

Cardiac Investigations

Exercise stress echocardiogram (ESE)

An exercise stress echocardiogram (ESE) is an ultrasound scan of the heart which is taken while you exercise.

The exercise is usually performed by cycling on an exercise bike but can also be done by you walking on a treadmill.

You have been asked to attend to have an exercise stress echocardiogram (ESE).

What is an exercise stress echocardiogram for

An exercise stress echocardiogram may be performed:

To provide detailed assessment of the function of the heart valves

Valves open and close in the heart which allows blood to flow in the correct direction. Sometimes it's 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's 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.



To assess the heart muscle in patients with potential heart muscle disorders

Assessing the pumping of the heart during exercise is important in the assessment and treatment of some heart muscle disorders. These disorders are known as cardiomyopathies.

Cardiomyopathies can include:

Hypertrophic cardiomyopathy (HCM or HOCM)

This is thickening of the heart muscle. During exercise, HCM can lead to shortness of breath or dizziness, as blood struggles to leave the heart due to the thickened muscle.

Athlete's Heart vs. Cardiomyopathy

In some people who do a lot of exercise, the heart can become enlarged or 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.

Peripartum cardiomyopathy

The pumping of the heart can become impaired during or just after pregnancy in some women. This is called 'peripartum cardiomyopathy' (PPCM).

In women who have had PPCM, assessing the pumping function of the heart during exercise can be helpful. We can assess how likely this is to happen again and how well the heart would cope in future pregnancies.

Patient Information

Do I still take my medicines

Continue to take all medicines as normal, including on the morning of the test.

Only in a very small number of cases we need certain medicines to be stopped for 48 hours before the test.

If this is the case, we will call you within 1 week before the date of the test to inform you about this and which medicines to stop.

Eating and drinking before the test

Do not eat for 2 hours before the test.

Do not have any caffeine for 4 hours before the test.

Drink plenty of water before the test – 500ml or 1 pint within the 3 hours before the time of the test.

What to wear

Please wear comfortable closed flat shoes. Avoid long dresses or outfits that may become tangled within the exercise bike.

A two-piece outfit, such as a skirt, trousers, or jogging bottoms and a top are preferable.

When you arrive at the hospital

Please report to the reception desk at Clinic 7 in Main Outpatients on the 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 see you to explain the test and then will ask you to sign a consent form agreeing to have the test.

Patient Information

They will ask you some questions and record your blood pressure and pulse. You will be able to ask any questions.

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

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. This is to allow us to administer 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 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. This will help us to answer the questions asked by your referring specialist.

Once you have achieved a target heart rate based on your age, you can slow your pedalling down. 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, but overall, the test is very well-established and very safe.

Patient Information

You may experience symptoms such as chest tightness, shortness of breath, a feeling of the heart pumping strongly, and sometimes a warm feeling.

These resolve within minutes of stopping exercise and you will feel like yourself before leaving the department.

Transport

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

Items to bring in

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 can change back into your top items of clothing. You'll be asked to return to the chair in the waiting area for up to 30 minutes for observation and can then go home.

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

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.

Patient Information

Hospital address

University Hospitals Coventry and Warwickshire NHS Trust
Clifford Bridge Road, Coventry, CV2 2DX

More information

If you have any questions or queries about your procedure, contact Cardiac Bookings on 024 7696 5767.

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact 024 7696 5767 and we will do our best to meet your needs.

The Trust operates a smokefree policy.

Did we get it right?

We would like you to tell us what you think about our services. This helps us to make further improvements and to recognise members of staff who provide a good service.

Have your say. Scan the QR code or visit:
www.uhcw.nhs.uk/feedback



Document History

Department:	Cardiac Investigations
Contact:	25670
Updated:	September 2024
Review:	September 2027
Version:	2
Reference:	HIC/LFT/2574/21