

Your doctor has decided that you should have a stress echocardiogram

What is a stress echocardiogram?

- An **echocardiogram** or '**echo**' is a safe, non-invasive test used to diagnose cardiovascular disease. It uses high-frequency sound waves to produce images of the heart. Echocardiography allows doctors and cardiac physiologists to visualise the anatomy, structure and function of the heart. This enables the doctors to diagnose a number of cardiovascular diseases, so they can begin proper treatment if required.
- A **stress echocardiogram** combines the echo exam with either exercise or a medication that simulates the effect of exercise on the heart. Both forms of stress echocardiograms are used to diagnose the presence and severity of any narrowing of the coronary arteries, and to predict whether your heart would respond to surgery. It can also provide information about the severity of heart-valve problems.
- During an exercise stress echo, you will be asked to walk on a treadmill or ride an exercise bike whilst pictures are taken of your heart. However, if you are unable to exercise, a medication called Dobutamine will be used to stimulate the heart instead.

What does it involve?

- You will be taken into a darkened room. The team looking after you will include a doctor and at least 1 cardiac physiologist. If you are undertaking an exercise stress echocardiogram, a second cardiac physiologist will be present to look after the exercise equipment. The person performing the scanning element of the test is called a cardiac physiologist, who may be male or female. It may not be possible to choose the gender of the physiologist on the day; therefore, if you have a strong desire to be scanned by either gender, please contact the department when you receive your letter and we will do our best to accommodate you.
- You will be asked to undress to the waist and put on a gown that should be left open to the front. You will be asked to lie on a couch or sit on the supine bike.
- Electrodes will be attached to your chest and connected to the machine. These will be used to monitor your heart rate and rhythm. Your blood pressure will also be checked regularly throughout the test.
- The doctor or physiologist may need to insert a cannula (small, thin plastic tube) into a vein in your arm to inject a contrast agent, which will improve the quality of the images recorded. This will be flushed through with sodium chloride (salty water), which will cause no harm, but you may feel a 'cold rush' up your arm. The cardiac physiologist will record a number of pictures of the heart, whilst the contrast agent is injected into the cannula.
- During an **exercise stress echo** you will 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 physiologist may record pictures of your heart whilst you are exercising. When the physiologist has decided that you have performed enough exercise or if you are unable to continue, more images of the heart will be recorded.
- During a **Dobutamine stress echo**, the cardiac physiologist will take images of your heart at rest and periodically throughout the medication infusion until your heart rate has increased sufficiently.

- You will continue to have your heart rate and blood pressure monitored until you have fully recovered, which may take several minutes.
- Overall, the stress echo will take around 45 minutes to complete. You will be able to return home straight after the test and do not have to stay in hospital. Results are not given on the day; questions you may have about the test result will have to wait to be discussed with your doctor at your next appointment with them.

Will I be exposed to radiation?

- The sound waves are painless and are not radioactive.

Are there any special precautions that I need to take before the stress echo?

- **At the end of this letter, you will find a list of medication that you should stop taking 48 hours before the test. You must not take beta-blocker or rate-limiting calcium-channel blocker tablets.** Beta-blocker tablets include Atenolol, Bisoprolol, Metoprolol and Carvedilol, although there are others. Rate-limiting calcium-channel blockers include Diltiazem and Verapamil. These tablets prevent the heart from working hard. If you do continue with beta-blocker or calcium-channel blocker drugs, the stress echo may need to be postponed. If you have any doubts or take a tablet with a name ending in 'lol', please contact the department.
- You should continue other medications as usual.
- Light meals and drinks are allowed before the test, however, **please keep nil by mouth 2 hours before your appointment.** If you are diabetic, please contact the department for further information.
- Please wear comfortable, flat, secure-fitting shoes on the day of the test and clothing you feel comfortable to exercise in.
- If you are in an irregular heart rhythm called atrial fibrillation and take medication to slow your heart rate down, please contact the department for advice prior to stopping any medication.

Consent

- Although you consent for this test, you may withdraw your consent at any time afterwards.
- Are there any risks in having a stress echo?
- The exercise stress echo scan is extremely safe as it is just like exercising as if you were at home.
- 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.**
- There is a small risk (less than 1 in 1,000) you may have a heart attack, stroke or abnormal heart rhythm during the test.

Research and audit

University Hospitals Birmingham NHS Foundation Trust is an organisation involved in teaching and research. Some of the data collected during your scan may be used for audit purposes, to assess the quality of what we do and to support research projects that do not involve further contact with you. If you do not wish for us to use this data, please let us know when you arrive for your appointment.

Cardiology

If you have any questions regarding the procedure, please contact the Cardiology Outpatients department and give your contact details which will be forwarded to our clinical lead.

Queen Elizabeth Hospital Birmingham	Telephone: 0121 371 2550
Birmingham Heartlands Hospital	Telephone: 0121 424 3736
Solihull Hospital	Telephone: 0121 424 4358
Good Hope Hospital	Telephone: 0121 424 7415

A list of medication you should not take are listed below:

Beta-blockers

- Bisoprolol (Cardicor,Emcor)
- Atenolol (Tenormin, Cotenidone, Kalten, Tenoret 50, Beta-adalat, Tenif)
- Metoprolol (Lopresor,Betaloc)
- Sotalol (Beta-Cardone, Sotacor)
- Nebivolol (Nebilet)
- Carvedolol (Eucardic)
- Propanalol (Inderal,Half-Inderal,Acebutelol,Sectral)
- Esmolol (Brevibloc)
- Labetalol (Trandate)
- Nadalol (Corgard)
- Oxeprenolol (Trasicor,Trasidrex,Slow-Trasicor)
- Pinadolol (Viskaldix)
- Timolol (Betim, Prestim)

Calcium-channel blockers

- Diltiazem
- Adizem
- Tildiem
- Slozem
- Angitil
- Dilzem
- Zemcard
- Viazem
- Dilcardia

Verapamil

- Securon
- Verapress
- Univer
- Vertab

Others

- Ivabradine (Procorolan)

Accessibility

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