



**Northumbria Healthcare**  
NHS Foundation Trust

# Breast sentinel lymph node biopsy

Issued by the breast team

## Why do my lymph nodes require investigation?

The lymphatic system is a pathway of lymph vessels and lymph glands throughout the body which play an important role in your body's mechanism for fighting infections. The lymph glands connected to the breast lie mainly within the armpit. Breast cancer can spread along the vessels to the lymph glands.

Currently the standard practice is to remove 1 – 4 lymph glands from the armpit this is called sentinel lymph node biopsy. This helps the breast team to decide what treatment you may need. Very occasionally we may need to remove more than 4 lymph glands (sample) or to remove the majority (dissection) of the lymph glands in the armpit. Performing these procedures can sometimes have side effects:

**Seroma** – a temporary collection of fluid in the armpit

**Numbness** – this is usually around the armpit area and is often only temporary

**Lymphoedema** – swelling of the arm which is a chronic condition

**Stiffness of the shoulder** – this may require physiotherapy

## What is sentinel lymph node biopsy?

Sentinel node biopsy (SLNB) is an operation to remove the first lymph glands under the arm that are responsible for draining the area of the breast involved by a tumour. This gland is then analysed to determine whether there are tumour cells in it.

It has been found that women who have SLNB had fewer side effects from their surgery and it has been proven to be safe and reliable.

## Why is it so important to know whether tumour cells are present in the glands under the arm?

The presence of tumour cells in the glands under the arm could be an indicator that this particular breast cancer puts you at risk of spread of the disease elsewhere (metastases). Very important decisions regarding the overall treatment of your breast cancer are made based on whether the lymph glands contain tumour cells. This treatment may involve further surgery, radiotherapy, hormone treatment, chemotherapy or a combination of these treatments.

## How do you identify the sentinel lymph nodes?

A combination of methods will be used to identify the sentinel lymph nodes. Before your operation your surgeon will discuss which will be the best method for you.

**1. Sentinel node imaging:** This is usually performed the day before or on the morning of your operation within the nuclear medicine department at one of the Newcastle Hospitals. A small amount of radioactive tracer is injected into the breast. This material is carried into the glands by the lymph vessels and trapped in the sentinel node. This only shows where the sentinel node is located, not whether it contains tumor. Whilst in theatre a hand-held probe guides your surgeon to the radioactive tracer injected previously, and allows the surgeon to accurately mark and remove the sentinel lymph node. The radioactive trace is not harmful. The dose you are exposed to for sentinel lymph node is very low, similar to that of a mammogram and much less than having a CT scan.

**2. Magtrace:** A liquid tracer to identify the glands in your armpit. This is carried into the glands by lymph vessels and trapped in the sentinel node. Magtrace is a liquid magnetic tracer specifically developed for sentinel lymph node biopsy. Magtrace does not tell us if cancer is in the gland it only identifies the gland. Magtrace is injected on the day of your operation by the surgeon when you are asleep. During your operation the surgeon will use a hand-held probe to guide them to the sentinel lymph node in your armpit, so it can be removed.

**3. Blue dye injection:** Your surgeon will decide if the blue dye injection is required once you are asleep. This is injected once you are asleep in theatre. This dye stains the sentinel node blue, thereby assisting the surgeon to find the correct lymph node. The blue dye may be visible around your nipple area – but may fade over the following weeks or months. Some of the blue dye passes into your bloodstream and is passed out in your urine.

## **What is the advantage of sentinel node biopsy?**

Sentinel node biopsy is an accurate way of determining the stage of your disease. It is a significantly smaller operation than axillary lymph node dissection – resulting usually in a smaller scar, less pain, more rapid recovery and fewer long term side effects.

## What are the disadvantages of sentinel node biopsy?

In less than 5% of cases sentinel node biopsy does not accurately predict disease within the armpit. This means a small number of people who have a negative sentinel node biopsy may later be found to have disease under the arm.

The blue dye may stain the nipple area following the operation. This is very common, and may gradually disappear over time.

There have been rare instances (1%) of allergies to the dyes used in sentinel node biopsy.

## Advantages of Magtrace

Magtrace is not radioactive so you will have no radioactive material injected into your breast.

You will have fewer visits to hospital as Magtrace is injected by your surgeon on the day of your operation. You will not have to visit distant hospitals for the radioactive tracer to be injected into your breast.

Lymph nodes are accurately targeted during your operation as Magtrace is very effective at identifying the sentinel lymph node.

## Disadvantages of Magtrace

If we know that you will need an MRI scan as part of your breast cancer follow up we cannot use Magtrace. This is because the site of injection within the breast remains visible on MRI scan for 12-18 months and can interfere with the accuracy of the MRI scan. If this is relevant for you your surgeon will recommend using the radioactive material method instead.

You might notice some brownish skin colouration near the site of injection, this colouring may persist long-term, fading gradually over time.

Magtrace has not been tested in pregnant women or nursing mothers. For this reason, if you are pregnant or nursing a child, you must tell your doctor.

Magtrace contains iron oxide and dextran. If you have previously been diagnosed with iron overload disease or shown sensitivity to iron oxide or dextran, you must tell your doctor.

## Contraindications of Magtrace

Inform your doctor if you have one of the following conditions:

- Known hypersensitivity to iron oxide, or dextran compounds.
- Iron overload disease.
- A metal implant in the axilla or in the chest.

## **How long will it take to get the results from my sentinel node biopsy?**

Usually a result will be obtained within two weeks of the operation. Occasionally special tests are required on the sentinel node, which may take longer. Once we have the result further treatment may recommend based on these results.

## **Does sentinel node biopsy affect whether I have a lumpectomy or a mastectomy?**

No – having sentinel node biopsy will not affect whether your tumour is suitable for lumpectomy (wide local excision) or mastectomy. Is the radioactive dye harmful? The dose of radiation you are exposed to for sentinel node biopsy is very low – similar to that of undergoing mammograms and much less than having a CT scan.

## **Is the radioactive dye harmful?**

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## **Can Sentinel Node Biopsy be unsuccessful?**

In less than 5% (one in twenty) patients, the sentinel node cannot be identified. If this happens we would normally recommend the treatment offered before the advent of sentinel node biopsy, which is axillary lymph node sampling.

## **What if I decide that I do not want to undergo Sentinel Node Biopsy?**

The decision to undergo sentinel node biopsy is entirely up to you. If after finding out about sentinel node biopsy, you decide not to choose this option – let the breast care team know.

## What if I have further questions about Sentinel Node Biopsy?

You can feel free to ask your consultant, the breast care nurse or any one of the doctors or nurses involved in your care about sentinel lymph node biopsy.

### Support contact numbers

#### **Breast Practitioners**

Wansbeck General Hospital  
(01670) 529636

#### **Breast Care Nurse**

North Tyneside General Hospital  
(0191) 293 4183

#### **Breast Care Nurse**

Wansbeck General Hospital  
(01670) 529319

#### **Breast Care Nurse**

Hexham General Hospital  
(01434) 655386

#### **Breast Cancer Now**

0808 800 6000 or  
website: [www.breastcancernow.org](http://www.breastcancernow.org)

#### **Macmillan Cancer Relief Helpline**

0808 808 00 00 or  
website: [www.macmillan.org.uk](http://www.macmillan.org.uk)







## Alternative Formats

If you would like a copy of this information in large print, another language, audio tape or other format please call the Contact Centre on 03 44 811 8118.

## Other sources of information

### NHS 111

### NHS Choices

[www.nhs.uk/pages/homepage.aspx](http://www.nhs.uk/pages/homepage.aspx)

### NICE (National Institute for Health and Clinical Excellence)

[www.nice.org.uk](http://www.nice.org.uk)

### Patient Advice and Liaison Service (PALS)

Freephone: 0800 032 0202

Text: 07815 500015

Email: [northoftynepals@nhct.nhs.uk](mailto:northoftynepals@nhct.nhs.uk)

### Northumbria Healthcare NHS Foundation Trust

General Enquiries 03 44 811 8111

[www.northumbria.nhs.uk](http://www.northumbria.nhs.uk)

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