. do not take on the morning of the test or the day before) as these medications can hinder exercise. If you have taken them within 48 hours prior to the test, the test will not be performed.

THE DRUGS THAT MUST BE STOPPED FOR 48 HOURS ARE:

- **Beta-blockers:** Atenolol, Propranolol, Nebivolol, Bisoprolol, Carvedilol, Metoprolol
- **Rate limiting calcium-channel blockers:**
 - *Diltiazem: (also can be called Adizem, Tildiem, Slozem)
 - *Verapamil: (also can be called Securon, Vertab, Verapress)
- **Any other heart-slowing drugs:** Ivabradine (Procorolan), Digoxin, Amiodarone (Cordarone)

Patient Information

What happens when I arrive at the hospital?

Please report to the reception desk at Clinic 7 in Main Outpatients (ground floor) to book in. This department is also known as the Department of Cardiac Investigations (DCI).

You will be asked to sit in a chair in the waiting area until you are called in to have the scan.

After being called into the scan room, a doctor will come and see you to explain the test and then will ask you to sign a consent form agreeing to have the test. You will be asked some questions and have your blood pressure and pulse recorded. You will be given time to ask questions.

A small needle will be inserted into the back of your hand or arm to allow the drugs used in the DSE to be given. Shortly before your procedure the nurse will bring you a hospital gown. You will be asked by the nurse to remove your shirt or blouse, but underwear may be left on.

How is the DSE done?

The DSE is performed lying on your left side.

You will have your blood pressure and heart rate checked and the first pictures of the heart will be taken whilst you are resting. To make the pictures clearer, a small amount of dye (contrast) may be injected into the needle in your hand or arm. This is very safe and consists of tiny bubbles in a liquid form.

Once the first pictures are taken, the exercise (stress) can start. You will be connected to a pump delivering a controlled drip of dobutamine into the needle in your hand or arm. The aim is to increase your heart rate to a certain level known as the 'target heart rate'. Once we are at this point, we can be sure that we are exercising the heart enough to answer the question that the doctor is looking into. If the dobutamine alone does not allow the heart to reach the 'target heart rate' a second drug called atropine may be given from a needle in your hand or arm to increase the heart rate to the target.

Are there risks to having the procedure?

Most people have no difficulties with the procedure. There are very small risks due to the fact that the heart is being exercised with a drug, however overall the test is very well-used and very safe.

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Symptoms of exercise such as chest tightness, shortness of breath, a feeling of the heart pumping strongly and sometimes a warm feeling can be experienced. These fully resolve within minutes of stopping the dobutamine drug.

Atropine can in some patients cause blurring of vision and a dry mouth for a short time.

Transport

You will need to have someone bring you to hospital and also to take you home as you cannot drive for 24 hours after the procedure if you are given the atropine drug as it can cause blurring of vision.

You may wish for someone to stay with you on the ward during your admission, but are asked to keep your visitors to a minimum.

Items to bring in

We advise you to bring an overnight bag with toiletries and nightwear, just in case you need to stay overnight.

What happens after the test?

Once the test is completed you will be able to change back into your top garments. You will be asked to return to the chair in the waiting area for 15 to 30 minutes for observation and then are able to go home.

Will I know the results of the test?

The doctor who performed the examination will see you after the test to explain the results. The full report will be sent to your referring specialist who will then contact you and your GP to decide further management.

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Patient Information

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Any questions or queries about your procedure, please contact:

Telephone 02476 965767
(Cardiac Bookings)

Web: www.uhcv.nhs.uk

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 02476 965767 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

To give feedback on this leaflet please email: feedback@uhcv.nhs.uk

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