

# Sentinel Node Biopsy (SNB) for Head and Neck

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## Introduction

When cancer cells start to spread from the main cancer this represents an important step in cancer growth and more treatment is required to control the tumour.

Currently, scans can't detect early spread (metastasis) of tiny clumps of cancer cells into the lymph nodes.

This leaflet describes a test which can help to diagnose if there has been spread of cancer to lymph nodes in the neck of patients with oral cancer.

It is called sentinel node biopsy (SNB). Patients whose cancer has spread can then get extra treatment as necessary.

This leaflet will describe the definition of a sentinel node. It will explain the advantages of identifying the group of patients with early spread of cancer; will explain what it entails and what side effects should be expected.

## What does Sentinel node mean?

The commonest way cancer cells spread is through tiny channels that drain to nearby lymph nodes. These lymph nodes act as a form of filter and are designed mainly to catch and destroy bacteria and viruses.

They also catch the tumour cells. The flow of fluid is not random but goes first to a single lymph node then later on to other nodes. This first node is called the **Sentinel Node (SN)**.

If the sentinel node is free of tumour you can safely assume all the other surrounding lymph nodes are also free of tumour

## How can the Sentinel Node Test help?

When patients with early mouth cancer (smaller than 4cm) are first referred to the hospital about 20-25% of them will already have early spread of cancer to lymph nodes in the neck.

We can't identify the patients with early cancer spread using scans, so in order to protect these 25% with early cancer spread all patients get more extensive treatment.

In many cases this means a neck dissection (removal of all the lymph nodes in one or both sides of the neck). This means that 75 % of patients have surgery that is potentially unnecessary for them.

A neck dissection is quite a big operation. Sentinel node biopsy allows us to identify the patients who have early spread of cancer and offer them the correct treatment (neck dissection).

At the same time many patients without spread of tumour don't have to undergo major surgery. It allows us to tailor treatment to the individual and not a group of people.

The SNB technique has undergone trials to show is it safe in oral cancer.

## What are the risks of Sentinel Node Biopsy?

A large European trial found that the sentinel node biopsy was safe for patients with oral cancer and reliably detected very early deposits of cancer cells in the sentinel node.

Problems that may happen straight away  
The sentinel nodes are identified by a tiny

dose of radioactive tracer that is injected around the cancer before surgery.

The tracer flows to the sentinel node where it can be identified on scans and removed during the operation.

We also inject a small dose of coloured (blue) dye during the operation to make it easier to see the lymph node. The radiation dose is very low; less than 10% of natural radiation that we get from atmosphere each year.

Rarely (about 1% of the time) does a patient have an allergic reaction to the blue dye; usually this is a mild effect. About 2% of the time we cannot find a sentinel node and in this situation you may need to have a neck dissection.

Problems that may happen later  
You normally stay in hospital a few days after the procedure.

This is usually whilst you recover from removal of the main tumour and not because of the SNB procedure. Any minor issues such as pain, swelling or minor bleeding are dealt with in this period.

The biopsy is performed through small cuts (incisions) in the neck. Usually these are about 2-3cm in length and will be hidden in the neck.

Sometimes there are two or three separate incisions. Usually these heal very well and leave small scars only. Occasionally you may notice temporary nerve weakness of the shoulder or lower lip and some patients find they have a patch of numb skin on their neck or earlobe.

Problems are rare, but serious  
Although the SNB test is very accurate, sometimes it does not give the correct diagnosis. About 8% of the time it misses the very early spread of cancer.

This would happen to about two people in a group of 100 hundred patients that undergo the SNB.

If this happens you would undergo further treatment, usually more surgery, and if the spread is removed quickly the chances of recovery are still good.

### **What will happen if I choose not to have Sentinel Node Biopsy?**

The recommendation by NICE (National Institute of health and Care Excellence) is that any patient with early mouth cancer must have their lymph nodes checked by sentinel node biopsy or undergo a neck dissection.

If you do not want a sentinel node biopsy you are advised to have a neck dissection.

### **What alternatives are available?**

There are no alternative tests as accurate SNB. The second best is called Fine Needle Aspiration Cytology (FNAC).

It consists of sampling nodes identified as unusual in appearance on CT or Ultrasound scan with a needle. Cells in the node are sucked up into a syringe (you may have this test before your operation).

During FNAC just a few cells from the lymph node can be examined under the microscope. This is in contrast with SNB where the whole node is removed and examined very carefully.

If you chose not to have an SNB you will be offered a neck dissection. This is an operation to remove about 30-40 lymph nodes from the neck.

The incision is bigger than for SNB to allow the surgeon to find all the lymph nodes around the muscles and blood vessels in the neck. A neck dissection takes about 2-3 hours to perform.

Please note that even if you have an SNB, there is a 1 in four chance that you will need to have a neck dissection as well (because the biopsy found spread of the cancer).

## **How should I prepare for Sentinel Node Biopsy?**

This information sheet should help you. Firstly you will be invited to the nuclear medicine department either on the day before surgery or on the morning of your operation.

You do not have to bring anything special. It is always nice to have someone accompany you and they should bring something to keep them occupied while you are having your scans. If you are having surgery on the same day then you can have a light breakfast.

There are no dietary restrictions if you are having your operation the next day except you should be starved on the morning of surgery

### **Asking for your consent**

We want to involve you in all the decisions about your care and treatment. If you decide to go ahead with treatment, by law we must ask for your consent and will ask you to sign a consent form.

This confirms that you agree to have the procedure and understand what it involves. Staff will explain all the risks, benefits and alternatives before they ask you to sign a consent form.

If you are unsure about any aspect of your proposed treatment, please don't hesitate to speak with a senior member of staff again.

### **What happens during a Sentinel Node Biopsy?**

In the nuclear medicine department you will have four small injections of the tracer around the cancer and then you will be asked to lie still for some scans similar to a CT scan.

Sometimes we take two or three scans at different times. All in all you should be prepared to spend 2-3 hours in the department although you may not be having tests for all of this time.

The location of the nodes may be marked on your neck with a pen.

Once the surgeon has the results of the scan they will know which nodes to remove but they will not know if there is cancer in them.

In the vast majority of cases the tumour drains to the same side of the body that the tumour is sited (right or left) but in 10% of cases it drains to the other side of the neck as well. It might be necessary to operate in both sides of your neck.

We will have this information before you go for surgery so it can be discussed with you. The sentinel nodes will be removed whilst you are asleep in theatre under general anaesthetic.

When you have your operation the cancer in your mouth will be removed at the same time.

The result of the SNB takes about one week after the operation, as the pathologists will examine the lymph nodes in great detail.

Usually you will have been discharged home by this time and we will discuss the result with you in clinic.

If the SNB found cancer in the sentinel node we will recommend that you have a neck dissection, and we aim to do this within 3 weeks of the diagnosis.

You do not have to have an SNB. You might prefer to have a neck dissection directly. These two approaches have not been compared directly but in terms of cure they give very similar results.

The advantage with SNB is that about 75% of patients don't have to have a neck dissection.

We are trying to refine our treatment regimens so that patients will get exactly the treatment needed to eradicate the cancer whilst helping them to get back to their normal activities as quickly as possible.

## What should I expect after Sentinel Node Biopsy?

There will be some minor tenderness in the neck after the procedure. You may have had a drain (a small plastic tube like a straw) placed under the skin during the operation.

This is usually removed the following day and is not painful. You may need some stitches to be removed after a week and you doctor will advise you about this before you go home.

Most of the recovery after the operation is focused on the mouth where the cancer has been removed. Sometimes it takes a few days before you are ready to go home but this varies from person to person.

If there are any problems in the early period when you have gone home then you can contact:

**Clinical Nurse Specialists in Head & Neck  
on 0151 529 5256**

## Where can I get more information?

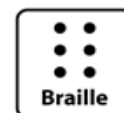
Sentinel Node Biopsy in mouth is a relatively new test and at the moment there is not a lot of information for patients on national websites.

There is a lot of information on the general principals of treating mouth cancer on Cancer Research UK website as well as the NHS Clinical Knowledge Summaries website ([www.cks.nhs.uk](http://www.cks.nhs.uk)) or NHS Direct.

If you use a search engine to find information on sentinel node biopsy then most results will be about SNB in breast cancer and skin cancer.

This test has been used a lot in these two conditions and the process is very similar but not identical.

We hope you have found this information useful. If you feel we should include any other information then please let us know



### If you require a special edition of this leaflet

This leaflet is available in large print, Braille, on audio tape or disk and in other languages on request. Please contact:

**Tel No: 0151 529 2906**

**Email: [interpretationandtranslation@aintree.nhs.uk](mailto:interpretationandtranslation@aintree.nhs.uk)**