

PATIENT INFORMATION

Echocardiogram and Bubble Study

Cardiology Department

This leaflet is designed for patients who are having an echocardiogram and bubble study performed and for their carers/families/friends to help prepare them for the cardiac test.

What is an Echo and Bubble Study

An echo is an ultrasound scan of the heart. High frequency sound waves are transmitted into the body and echoes are received back onto a monitor showing the heart's internal structure. The bubble study provides information about whether a small abnormal communication of blood is present in the heart between two cardiac chambers (a hole). It involves a small amount of micro-bubbles being sent to the heart via a vein to watch how they travel through the heart.

Will it hurt?

In order to perform a bubble study, a small tube or cannula needs to be inserted into the arm or back of the hand for the bubble solution to be carried round to the heart via a vein. The cannula insertion may be a little painful similar to a sharp, short-lived, scratch. Once the cannula is inserted, the rest of the test is pain free.

Do I need to do anything for the test?

No. You may eat and drink as normal before the test. You may also take any medications as normal.

What will happen on the day?

The test will be performed by an echocardiographer who is either a cardiac physiologist or a doctor. If you wish to have a male/female member of staff, please contact the Cardiac Department as soon as possible so we can accommodate this. Please note that this may delay your appointment by a couple of days due to limited male staffing numbers.

The test will take place in a private room. You will be asked to remove all clothing from the waist up and will be offered a gown. You will then be asked to lay on your back or on your left side on a couch. Lying on your left side will allow the echocardiographer to obtain the best pictures. Gel will be applied to the chest area and a small probe (recorder) moved over the skin, and sometimes your stomach and neck, to view the heart from different angles.

The test does not include an examination of the breasts, but as your chest will be exposed, you may wish to ask a friend or relative to accompany you.

In order to perform the bubble study, a doctor or trained nurse will insert a cannula into your arm or back of the hand. It will usually be your right arm/hand, but this may change depending upon how easy it is to find a vein. A doctor specifically trained in performing bubble studies will prepare the micro-bubble solution (saline solution) and will then inject them through the cannula whilst you are being scanned by the echocardiographer. The micro-bubble solution may be injected a number of times (usually 2 – 5) to ensure good quality images are produced. You may be asked to perform a 'Valsalva manoeuvre' which is a straining motion usually achieved by holding your nose with your fingers and pushing against them as if trying to make your ears pop.

We often have to train echocardiographers or junior doctors. If the person doing the scan has to bring in a more senior person, don't worry. This is usually because they are being supervised, not because some abnormality has been found. Please note that we do have a mixture of male and female doctors so, again, please state if you wish to be seen by a male or female specifically.

Once the scan has been completed, the doctor will remove the cannula and place a small dressing onto the site to ensure no bleeding occurs. You can remove the dressing after 12 hours.

How long will it take?

The scan may take up to 45 minutes to complete.

What happens after the test?

You will be able to leave as soon as the test is complete. The echocardiographer will write a report which will be forwarded to your doctor and/or consultant at the hospital.

Benefits

The test will allow your doctor to have information about your heart's pumping chambers, valves, and cardiac structure from outside the chest wall, which could aid your diagnosis and treatment.

Risks

The echocardiogram uses ultrasound which does not use radiation or x-rays. There are no risks associated with an echo and it can safely be performed on adults, children, and babies alike. There is no risk to unborn babies.

Cannulation carries a small risk as the vein is punctured, including bruising, bleeding, and/or infection at the cannulation site.

Alternatives

The alternatives to this scan may be a Transoesophageal Echocardiogram (TOE), myocardial perfusion scan, coronary angiogram, Cardiac MRI, or CT scan, and they may involve a trip to another hospital. Each of these tests may have risks associated with them depending upon the individual case.

References / Sources of evidence

British Heart Foundation website: www.bhf.org.uk/heart-health/tests

British Society of Echocardiography website: www.bsecho.org and click on Patient Information

NICE Guidelines website: www.nice.org.uk

American Society of Echocardiography (2010) PFO: Echocardiographic Detection and Clinical Relevance in Stroke Journal of the American Society of Echocardiography

Contact information:

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For further assistance or to receive this information in a different format, please contact the department which created this leaflet.

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