



Gloucestershire Hospitals
NHS Foundation Trust

Contrast echocardiogram (echo)

Introduction

This leaflet gives you information about your planned contrast echocardiogram.

What is a contrast echocardiogram?

You may have already had an echocardiogram (echo) performed. This is a non-invasive and painless imaging test using high frequency sound waves to look at your heart.

These high frequency sound waves cannot be heard by the human ear. We use it to gain information about the structure and function of the heart, the heart valves, main blood vessels and other structures within the heart. The test does not involve radioactivity (x-rays).

A contrast echocardiogram uses imaging ultrasound combined with an injection of specialist ultrasound enhancing agent (called SonoVue®) to improve the quality of the images that are recorded.

Why am I being asked to have this test?

In some cases, the test is done when accurate information about the pumping function of your heart is required and your previous echo image quality has not been sufficient to give this information.

In other cases, the test is carried out after a heart attack or stroke when an echo has suggested the presence of a thrombus (blood clot) in the heart.

What happens during a contrast echo?

- You will be taken into a room with usually a doctor and a cardiac physiologist trained in echocardiography. The test will be explained to you in detail, including a discussion about the possible risks. You will then be asked to sign a consent form. By signing this form, you will have agreed to have the test performed and that you understand why it is needed. This does not take away your right to have the test stopped at any time.
- You will be offered a hospital gown, asked to undress to the waist and then lie on a couch. The physiologist will attach ECG stickers to your chest and connect them with wires to the echocardiogram machine. This will monitor your heart rate and rhythm during the test. You will have a cannula (small plastic tube) inserted into one of the veins in your arm or hand. This is for the injection of the ultrasound enhancing agent. We will then ask you to lie on your left side. If you are unable to lie on your left side, we can do the echo while you are lying on your back. The test is performed in semi-darkness so the lights will be dimmed once you are comfortable.
- The cardiac physiologist will place the echocardiogram probe on your chest (this is like a thick, blunt pen) with cold lubricating jelly (this helps to get good contact with the skin).

- While the physiologist is taking a few baseline pictures of your heart, the doctor will be mixing up the ultrasound enhancing agent. Once this is done the doctor will inject the contrast through the cannula into the vein and the physiologist will take a number of pictures of the heart from different areas on the chest. More contrast may be injected during the scan to keep good image quality.
- The doctor and physiologist may discuss the images during the test to make sure that they are happy that they have enough information before deciding that the test is at an end.
- The test will take about 30 to 45 minutes to complete. You can return home straight after the test and may drive.

Do I need to take any special precautions before the test?

No, you should take all your usual medication and can eat and drink normally. We suggest that you keep well-hydrated (having plenty to drink) and keep your hands and arms warm before the test. This increases the chance that we can access a vein for the cannula insertion during the test.

Risks, contra-indications and possible side effects of the test

SonoVue® is contraindicated (cannot be used):

- If you are allergic to sulphur hexafluoride, macrogol 4000, distearoylphosphatidylcholine, dipalmitoylphosphatidylglycerol sodium or palmitic acid.
- If you have been told you have a right-to-left heart shunt.
- If you have severe pulmonary hypertension (pulmonary artery pressure more than 90mmHg).
- If you have uncontrolled hypertension (high blood pressure).
- If you have adult respiratory distress syndrome (a severe, medical condition characterised by widespread inflammation in the lungs).
- Please let us know if you are pregnant, as the test should not be carried out until after the birth of your baby. If you are breastfeeding, you can resume after 2 or 3 hours as the ultrasound enhancing agent is quickly removed from the body by breathing.

SonoVue® is considered a medicine, and therefore it may cause side effects, although not everybody will get them. Most of the side effects to SonoVue® are rare and usually not serious. Some patients may experience serious side effects which may require treatment.

Please let the Cardiac Investigations team know if you have a heart condition which has recently worsened, including increasing frequency of angina (chest pains) or rhythm disturbance or if you have artificial heart valves.

We also need to know if you have an acute general inflammation or infection and if you have any severe liver or kidney disease.

If you have had allergic reactions to any medicines before, please let us know before starting the test.

During the test, tell the doctor straight away if you notice any of the following side effects, as you may need medical treatment:

- Swelling of the face, lips, mouth or throat which may make it difficult to swallow or breathe; skin rash; hives; swelling of the hands, feet or ankles.

Common side effects of SonoVue® include:

- Headache, feeling sick (nausea) or abdominal pain, flushing or feeling hot or sensations of dizziness during the injection. Occasionally there may be some redness or itching at the cannula site.
- If you are taking any blood thinning medication, you may bruise or bleed more easily when the cannula is inserted or removed.

Less common/rare side effects of SonoVue® include:

- Blurred vision; a decrease in blood pressure which may lead to feeling faint, itching (pruritis), back or chest pain, generalised pain or fatigue.
- A severe, life-threatening, allergic reaction to SonoVue® during the test (1 in every 10,000 patients).

Most symptoms usually go away when we stop the test.

There will always be medical professionals present during the test, who are trained to manage any side effects.

After the procedure

Once the test is complete, you can get dressed and are free to leave. We may give you the results immediately, but some findings take longer to interpret and may need a second opinion. A report will be sent to the referring clinician (doctor or specialist nurse) after the test. You can carry on with your normal activities after the procedure.

Contact information

If you have any questions about your planned contrast echocardiogram, please contact:

Cardiac Investigations

Tel: 0300 422 6551

Monday to Friday, 9:00 am to 4:00 pm

Alternatively, you can contact to your consultant's secretary through switchboard.

If you would like a chaperone during your procedure, please call and request this in advance. The department will arrange this on your request, as it cannot be a friend or relative, although they may be present if you prefer.

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.

Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?



These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation.

***Ask 3 Questions** is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial.

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