

Department of Cardiac Investigations

Patient's guide to an Exercise Stress Echocardiogram (ESE)

Introduction

You have been asked to attend to have an Exercise Stress Echocardiogram (ESE). This leaflet is designed to help you understand the procedure.

What is an Exercise Stress Echocardiogram (ESE)?

An exercise stress echocardiogram (ESE) is an ultrasound scan of the heart taken while you are exercising. The exercise is usually performed by cycling on an exercise bike, but can also be done by you walking on a treadmill.

This is performed for one of 3 reasons:

(1). To provide detailed assessment of the function of the heart valves: Valves are like doors that open and close in the heart, allowing blood to flow in the correct direction. Sometimes it is unclear whether a patient's symptoms are due to a problem with the heart valves. On other occasions, a patient can have a severely narrowed or leaky valve and it is unclear whether this is truly causing symptoms or causing strain on the heart or lungs. By taking pictures of the heart and valves and assessing them while you are exercising, we can help answer these questions. This can be important and useful to help manage your health.

(2). To assess the heart muscle in patients with potential heart muscle disorders: Assessing the pumping of the heart during exercise is



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important in the assessment and treatment of some heart muscle disorders, known as 'cardiomyopathies'. These can include the following:

(a). *Hypertrophic cardiomyopathy (HCM or HOCM)*: This is thickening of the heart muscle and on exercise can lead to shortness of breath or dizziness as the blood can struggle to leave the heart properly due to the thickened heart muscle.

(b). *Athlete's Heart vs. Cardiomyopathy*: In some people who do a lot of exercise, the heart can become enlarged or the heart muscle can become thickened. This is a normal feature to help the heart meet the demands of your exercise and is known as 'Athlete's Heart'. However in some cases, the enlargement or thickening of the muscle may actually be due to a cardiomyopathy. Assessing the heart's pumping whilst exercising can help distinguish between Athlete's Heart and cardiomyopathy.

(c) *Peripartum cardiomyopathy*: The pumping of the heart can become impaired during or just after pregnancy in some women. This is called 'peripartum cardiomyopathy' (PPCM). To assess how likely this is to happen again and how well the heart would cope in future pregnancies in women who have had PPCM, assessing the pumping function of the heart during exercise can be helpful.

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)

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Eating and drinking before the test

Please do not eat for 2 hours before the test. Please do not have any caffeine for 4 hours before the test. **Being well hydrated is important, therefore please drink approximately 2 pints of water in the 3 hours leading up to the test.**

What should I wear?

Please wear comfortable closed flat shoes. If possible please avoid long dresses/outfits that may become tangled within the exercise bike. A two-piece outfit, e.g. skirt or trousers/jogging bottoms and a top are preferable

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).

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 able to ask any questions.

You will then be asked to remove your top items of clothing and will be provided with a patient gown for dignity.

If the test is being done to assess the heart muscle, a small needle may be inserted into the back of your hand or arm to allow administration of a small amount of dye to make the pictures clearer.

How is the ESE done?

The test is performed on an exercise bike that looks like an echocardiogram couch but has a pedal attachment to allow cycling. You will stay lying (semi-recumbent) on the couch for the test.

We will check your blood pressure and pulse and take initial pictures of the heart with ultrasound (echocardiogram). You will then start pedalling in this position and every 3 minutes we will increase the bike resistance.

Pictures of your heart will be taken and your heart rate and blood pressure will be recorded at different times during the test to help us answer the questions asked by your referring specialist. Once you have achieved your target heart rate (based on your age), you can slow your pedalling down.

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You can relax on the bed until your blood pressure and heart rate return to resting levels.

Are there risks to having the procedure?

Most people have no difficulties with the procedure. There are very slight risks as the heart is being exercised, however overall the test is very well-established and very safe.

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 resolve within minutes of stopping exercise and you will feel back to your normal self on leaving the department

Transport

You may wish for someone to accompany you for the test, but are asked to keep your visitors to a minimum. You can drive in and drive yourself home if required.

Items to bring in

We advise you to bring an overnight bag with toiletries/nightwear, in case you need to stay overnight, however this is exceptionally rare.

What happens after the test?

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

If you stopped taking any medications for the test, you can take them again after the test has been completed.

Will I know the results of the test?

The doctor who performed the examination will see you after to briefly explain the findings. The full report will be sent to your referring specialist who will then correspond with you and your GP to decide further management.

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Any questions or queries about your procedure, please contact:

Telephone 02476 965767
(Cardiac Bookings)

Web: www.uhcw.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@uhcw.nhs.uk

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