

Sentinel Lymph Node Biopsy





What is a sentinel lymph node biopsy?

A Sentinel lymph node biopsy is the surgical removal of one or more small lymph glands from the axilla (armpit) that lies close to the breast.

Why is it done?

When treating patients for breast cancer it is important to know whether the cancer has spread outside of the breast. This has a strong bearing on how the cancer is behaving and what treatments may be required in addition to surgery. At present the best method to detect such spread is to analyse some of the lymph nodes in the armpit because this area is often the first place affected outside of the breast.

The most reliable way to find this out is to actually remove some of these lymph nodes by an operation. Unfortunately, there are no simple tests that can reliably give us this information, without actually doing an operation. It is thought that the sentinel lymph node is the first node that drains the breast and the tumour. If the breast cancer has spread it is most likely to have spread to this node.

How is it done?

There are two or three parts to the sentinel lymph node biopsy:

- Part 1: a scan in the Nuclear Medicine Department to locate the position of the sentinel lymph node
- (Part 2: a wire localisation – this is only performed for some patients)
- Part 3: an operation, during which the sentinel lymph node is removed to take out the breast cancer

Part 1: Nuclear Medicine Scan

You should attend the Nuclear Medicine Department on the date and time written on the letter that you will receive in the post. The Nuclear Medicine Department may ask you about medication and allergies.

There is no preparation for the scan. You can eat, drink and take any medication as normal, provided you are not having surgery that day.

Females: Due to the radiation involved, there is a very small risk to an unborn or breastfeeding child. Therefore, it is important that you let the Nuclear Medicine Department know in advance if you are or may be **pregnant** or **breastfeeding**.

Who can come with you for the Nuclear Medicine scan?

It is fine if you want someone to come with you for the scan. However, as there is only one waiting room in the Nuclear Medicine Department, we advise you not to be accompanied by children or pregnant women to help to minimise the radiation exposure to these people.

Finding the Nuclear Medicine Department

The Nuclear Medicine Department is located in Zone C, Department C16. If you are staying in the hospital before your scan, a porter will collect you from the ward and take you to the Nuclear Medicine Department.

How is the Nuclear Medicine scan performed?

You will be asked to remove your clothes from the waist up; you will not need to remove any other clothing. You will then lie on a scanning bed where you will be given an injection in the affected breast. The injection contains a small amount of radioactive liquid. This liquid travels through the breast tissue and is taken up in the sentinel lymph node. Once the injection has been done you may dress again without a bra. You might be asked to have a seat in the waiting room with other patients.

Approximately 20 minutes after the injection, you will lie on the scan bed and a special camera will be placed over your chest to check whether the injected liquid has travelled through the breast tissue. If so, the camera will take two pictures which will only take a minute each. You will not be enclosed in a tunnel and you will not be left alone during the scan.

The time for the injected liquid to reach the sentinel lymph node is different for each person, so you may have to wait longer in the department before the picture is taken. This is not unusual or a cause for concern. You may be in the department anywhere between 30 minutes to 2 hours.



How will the scan affect you?

The injection does sting a little while being administered but this feeling will quickly subside.

The injection and scan should not make you feel any different. The scan will not affect your ability to drive home so it is not necessary for anyone to accompany you unless you so wish. You will only have to stay in the hospital if you are having surgery on the same day.

For **24 hours** after the injection, all patients should sit on the toilet when passing urine.

Are there any risks from the radioactive liquid?

As little of the radioactive substance is used as possible and it is quickly eliminated from your body. The radiation dose you receive is similar to the radiation that you receive from natural sources in a year.

The benefits from locating the sentinel lymph node using this scan are much greater than the small risk from radiation.

Will the radiation affect other people?

The radiation dose to other people around you is low and is therefore not a cause for concern.

Travelling after your Nuclear Medicine scan

Some airports, seaports, train stations, bus stations and major sporting event venues have installed very sensitive radiation detectors. It is possible that these detectors may be triggered by the small amount of radioactivity remaining in your body on the days following your scan. Therefore, if you are planning to travel within **seven days** following your scan, we recommend that you carry your appointment letter to show to officials if necessary.



(Part 2: Wire localisation – this is only required for some patients)

Some patients also attend the Breast Unit for a wire to be inserted into the breast tissue. This will be useful for the surgeon during the operation.

If you are having a wire localisation and have been admitted to hospital before your Nuclear Medicine scan, a porter will collect you from the ward and take you to the Nuclear Medicine Department and Breast Unit at the appropriate times – the wire localisation may be before or after your Nuclear Medicine scan.

Please note that a wire localisation is not needed for all patients.

Part 3: The operation

The operation is performed either later the same day, or on the day after the scan. During the operation, a blue dye is injected into the breast. This blue dye travels to the sentinel lymph node.

The surgeon uses a radiation monitor to find the sentinel lymph node and this is also confirmed by the blue colour of the node. They then remove the sentinel lymph node.

How reliable is this technique?

This is an accurate and reliable test but it is important to understand that it is **not** absolutely 100% accurate. In about 1 out of 10 cases the surgeon may not be able to find the sentinel lymph node. In this case, it may be necessary to perform an axillary dissection, where we will remove the majority of the lymph nodes in your lower armpit.

Also, there is a small chance that the test could give a falsely reassuring result (in less than 1 out of 10 cases). To try and reduce this chance of error we often try to remove more than one lymph node at the time of the procedure.



What are the possible complications?

Most patients do not develop problems or complications from this operation. However, obviously the area will be sore and uncomfortable immediately afterwards, it may be swollen and you will not be able to move your shoulder fully. Your discomfort should improve rapidly as the days pass and your shoulder movements should return to normal.

Some patients may develop other problems, such as a wound infection, post-operative bleeding or fluid collection in the wound itself (a seroma). These are not major problems and should be readily treatable. A seroma might need to be drained with a needle in the outpatient clinic afterwards. There is a very small risk that your arm or hand may become swollen and enlarged afterwards, a condition called lymphoedema.

The blue dye used for the test does have a number of possible side effects. It will discolour the skin of the breast where the injection was placed. This discolouration may persist for many months and indeed it may be permanent in some women. The dye makes people turn grey in colour and their urine turns green. This discolouration may persist for a few days.

Lastly, a small number of people are allergic to the dye. Minor allergic reactions are seen in just 2 out of every 100 patients. Major allergic reactions (anaphylaxis) are seen in 1 every 500 patients, for which appropriate treatment will be given during your operation while you are under anaesthetic.

What happens next?

After the operation has finished the sentinel lymph node is analysed by a pathologist to find out what is happening at a microscopic level. Obviously, we hope that no cancer cells are seen. However, it is very important for you to understand that, if tumour cells are found to be present in the sentinel lymph node, a second operation might be needed at a later date to remove the remaining lymph nodes in the armpit as there is a strong chance that these nodes could have cancer cells within them as well.

Additional Information:

If you have any questions about this procedure, please contact your Breast Clinical Nurse Specialist on 01225 824057.

If you need to contact the Nuclear Medicine Department please call 01225 824076.

Royal United Hospitals Bath NHS Foundation Trust
Combe Park, Bath BA1 3NG
01225 428331 www.ruh.nhs.uk

Please contact the Patient Advice and Liaison Service (PALS) if you require this leaflet in a different format, or would like to feedback your experience of the hospital. Email ruh-tr.PatientAdviceandLiaisonService@nhs.net or telephone 01225 825656.