

# Stress Echocardiogram Test

Information and advice for patients

## Cardiology Diagnostics

Welcome to the Cardiology Diagnostics Department where we perform a wide range of cardiac investigations. Our staff aim to provide a high quality service to meet your needs and welcome any suggestions for improvements. We hope you find this leaflet helpful and look forward to seeing you.

### What is an Echocardiogram?

An echocardiogram is an ultrasound scan of the heart that provides a moving picture on a monitor. It is useful for looking at the overall function, structure and size of your heart and for examining in greater detail the valves and chambers. It is a very useful tool for investigating various suspected or known heart conditions. Often we may need to inject a special dye called contrast, which will improve the image quality and help with your diagnosis.

### What is a Stress Echocardiogram?

A Stress Echocardiogram is a special test that combines an ultrasound study of the heart with a stress test. There are two types of this test, an Exercise Stress Echocardiogram which usually involves walking on a treadmill and a Dobutamine Stress Echocardiogram, which uses a special drug called dobutamine to increase your heart rate.

It will depend on the clinical indication (reason for the test) and your ability to exercise, as to which type of Stress Echocardiogram you will have, which can only be decided upon on the day of the test. **Please note; following a Dobutamine Stress Echocardiogram you will not be able to drive for the remainder of the day (refer to after the test section).**

### What is the benefit of the test?

A Stress Echocardiogram is performed as it allows your Doctor to understand how the heart copes when it is made to work harder. It will provide your doctor with information regarding the function of your heart's chambers and valves both at rest and during stress. This information could aid your diagnosis and treatment.

### What are the risks of the test?

#### Exercise Stress Echocardiogram

This test is extremely safe as it is just like exercising as if you were at home.

The echocardiogram (used to obtain images of your heart) uses ultrasound and not radiation (x-rays).

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There is an extremely small risk (less than 1 in 10,000) of developing a severe allergic reaction if contrast is used. **If you have had allergic reactions to any medicines before please inform your Doctor before starting the test.**

If you suffer with angina, there is an extremely small risk (less than 1 in 10,000) you may have a small heart attack during the test.

### Dobutamine Stress Echocardiogram

A Dobutamine Stress Echo scan is extremely safe, but there are some risks you need to be aware of.

The echocardiogram (used to obtain images of your heart) uses ultrasound and not radiation (x-rays).

Rarely (around 1 in 500 patients), the dobutamine medicine may make the heart develop an abnormal rhythm. If this occurs, it will often settle down by simply stopping the medicine, but occasionally you may need additional treatment for this. There is also a small risk of allergy to this medication (1 in every 100 tests).

There is a very small risk (less than 1 in 2000) of a bad angina attack or heart attack occurring during the test and a 1 in 10,000 risk of a fatal complication.

There is an extremely small risk (less than 1 in 10,000) of developing a severe allergic reaction if contrast is used. **If you have had allergic reactions to any medicines before please inform your Doctor before starting the test.**

Please be assured that should any adverse effect happen, staff are trained to deal with any event.

In addition when you attend for your test the doctor/physiologist will explain the risks and answer any questions you may have.

### What are the risks of not having the test?

If you choose not to have the Stress Echocardiogram this may delay your doctor finding out what is causing your symptoms and starting treatment.

### Are there any alternative tests?

There are alternative tests to a stress echocardiogram such as myocardial perfusion imaging (MPI), stress cardiac magnetic resonance imaging (MRI) or cardiac computed tomography (CT). However your doctor has decided that a stress echocardiogram is more appropriate for you.

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### Preparing for the test

Beta blockers can make a stress echocardiogram less accurate. Unless you have been instructed differently by your doctor, the following medications should be **STOPPED 48 hours prior to your test: e.g. Atenolol, Bisoprolol, Nebivolol, Carvedilol, Propranolol Hydrochloride, Sotalol Hydrochloride, Metoprolol Tartrate, Verapamil, Ivabradine, Oxeprenolol Hydrochloride.**

Normal dosages should be resumed following the procedure unless you are advised otherwise by the doctor. All other medications should be taken as normal. If you are unsure about your medication, please contact your GP, Pharmacist or the Cardiology Diagnostics Department.

**You must NOT eat for two hours before the test, but you may drink water.**

Please wear comfortable clothing and securely fitting shoes (e.g trainers, flat shoes but **NO** flip-flops). It is also recommended that you bring your medication with you. For safety reasons relatives/friends are not allowed in the stress echocardiography room during the test, but they can be present if you wish, during your preparation and recovery period.

### During the test

You will be shown into a darkened room. There may be up to 3 members of the cardiac team present during your test. It would be helpful if you know your correct weight and when you had your last episode of chest pain (if any).

You will have to sign a consent form if the doctor decides you are to have a dobutamine stress echo.

Including preparation and recovery time, you should expect to be in the department for no more than two hours.

### Exercise Stress Echocardiogram

You will need to undress to the waist and will be given a gown to wear to maintain your dignity.

A member of the team will ask you to lie on a couch. Stickers will be attached to your chest and abdomen and connected to the exercise ECG machine. These will be used to monitor your heart rate. Your blood pressure will also be checked regularly throughout the test. A special needle called a cannula will be inserted into one of the veins in your hand or arm if contrast needs to be injected.

Whilst lying on your left hand side, pictures of your heart will be recorded by placing the ultrasound probe with gel onto your chest area. You will then be asked to exercise, either by walking on a treadmill or riding an exercise bike. The exercise will be gentle at first but will get progressively more strenuous. Occasionally the Sonographer may record pictures of your heart whilst you are exercising.

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When the doctor/physiologist has decided that you have performed enough exercise, or if you are unable to continue, further contrast will be injected (if needed) whilst you are still exercising. If you have exercised on the treadmill it will stop quite suddenly and you will need to transfer as quickly as possible back onto the couch and further pictures of your heart will be taken. If you have exercised on the bike you will remain on the equipment whilst your heart images are recorded. You will continue to have your heart rate and blood pressure monitored until you have fully recovered, which may take several minutes.

### Dobutamine Stress Echocardiogram

You will need to undress to the waist and will be given a gown to wear to maintain your dignity.

A member of the team will ask you to lie on a couch. Stickers will be attached to your chest and abdomen and connected to the exercise ECG machine. These will be used to monitor your heart rate. Your blood pressure will also be checked regularly throughout the test. A special needle called a cannula will be inserted into one of the veins in your hand or arm.

A Drip will be attached and a special drug called dobutamine will be infused to make your heart beat faster and harder. Whilst lying on your left hand side, pictures of your heart will be recorded periodically by placing the ultrasound probe with gel onto your chest area.

Contrast will also be injected before the images are taken if it is needed, to improve the image quality.

Sometimes an additional medication (atropine) has to be injected if your heart rate does not respond adequately to dobutamine.

When your heart has been made to work hard enough the doctor will stop the drip, more pictures will be taken and you will continue to be monitored for a few minutes until the effects of medication have worn off.

### What do I feel during the test?

You might find it uncomfortable when the physiologist applies pressure on your chest area with the ultrasound probe.

During a dobutamine stress echo the medication will make your heart beat faster and harder; you may also experience symptoms of nausea and dizziness.

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### After the test

#### Exercise Stress Echocardiogram

Once the scan is complete you will be given some tissue to remove the gel, the stickers and cannula (if used) will also be removed. You can then get dressed and when you return home, you will be able to undertake your day-to-day activities as usual. Sometimes you may be asked to wait, whilst the images are reviewed by a doctor.

#### Dobutamine Stress Echocardiogram

Once the scan is complete you will be given some tissue to remove the gel, the stickers and cannula will also be removed. You can then get dressed.

You will be asked to spend 30-45 minutes in the waiting area to allow the effects of the medication to wear off completely. You will then be able to return home, but we advise that you do not drive following your appointment, as some of the medication used may cause temporary blurred vision. You will need to have a family member/friend available to take you home. If this is not possible, public transport/taxi is acceptable.

### Contact details

You will be able to ask any questions or tell us any concerns before the test is carried out, but if you would like to contact us before your appointment please call us on:

**Birmingham Treatment Centre Telephone: 0121 507 6295**

**Sandwell General Hospital Telephone: 0121 507 3512**

**Lines open: 9am till 4pm Monday to Friday**

For more information about our hospitals and services please see our website [www.swbh.nhs.uk](http://www.swbh.nhs.uk), follow us on Twitter @SWBHnhs and like us on Facebook [www.facebook.com/SWBHnhs](http://www.facebook.com/SWBHnhs).

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### Further Information

#### References/Source of evidence

- British Heart Foundation. Tests for heart conditions. Available at: <https://www.bhf.org.uk/informationsupport/tests> (Accessed: 23 February 2023).
- British Society of Echocardiography. Available at: [www.bsecho.org](http://www.bsecho.org) (Accessed: 23 February 2023).



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