

Having a sentinel lymph node biopsy

The aim of this leaflet is to answer questions you may have about a sentinel lymph node (SLN) biopsy. The leaflet explains what the surgical procedure involves and the benefits and risks of having it. If you have any further questions or concerns, please feel free to speak to a member of your hospital team who would be happy to help.

What is a sentinel lymph node biopsy?

A biopsy is when a sample of tissue is taken and looked at under a microscope. An SLN biopsy is a surgical procedure to remove one or more of the nodes (glands) from under your arm (axilla) into which the lymph fluid from the breast first drains. These are then examined under a microscope to see if there are any breast cancer cells present.

What is the lymphatic system?

The lymphatic system is a system of channels in your body, which drains fluid from your body tissues. It plays an important part in keeping your blood clean and fighting infection.

Breast cancer cells can spread through these channels. Lymph is a milky fluid and is rich in the white cells, which help us fight infections. It circulates around your body by passing through tiny, then larger vessels and lymph nodes (glands).

Each area of the body will drain lymph fluid into certain nodes, usually to the group of nodes which is closest. In the breast this group is usually in the armpit. The first node the fluid drains in to is called the **sentinel lymph node**. Lymph nodes act like filters within the lymphatic system, checking what is passing through the body.

The number of lymph nodes in your armpit can vary; the average number is 18 to 20. Out of these there are between one to four lymph glands in to which all the lymph leaving the breast will first drain.

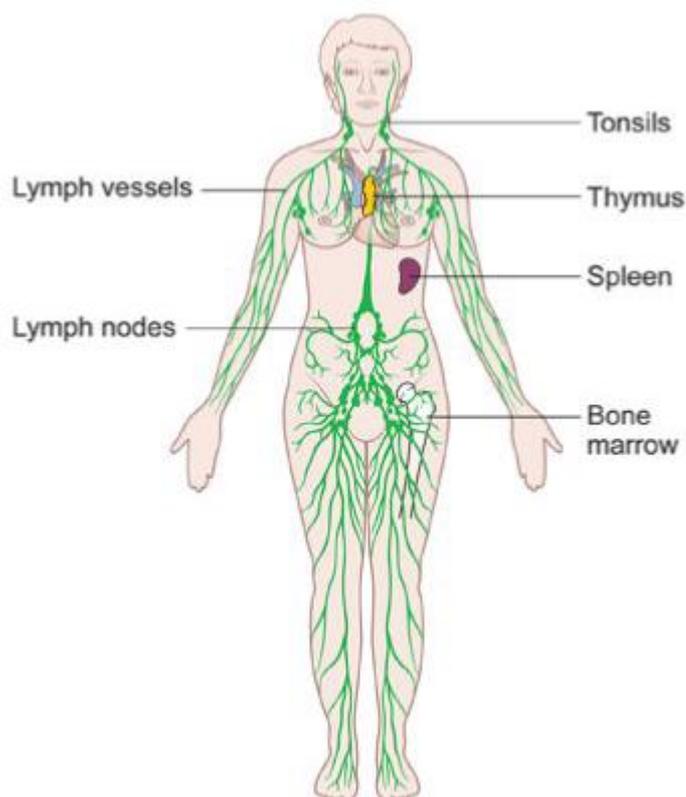
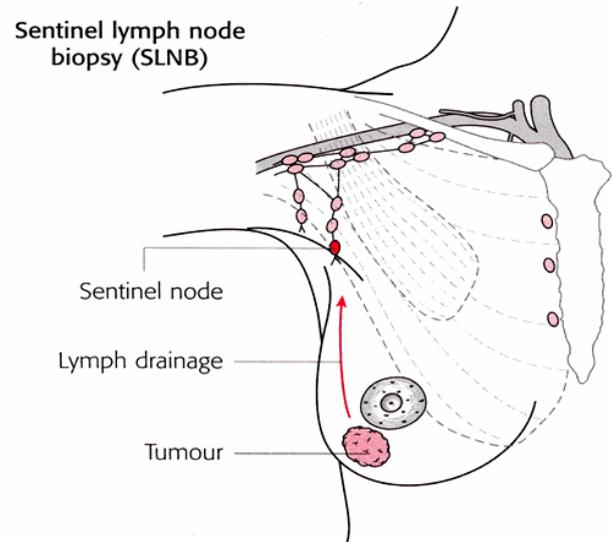
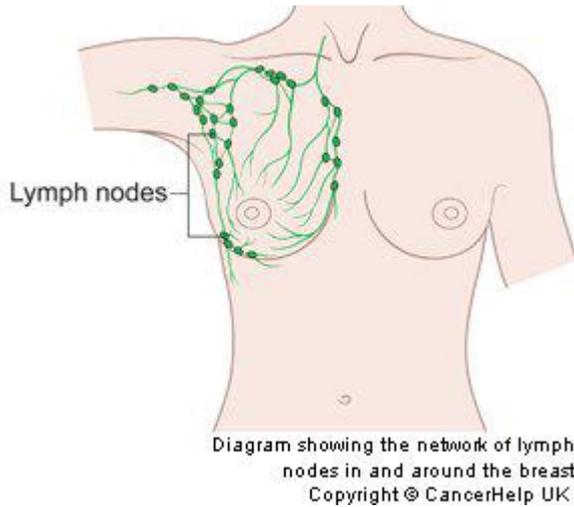


Diagram of the lymphatic system
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What happens before the SLN biopsy?

On the morning of your surgery you will be asked to attend the nuclear medicine department in the hospital one to three hours before your surgery. Here you will have a small injection of a radioactive substance called a tracer into the skin of your breast. This substance helps to highlight the sentinel lymph node. Although the word radioactive may sound alarming, it is completely safe.

What happens during the SLN biopsy?

The biopsy is performed under general anaesthetic, so you will be asleep and will not feel any pain. There can be risks involved with having a general anaesthetic, but they are small. An anaesthetist will see you before the biopsy to make sure you are fit enough for a general anaesthetic. You should receive a copy of the leaflet, 'Having an anaesthetic'. If you do not, please ask your doctor or nurse for a copy.

The operation

When you are asleep, the surgeon will inject a blue dye under the skin around your nipple. A small cut is then made in your armpit. The dye and the radioactive tracer both travel along your lymphatic channels to the sentinel nodes. The surgeon uses a special instrument called a gamma probe that identifies radioactivity within the breast and armpit. This probe guides the surgeon to the radioactive nodes and if they also appear blue in colour, the surgeon will remove them.

What are the benefits of SLN biopsy?

Knowing whether the cancer has spread to the lymph glands is very important for your team to understand the extent of the breast cancer. It provides important information which is used to guide decisions about your treatment. Previously, we would have to remove all the lymph glands from your armpit to obtain the same information. This is called an axillary node clearance. However, there are more side-effects from this operation such as:

- lymphoedema (swelling)
- sensory changes in the arm
- reduced shoulder movements.

More than half of women who have an axillary node clearance do not have cancerous cells in any of the lymph glands and their lymph glands are removed needlessly. The sentinel lymph node biopsy:

- is a guided sampling technique of the axillary lymph glands
- is much less invasive
- gives the same information as a full axillary clearance.

Are there any risks with an SLN biopsy?

Infection: as with all operations, there can be a risk of infection. If you notice signs of infection such as redness, or your wound becomes very painful and hot, or you have a temperature, please contact your doctor or breast care nurse as you may need antibiotics.

Seroma: sometimes a pocket of fluid will collect at the site of your biopsy – this is called a seroma. Signs of a seroma can be swelling, a feeling of fluid moving in the area and discomfort. This usually settles down by itself after about four to six weeks. In some cases you may need to come back to the clinic to have it drained with a needle.

Stiffness or limited movement in the affected arm: it is common to feel this afterwards and it will improve as the wound heals. Your medical team will tell you how and when to move your arm. You will be seen by a physiotherapist who will give you exercises to do.

Discomfort: you may experience some discomfort afterwards. This will improve as your wounds heal. Your doctor will prescribe painkillers to help ease any pain.

Numbness or tingling around the wound: this should return to normal as your body heals. If you become worried, please contact your breast team.

Blue/green urine: as the dye is flushed from your body, you may notice a bluish discolouration of your urine. This will last for 24 to 48 hours before returning to normal.

Allergy: there is a small risk of an allergic reaction to the blue dye. Your surgeon will look for signs of allergy during your operation. If you do have a reaction, you will be given medication and you will be closely monitored.

Lymphoedema: rarely, the affected arm can become swollen. This is called lymphoedema and is diagnosed by a doctor or specialist nurse. There are lymphoedema specialist nurses available at the Royal Free London who can help you manage and improve symptoms of lymphoedema. Please ask your breast team to refer you to the lymphoedema specialist nurse, if needed. The current rate of lymphoedema associated with the SLN biopsy procedure is 6% compared with 25% after a full axillary node clearance.

Staining of the skin: the colour from the blue dye may stay in the breast area for several months, but it is not dangerous and will gradually fade.

Radioactivity: there should be no risks or side-effects from the tracer dose. It contains less radioactivity that you would experience in everyday life over three months.

In approximately 5% of cases this procedure may not detect the lymph gland containing breast cancer cells, and in a very small number of cases the surgeons are unable to find the sentinel lymph node because neither the tracer nor the dye have entered the lymph nodes. If this happens, then most of the glands in the armpit will be removed at the time of your

original operation to ensure that no glands containing cancer remain. If you are worried about any of these risks, please do not hesitate to talk to your breast team.

Asking for your consent

We want to involve you in all the decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This confirms that you agree to have the procedure and understand what it involves. You should receive the leaflet 'Helping you decide: our consent policy', which gives you more information. If you do not, please ask us for one.

Are all patients suitable for an SLN biopsy?

We will have looked at the lymph nodes under the arm when you had your mammograms and ultrasound scans. If any of the lymph nodes showed signs of having cancerous cells within them, a biopsy using a fine needle would have been taken at this time. If the biopsy showed the presence of cancer cells, then you would require a full axillary lymph node clearance (the needle biopsy has already provided the information we would have got from carrying out the SLN biopsy procedure).

If the biopsy did not show any evidence of cancer cells in the lymph node, then you can proceed to having an SLN biopsy.

What happens if I decide not to have an SLN biopsy?

An SLN biopsy is not a treatment for breast cancer and is done to gain more information. If you would prefer not to have this done, you do not have to. The alternative would be to remove all the lymph glands from under your arm to gain the same information.

What happens after the procedure?

We usually carry out the procedure as day surgery and you can expect to be discharged on the same day. The wound will be closed using dissolvable stitches and be covered by a dressing. You will be advised how to care for your wound before leaving the hospital. The nursing staff will arrange your out-patient appointments for you to see your breast care nurse and surgeon within five and 10 days after leaving hospital. You will be given a letter with this information.

What happens to the SLNs when they have been removed?

The SLNs are sent to our laboratory to be examined under a microscope. The results take between five and 10 days. The results will be discussed with you during your next clinic appointment.

What happens if the SLN contains breast cancer cells?

If the SLN contains breast cancer cells, usually a second operation may be necessary to remove all the remaining lymph glands from under your arm. This is called an axillary node clearance. At the Royal Free London we use intraoperative sentinel lymph node analysis OSNA (one stop nucleic acid analysis). Not all patients will qualify for this procedure and your doctor and nurse will be able to discuss it with you prior to your operation.

Intraoperative sentinel lymph node analysis (OSNA)

In some patients, where there is a reasonably strong possibility that the lymph nodes may be positive but preoperative tests have not been able to confirm it, it may be advantageous to test the sentinel lymph nodes during the operation, via intraoperative sentinel lymph node analysis.

The most reliable technique for this is OSNA (one stop nucleic acid analysis). OSNA technology can detect cancer spread in the sentinel lymph nodes within an hour and can be done whilst the rest of the breast cancer operation is being carried out. If the OSNA test confirms spread to the lymph nodes then an axillary node clearance can be done at the same operation. This saves the need for a second operation a few weeks after the first as would otherwise be necessary. OSNA is available for selected patients and its suitability for each individual patient should be discussed by the surgeon.

The nodes which have been removed are sent down to be analysed by the OSNA machine. The pathologist will inform the surgeon of the results. If the sentinel lymph nodes have cancer cells in them, the surgeon will proceed to removal of the axillary lymph nodes

What if the SLN biopsy is negative?

If the SLN does not contain any breast cancer cells, you will not need any further surgery under your arm.

Contact details

For any queries or concern please contact the breast care nursing team on 020 3758 2000 extension 34650.

Out-of-hours contact details

If you have an urgent query after your surgery, please call **020 7830 2918** (7 North Ward) and the nurse there will advise you appropriately.

PALS – To make comments or raise concerns about the trust's services, please contact our patient advice and liaison service (PALS). Ask a member of staff to direct you to PALS or visit our website: <https://www.royalfree.nhs.uk/pals>

Information and support

The Cancerkin Centre

This is a breast cancer support service available at Barnet, Chase Farm and the Royal Free hospitals. They provide complementary therapies, a lymphoedema service and cancer information to cancer patients and their carers. Cancerkin also host a support group for young women affected by breast cancer.

The centre is opened Monday to Friday 9am-5pm and is located next to the medical school entrance of the Royal Free London NHS Foundation Trust. You can contact them on 020 7830 2323 or visit their website: www.cancerkin.org.uk

- Breast Cancer Care: 080 8800 6000 www.breastcancercare.org.uk
- Macmillan Cancer Support: 080 8808 0000 www.macmillan.org.uk
- Cancer Research UK: 080 8800 4040 (freephone) www.cancerhelp.org.uk
- Department for work ND pensions benefits enquiry line: 080 0882 200 www.dwp.gov.uk