Number 9

May 2006

Keeping Abreast

BreastScreen SA's newsletter for General Practitioners

This edition of **Keeping Abreast** includes a special feature: *Never returned to screening rates, by GP Divisions in South Australia.*

"The benefit of screening mammography will only be realised if the population of women aged 50 to 69 returns to BreastScreen SA for free screening every two years."

GP Survey Results Summary

From newsletter no 8:
GPs reported that the news letter is a useful educational format. It gives them helpful information about BSSA policies and procedures.
The majority rated the content and layout as excellent, or close to excellent. Topics suggested for future articles have been noted.
Thank you for your feedback.

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Screening recommendations for each age group

Feedback from recent General Practitioner (GP) surveys has included requests for an update on this topic. The following information is concerned only with BreastScreen SA's (BSSA's) policy on screening mammograms for women in different age groups. However, breast cancer can occur at any age.

Screening for women aged under 40

Women younger than 40 years are not eligible to attend BSSA. There is no evidence that having routine screening mammograms in this age group reduces the number of deaths from breast cancer.

Breast cancer occurs less frequently in women under 40 years of age. Also, the breast tissue of younger women may be dense, making mammograms difficult to assess (see x-rays pictured above right). This means that very small changes cannot be readily detected.

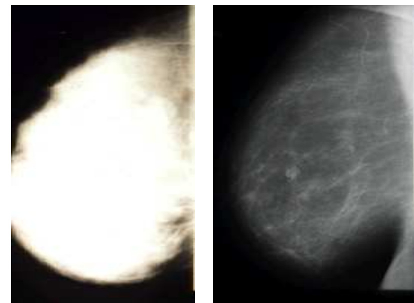
Screening for women aged 40 to 49

The benefit of screening mammograms has not been clearly established for women in this age group. However, all women aged 40 to 49 without breast symptoms are eligible for screening and are very welcome to phone for an appointment if they wish to attend.

Most women in this age group who choose to begin screening in their forties are re-invited for a screening mammogram every two years.

Screening for women aged 50 to 69

Screening is primarily recommended for all women aged 50 to 69 without breast symptoms. It is estimated that for individual women in this age group, having a screening mammogram **every two years** reduces the chance of dying from breast cancer by about 40%. BSSA re-invites most women in this age group for a screening mammogram every two years.



Above left: The dense, glandular breast tissue in women younger than 40 appears white on the x-ray.
Above right: The less dense, fatty breast tissue in women over 50 appears grey/black on the x-ray.

Women aged 70 and over

Research is less clear about the benefits of screening mammograms for women aged 70 years and over. For this reason, BSSA does not continue to send two-yearly reminders to women in this age group.

However, the risk of getting breast cancer continues to increase with age and does not stop at 70. Therefore, all women 70 years and over without breast symptoms are very welcome to continue with screening if they wish, and can contact BSSA for an appointment.

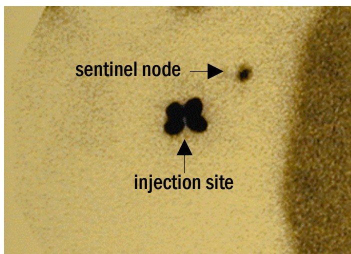
Some women in this age group may decide not to have screening mammograms as other medical conditions or lifestyle issues take higher priority. They may wish to discuss their decision with their GP.

Note: Women who meet BSSA's criteria for a strong family history of breast cancer are eligible for a free screening mammogram every year.

This information is extracted from the BSSA brochure At what age should a woman be screened for breast cancer? This brochure is available to order in hard copy, or can be downloaded under the Publications link on the BSSA web-site: www.breastscreensa.sa.gov.au

Axillary staging of early breast cancer using Sentinel Node Biopsy

Results from BreastScreen SA have shown that only 22% of invasive cancers diagnosed through the service were lymph node positive.



Above: Lymphoscintigram demonstrating transmission image and isotope injection site into left breast, with uptake of isotope by single sentinel node in left axilla.

The aim of SNB is to provide accurate axillary staging by use of a "minimally invasive" surgical procedure...

Thank you to James Kollias, Breast Surgeon, BreastScreen SA, for this article.

Traditionally, axillary lymph node dissection has been the most widely accepted technique for staging the axilla and providing information for the management of early breast cancer. Recently, less invasive techniques such as Sentinel Node Biopsy (SNB) have evolved that question the role of routine axillary dissection in early breast cancer.

The advent of population-based mammographic screening programs, have led to a dramatic decrease in tumour size and lymph node involvement. Results from BreastScreen SA have shown that only 22% of invasive cancers diagnosed through the service were lymph node positive.

It seems logical that the trend to a more conservative surgical management of the breast primary should be combined with a re-appraisal of the need for routine axillary dissection.

Sentinel Node Biopsy - Rationale

The rationale for SNB assumes that for any given tumour site, a constant lymphatic channel leads directly to a defined draining lymph node (sentinel node - SN). The SN would be the first site of metastatic disease before progression to higher nodes.

The aim of SNB is to provide accurate axillary staging by use of a "minimally invasive" surgical procedure, that potentially has little associated morbidity for lymph node negative breast cancer patients.

It also relies on the premise that skip metastases do not occur and that the absence of tumour metastases at the SN implies the absence of lymph node metastases in the entire lymphatic basin.

Previous detailed pathology studies of axillary nodes have demonstrated a skip metastasis rate of less than 5% , which is similar to the reported false negative rates of SNB .

Lymphatic Mapping and SNB – Technique

The SN(s) can be identified by the use of lymphatic mapping agents such as radioactive colloid suspensions and/or blue dyes which are selectively taken up by the afferent lymphatic channels draining a tumour site.

Following injection of the radioactive colloid into the breast, lymphoscintigraphy is undertaken before surgery to identify the location of the SN. (Figure 1). While the majority of SNs are located in the low axilla, other sites include internal mammary, supraclavicular fossa, intramammary, and interpectoral nodes.

A coloured dye such as Patent Blue V is injected into the breast 5-10 minutes before surgery, and the breast is gently massaged. By using coloured dyes, it is possible to visualise the afferent lymphatic leading to the SN (Figure 2).

Intraoperative SN identification is confirmed by a hand-held gamma probe which detects radioactivity within the node at a much higher level than that of background radioactivity in the nodal basin (Figure 3). A number of studies have reported an improved rate of SN identification using both lymphoscintigraphy and dye compared with either technique alone.

As with any invasive procedure there are potential risks, the most serious being a low risk of allergic and anaphylactic reactions to Patent Blue V and similar lymphatic mapping dyes.

Pathological Handling of the Sentinel Node

Routine pathological assessment of axillary nodes usually involves examining a single section of each node after staining with hematoxylin and eosin (H&E). Because fewer nodes need to be assessed, SNB has the potential to study each node more comprehensively, leading to a greater detection of micrometastases and consequent upstaging.

A disadvantage of the SN technique is that women with a positive SN may require a second operation to complete the axillary clearance. Intraoperative assessment of the SN is possible using frozen section, scrape cytology or imprint cytology to assess the status of the SN(s) with the view to immediate axillary lymph node dissection in cases where the SN contains metastatic tumour deposits.

Small micrometastases identified after detailed histological evaluation of the SN may not be detected at the time of surgery in approximately 10% of cases. A second operation to dissect the remaining axillary lymph glands is recommended in such cases.

Clinical Trials

SNB in early breast cancer has been investigated and researched for more than 10 years. Four major randomised controlled trials (three multicentre) have been conducted, all of which have completed recruitment.

The SNAC Trial, conducted by the Breast Section of the Royal Australasian College of Surgeons and the Clinical Trials Centre in Sydney, recruited 1100 patients to compare SNB with axillary dissection in early breast cancer.

Unlike other international trials, the SNAC Trial had a strong emphasis on measuring quality of life and arm morbidity between the two groups. The results of these trials and those from a large number of single and multi-institution series show remarkably similar data.

SNB appears to be an effective method for the staging assessment of the clinically negative axilla, comparable to level 2 axillary dissection. It seems to have significantly less morbidity (ie pain, shoulder stiffness and arm swelling) than level 2 axillary dissection.

There are several international studies designed to assess the need for completion of axillary dissection with positive SNB in cases of minimal involvement of the SN. Until the results of such trials are available, the standard of care for a positive SNB should be level 2/3 axillary dissection.

SNB - Special Clinical Circumstances

The role of SNB in larger T2/T3 tumours and multicentric tumours is experimental. There is some encouraging level 3 evidence that SNB is reliable in these situations, but false negative rates seem to be higher. The published series tend to be smaller than the early reports of SNB in early breast cancer. Rather than offering SNB alone in these groups it would be preferable to enroll patients in a randomised controlled trial, if available.

The use of SNB in localised ductal carcinoma in situ (DCIS) is not supported by the National Breast Cancer Centre Early Breast Cancer Guidelines. There may be a role for SNB where mastectomy is indicated for extensive areas of DCIS.

The assessment of extra-axillary nodal basins is controversial. Extra-axillary nodal status may alter individual patient management decisions. If it can be performed with minimal morbidity, it would be a reasonable option to consider. The SNAC protocol recommended that an attempt be made to biopsy each SN identified.

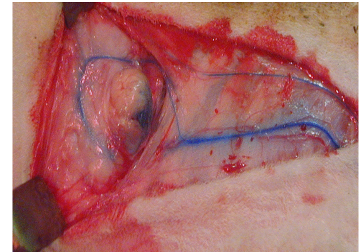
Internal mammary SNB is currently not standard practice but warrants further investigation to determine its safety and efficacy in SNB and its effect in improving regional recurrence and survival in breast cancer.

Conclusion

Given that the management of the axilla always involves a balance of the potential risks and benefits of treatment, women undergoing treatment for primary breast cancer must always be fully informed regarding the treatment options available and participate in the decision.

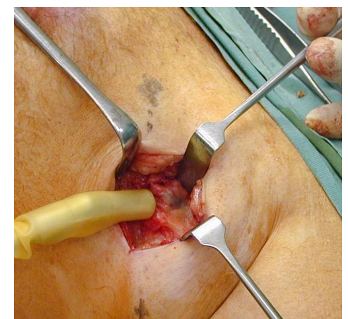
SNB can be offered to clinically node negative women with early breast cancer as an alternative to level 2 axillary node clearance. The risks and potential benefits of both procedures should be discussed with patients to allow them to make an informed decision about the surgical management of their axilla.

References available on request.



Above: Blue afferent lymphatic leading to blue-coloured sentinel node

SNB can be offered to clinically node negative women with early breast cancer as an alternative to level 2 axillary node clearance.



Above: Hand-held gamma probe in protective sterile sheath detecting radioactive blue sentinel node.

Screening statistics at a glance

To 31 December 2005:

- **831,846** screening mammograms provided.
- **229,161** individual South Australian women screened.
- **62.8%** participation rate by women aged 50-69 over 24 months.
  (Based on the Estimated Resident Population 2004, released in June 2005 by the Australian Bureau of Statistics.)

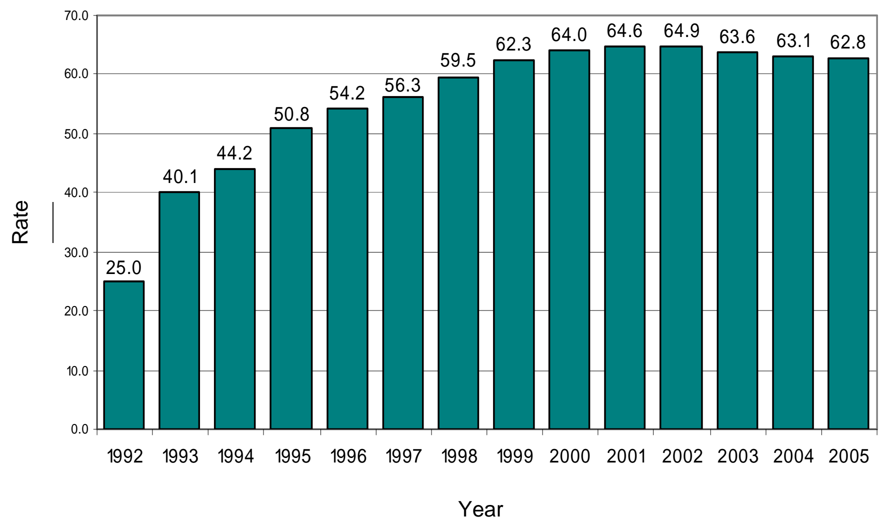
In the year 2005:

- **70,914** screening mammograms provided - a record year to date.
- **7,042** screening mammograms provided in **August 2005**, a record month for this year.

Cancers detected :

- **390** in 2004.
- **4,471** from 1 January 1989 to 31 December 2004.

24-month participation rate for women aged 50-69, 1992-2005. (Target participation rate is 70%)



Note: BreastScreen SA aims to screen more women in the target age group each year. However, the number of women in the target age group is increasing. This accounts for the slight fluctuation in the participation rates, as shown in the graph above.

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WE'RE ON THE WEB
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Information in this newsletter is not a substitute for seeking appropriate specialist advice in individual clinical situations.

Strategies for General Practitioners

Building collaborative partnerships with GPs is an important strategy for BSSA. We offer:

- a range of free printed resources, including brochures in 15 different languages, and stickers with which to tag the files of your female clients over age 50.
- seminars for health professionals and practice managers – at BSSA or your venue.
- a Clinical Audit Activity developed by BSSA's Medical Officers.
- screening participation statistics by postcode.
- personalised contact with GPs via surgery visits.
- display materials.
- articles for professional magazines/newsletters.

Contact our Medical Officers for more information.

BreastScreen SOUTH AUSTRALIA
A joint Australian, State and Territory Government Program

Government of South Australia
Central Northern Adelaide Health Service