

# The use of sentinel node biopsy in early (operable) breast cancer

a guide for general practitioners

FEBRUARY 2009 | Incorporates published evidence to December 2008

In June 2008, National Breast and Ovarian Cancer Centre (NBOCC) published a new clinical practice guideline about use of sentinel node biopsy in early (operable) breast cancer. **NBOCC recommends that women with tumours  $\leq 3\text{cm}$  and clinically negative nodes should be offered sentinel node biopsy.** This summary is designed to help general practitioners (GPs) answer patients' questions about sentinel node biopsy and manage follow-up care for women who have had the procedure.

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## Summary

- Treatment of early breast cancer involves surgery to remove the tumour (a lumpectomy or mastectomy) and assessment and management of the axilla (lymph nodes in the armpit).
- Surgical assessment of the axilla is a component of staging the cancer and determines whether cancer has spread outside the breast to surrounding lymph nodes (usually in the axilla) and to inform decisions about treatment and prognosis.
- The traditional approach to axillary assessment is axillary dissection (or axillary clearance) in which a significant number of lymph nodes are surgically removed. This technique is associated with significant morbidity, particularly lymphoedema.
- Only about 30% of women diagnosed with early breast cancer have positive axillary lymph nodes at diagnosis. Therefore two-thirds of patients will receive no benefit from axillary dissection and are at risk of morbidity, particularly lymphoedema.
- Sentinel node biopsy is a minimally invasive and accurate alternative to axillary dissection for women with small, unifocal tumours and clinically negative nodes. Sentinel node biopsy is associated with reduced morbidity compared with axillary dissection.

## What is the sentinel node?

In women with breast cancer, the sentinel node(s) is the first lymph node(s) to which cancer cells are likely to spread from the primary tumour in the breast. In the majority of women, the sentinel node is in the axilla. Other possible sites include the internal mammary chain or supraclavicular lymph node chain (Figure 1).

## What is sentinel node biopsy?

Sentinel node biopsy is a minimally invasive surgical approach to assessment of the axilla that involves surgical removal of only the sentinel node(s). The sentinel node(s) is located using detection agents injected around the cancer site. Typically, a combination of blue dye and/or radioactive isotope (lymphoscintigraphy) is used to locate the sentinel node(s) (Figure 2). As is the case for axillary dissection, sentinel node biopsy is usually performed at the same time as breast surgery (lumpectomy or mastectomy). However, it may be undertaken as a separate procedure. If sentinel node biopsy is positive, standard axillary dissection will be required.

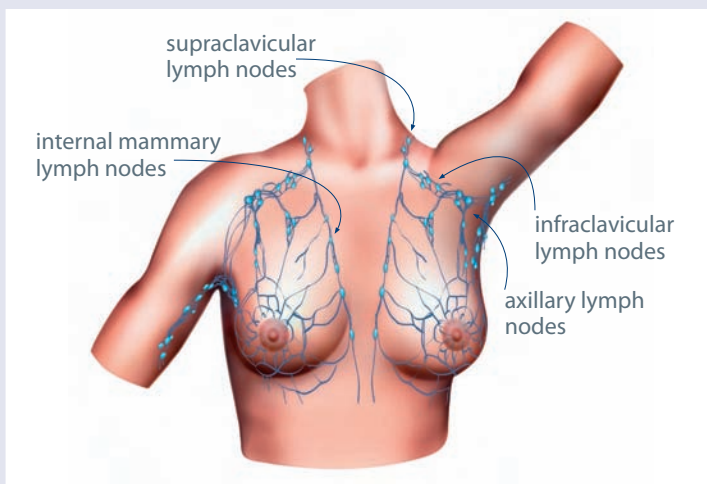


Figure 1. Lymph nodes of the chest and axilla

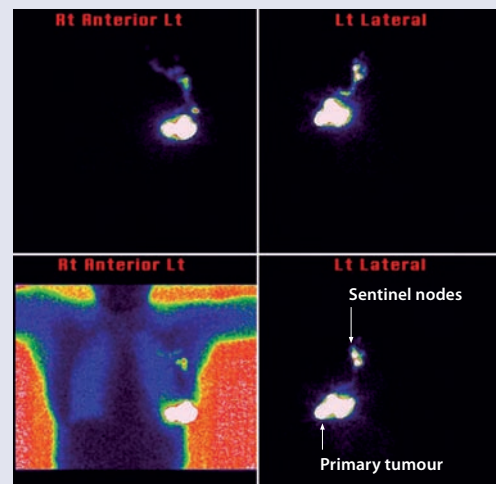


Figure 2. Mammary lymphoscintigraphy

## Suitability for sentinel node biopsy<sup>†</sup>

### YES Women with:

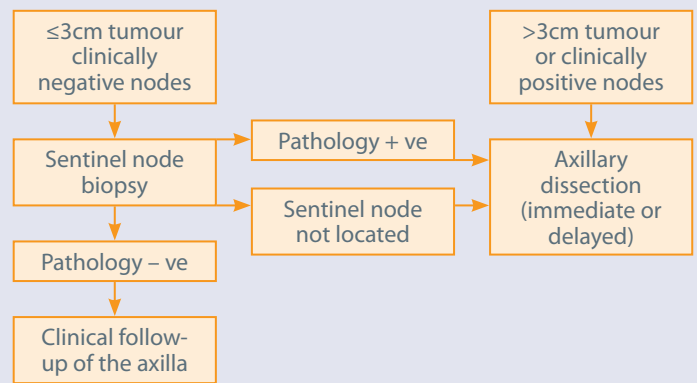
- unifocal tumours ≤ 3 cm in diameter and
- clinically negative nodes.

### NO Women with:

- tumours >3 cm in diameter
- clinically or pathologically positive nodes
- multicentric/multifocal tumours
- known allergies to radioisotopes or blue dye
- previous treatment for breast cancer
- previous axillary surgery on the treated side.

<sup>†</sup>Level II evidence

## Assessment of the axilla



For full details of research evidence and supporting references, see *National Breast and Ovarian Cancer Centre. Recommendations for use of sentinel node biopsy in early (operable) breast cancer, 2008.*  
[www.nbocc.org.au/resources](http://www.nbocc.org.au/resources)

## Role of the GP

Women may seek advice from their GP before or after surgery. It is therefore important that GPs are familiar with the potential benefits, risks, and side effects of the procedure. Sentinel node biopsy should be conducted by an appropriately trained and experienced surgeon working as part of a multidisciplinary team. The team should also include a nuclear physician (if lymphoscintigraphy is being used), a pathologist, an anaesthetist, and nursing support throughout the procedure.

## Benefits of sentinel node biopsy compared with axillary dissection

- similar high level of accuracy for staging the axilla\*
- less invasive procedure
- lower rates of lymphoedema and arm/shoulder morbidity
- reduced sensory deficit and pain in arm
- shorter hospital stays
- no difference in reported rates of axillary recurrence (follow-up data only available to 6 years)
- similar or improved quality of life.

\*Sentinel node biopsy accuracy of 93%-98%; sentinel node biopsy false negative rate as low as 5.5% and a negative predictive value of 98%<sup>1</sup>

## Potential issues with sentinel node biopsy

- A positive sentinel node(s) will usually require axillary dissection (at the time of surgery or as a second procedure) with its associated risk of arm morbidity.
- Adverse events include: allergic reaction to detection agents (<2% of cases); injection pain; change in skin/urine colour (blue dye only).

## Post-surgical care

After any surgery to the axilla, patients may experience some pain and discomfort. Early mobilisation when comfortable is important to aid recovery and reduce the risk of arm morbidity.

Wound management and infection control are important for women who have been discharged early with drain tubes *in situ*. Possible complications after axillary surgery include development of a seroma (accumulation of fluid in or around the wound). Fluid may need to be drained from the seroma as a sterile procedure using a needle and syringe.

Women who have any axillary surgery are at risk of lymphoedema. The risk appears to be highest for people who have axillary dissection and radiotherapy. Lymphoedema can develop months or years after treatment for breast cancer. Lymphoedema has been reported less frequently in women who have sentinel node biopsy (with no further axillary dissection). A recent study found that arm morbidity was significantly reduced with SNB compared with axillary dissection, with the average increase in arm volume 2.8% with SNB compared with 4.2% with axillary dissection.<sup>1</sup>

1. G.Gill and The SNAC Trial Group of the Royal Australasian College of Surgeons (RACS) and NHMRC Clinical Trials Centre (published online 3 Dec 2008) *Annals of Surgical Oncology*

## Other relevant resources from NBOCC

- Clinical practice guideline: Recommendations for use of sentinel node biopsy in early (operable) breast cancer, 2008
- Information about the diagnosis and management of lymphoedema [www.nbocc.org.au/lymphoedema/](http://www.nbocc.org.au/lymphoedema/)
- For patients: A guide for women with early breast cancer, 2008

To order resources call 1800 624 973.