

Contrast enhanced spectral mammography (CESM)

This leaflet aims to answer your questions about having CESM. It explains the benefits, risks and alternatives, as well as what you can expect when you come to hospital.

If you have any further questions, please speak to a member of the breast team caring for you.

What is CESM?

CESM is a specialist mammography test that aims to 'highlight' areas of concern within the breast in more detail than a standard mammogram.

The difference between CESM and a standard mammogram (x-ray of the breast) is the use of a special dye (called contrast medium) that is injected into the veins before the mammogram images are taken. The contrast enhanced images give more detailed information to the breast radiologists (expert doctors trained to analyse breast imaging).

What happens during CESM?

The procedure should last no longer than 30 minutes but please allow longer in case of delays due to emergency patients.

On arrival you will be asked to fill out a short questionnaire to check you are suitable to have the test.

The mammographer will call you in to the x-ray room, ask you a few questions about your general health and explain the procedure to you. If you have any additional questions, she will be more than happy to answer them for you.

A small plastic tube (cannula) will be inserted into a vein – usually in the back of your hand, or in the crease of your elbow. The needle may hurt briefly while it goes through the skin, but after that you should not feel any pain. While the needle is being inserted, a tourniquet (tight band) may be used to compress your arm. You will then be given an injection of the dye through the cannula. You may feel a little bit warm as the contrast medium flows around the body – this is normal and nothing to be concerned about.

After a short interval the radiographer will position your breasts, one at a time, in the mammogram machine and apply compression to the breast and take the x-rays. The mammogram takes a few minutes and your breasts are only compressed for a few seconds each.

When the x-rays have been taken, you will be asked to sit in the waiting room. The cannula will be left in until the image quality has been checked, and then removed before you go home.

Why should I have CESM?

Your recent tests in the Breast Imaging Unit have identified an area of concern that your breast clinician wishes us to investigate further.

What are the risks?

Radiation

A mammogram is an x-ray of the breasts. All x-rays involve radiation. The amount of radiation from a standard mammogram is small - equal to that which we receive naturally from the environment over a period of a few months. If you do have a breast lump, or other significant problem, then the risk of not having the examination will be much greater than the risk associated with the radiation. The radiation dose from CESM is slightly higher than that of a standard digital mammogram, but still well within accepted safety guidelines.

Allergic reaction

The injection you have for this test is generally very safe. Many people have this injection in x-ray departments every day. However, with every injection of the contrast medium, there is a slight risk of a reaction.

The contrast medium that is used contains iodine which some people are allergic to. We will check whether you have had any allergies in the past before your test. Some people may develop a rash, and a few people may get a mild asthma attack. Rarely the dye may result in a more serious allergic reaction, which may need to be treated with medicines. The doctor and mammographer in the x-ray department are trained to recognise these reactions and to treat them. Also, should it be necessary, other doctors are close at hand.

Checking kidney function

The contrast medium can affect the kidneys. This is uncommon (affecting less than 1 in 100 people), but to reduce the chances of this occurring, we will not offer you the test if you have any risk factors (see below the section titled 'Are there any alternatives')

Before we can proceed with the test we will need to check that your kidneys are functioning properly in the form of a blood test. This may not be necessary if you have had a recent blood test and the results are available to check.

The blood test will be arranged by the Breast Clinic and once the results are available (and are satisfactory) an appointment will be made for you to have the test.

Are there any alternatives?

The risks and benefits of having the contrast injection need to be weighed up. If any of the following apply, you should not have CESM (but a standard mammogram may be offered – the staff in the Breast Imaging Unit will discuss this with you):

- if you are pregnant
- if you are breastfeeding
- if you are allergic to iodine
- if you have renal (kidney) failure
- if you cannot give informed consent
- if you would be unable to tolerate a mammogram because of physical problems.

You will be asked to fill out a short questionnaire on arrival for the CESM to check you are suitable to have the test.

How can I prepare for CESM?

If you are taking any diabetes medicines containing metformin, then these will need to be stopped temporarily around the time of the CESM. Call the Breast Imaging Unit on **020 7188 5573** for advice as soon as you get your appointment letter.

If you are taking any other medicines, please continue to take these as usual unless you have been told otherwise by your doctor.

There are no special preparations beforehand for this procedure. You can eat and drink normally before and after. However:

- It is advisable to wear clothes that can be easily removed, as you will be asked to undress from the waist upwards.
- If you have breast implants, please inform the mammographer when you arrive for your appointment.
- Do not wear deodorant, powder, lotion or perfume on your breasts and under arm areas on the day of your appointment, as these will affect the x-ray image.
- Try to bring a friend or relative to accompany you home. This may also be useful if you do not understand English very well or if you have any special needs. Although your friend or relative may not be allowed into the examination room, they can be a valuable source of support for you on the day. If you require an interpreter to attend your appointment, please contact the Language Support Service on 020 7188 8815.
- Please be aware that we are unable to offer childcare facilities. If you need to bring your children with you, please bring along an adult who can supervise them when your examination is being carried out.

Giving my consent (permission)

The staff caring for you will ask your permission to perform CESM. If there is anything you do not understand or if you need more time to think about it, please tell the staff caring for you.

Remember, it is your decision. You can change your mind at any time, even if you have signed a consent form. Let staff know immediately if you change your mind. Your wishes will be respected at all times. If you would like to read our consent policy, please tell a member of staff.

Will I feel any pain?

Some women find compression of the breasts during the mammogram slightly uncomfortable and some feel short-lived pain. Research has shown that many women regard a mammogram as less painful than having a blood test, and find that the compression compares to having blood pressure measured.

What happens after CESM?

The mammogram images will be reviewed by a radiologist or a specially trained radiographer and a report will be issued to the consultant that referred you. You will not receive the results on the day of the test. Sometimes it is necessary to call patients back for further investigations following this test.

The radiologist will let you know on the day of the test when you will receive the results of the CESM test and any other imaging tests you have undertaken.

What do I need to do after I go home?

You can eat and drink as normal and resume your usual activities straight after the scan. Continue with your normal medication as usual, but if you take any diabetes medicines containing **metformin**, please do not take them for the next **two days**.

What should I do if I have a problem?

Following a CESM you should not have any adverse after-effects to cause concern. However, we have included contact numbers at the bottom of this sheet if you feel you need any advice.

Will I have a follow-up appointment?

You will be contacted by the Breast Clinic when the results are ready. If you have not heard from the Breast Clinic two weeks after the procedure, please contact them on 020 7188 1483.

Further information

Data collection

CESM is new to the Guy's and St Thomas' Breast Imaging Unit. We would like to collect information from your test, to see how useful it is, and for education and training purposes. Your information will be kept in a secure database. Any pictures used for training or publication will have your details removed, so that you cannot be identified.

Contact us

If you have any questions **before** your appointment, please contact:

Breast radiology – 020 7188 5574

Breast care nurses – 020 7188 0869

(Monday to Friday, 9am - 5pm)

If you have any questions / problems **after** your appointment, please contact:

Breast radiology – 020 7188 5574

Breast Clinic – 020 7188 1483

(Monday to Friday, 9am - 5pm)

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Patient Advice and Liaison Service (PALS)

To make comments or raise concerns about the Trust's services, please contact PALS. Ask a member of staff to direct you to the PALS office or:

t: 020 7188 8801 at St Thomas'

t: 020 7188 8803 at Guy's

e: pals@gstt.nhs.uk

Language Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch using the following contact details.

t: 020 7188 8815 **fax:** 020 7188 5953

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

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Membership is free and it is completely up to you how much you get involved. To become a member of our Foundation Trust, you need to be 18 years of age or over, live in Lambeth, Southwark, Lewisham, Wandsworth or Westminster or have been a patient at either hospital in the last five years. To join:

t: 0848 143 4017

e: members@gstt.nhs.uk

w: www.guysandstthomas.nhs.uk

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