

5. SURGERY OPTIONS

Surgery for invasive breast cancer

5.1 Breast Conservation

Comparison of Breast Conserving Surgery with Mastectomy

5.2 Sentinel Node Biopsy

5.3 Mastectomy

5.4 Axillary Dissection

5.5 Breast Reconstruction

5.6 Surgical Complications

Surgery for invasive breast cancer

This section reproduces information from the publication [The Clinical Practice Guidelines for the Management of Early Breast Cancer](#). Chapter 4 pp. 51 – 53

The aim of surgery for primary breast cancer is to eradicate the primary tumour and any local extension in the hope of achieving total disease control.

Indirect evidence suggests that surgical intervention may extend survival from the time of clinical detection.(p.51).

The surgical treatment of primary breast cancer has devolved into two basic procedures:

- Complete local excision (CLE) with axillary dissection
- Total mastectomy with axillary dissection” (p 51).

Related Topics

[5.1 Breast Conservation](#)

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Breast Conserving Surgery

This section reproduces information from the publication [The Clinical Practice Guidelines for the Management of Early Breast Cancer](#) . Chapter 4 pp 51 – 52

Breast Conserving surgery demands CLE (complete local excision), which by definition means clear histological margins with a rim of normal breast tissue around the periphery of the primary tumour on all sides. This procedure is suitable for tumours which are unifocal and in which clear margins can be obtained, if necessary by including overlying skin. All the requirements of treatment must be taken into account when planning the incision.

There is no absolute limit to the size of a tumour which can be locally excised without incurring a high risk of recurrence; 3—4cm is often regarded as a practical limit. The aim of treatment is to maximise control of the disease and decrease the impact of breast cancer on the woman's quality of life. However, the relativity of tumour size to breast size and the achievement of an acceptable cosmetic result are equally important considerations.

Related Topics

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Comparison of Breast Conserving Surgery with Mastectomy

Ch 4 pp 53—55

Pre-operatively, about 70 per cent of mammographically detected cancers and 50 per cent of clinically detected cancers appear suitable for breast conservation and this option should be discussed with the woman.

Numerous randomised, controlled clinical trials have demonstrated no difference in distant metastases or survival among women with operable breast cancer treated by mastectomy compared with those treated by breast conserving surgery (Level I), when both have included axillary dissection.

The incidence of local recurrence is 1-2 per cent per year in women who have breast conserving surgery followed by radiotherapy. In comparable tumours, the incidence of local recurrence following mastectomy is 3—5 per cent at 10 years, or less than 0.5 per cent per year.

The choice of surgery is an individual one and each woman should be fully informed of her options, including the risks and benefits of each procedure. The woman should be informed that local recurrence can occur even in surgery properly performed and she should be made aware of the potential need for further surgery if the margins are positive.

The cosmetic result of breast conserving surgery has a high level of acceptance, gives an opportunity to preserve the breast shape, avoids the need

Related Topics

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Comparison of Breast Conserving Surgery with Mastectomy *cont'd*

prosthesis or reconstructive surgery, facilitates a better fit of clothing and in general is associated with less impact on body image and sexuality. These are factors which may influence a woman's decision in favour of breast conserving surgery. In discussion of choice between breast conserving surgery and mastectomy, a woman should be informed that body image is better preserved with conservation surgery (Level I).

Guideline	Level of evidence	Reference
In discussion of choice between breast conserving surgery and mastectomy, women should be informed that body image is better preserved with conservation surgery.	I	207

Specific situations in which mastectomy may be preferred to breast conserving surgery include:

- A tumour of such a size relative to the breast that a satisfactory cosmetic result may not be obtained
- Multifocal disease
- Co-existence of extensive intraductal carcinoma or DCIS which is of high grade and which cannot be excised with clear margins
- Prior radiation therapy to the breast
- Previous history of collagen disease, particularly scleroderma
- Widespread indeterminate micro-calcification within the breast, which may make mammographic follow-up difficult

Studies comparing breast conserving surgery and mastectomy have shown

Related Topics

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Comparison of Breast Conserving Surgery with Mastectomy Ch 4 pp 53—55

similar psychological morbidity for both procedures, even twelve months after surgery (Level III). However, an influential factor during the first twelve months appears to be choice, with those offered a choice of surgery experiencing fewer psychological difficulties in the first 12 months than those who were not (Level III). This was not evident three years after surgery.

Regardless of surgery type, some women will suffer problems with sexuality, although there is some evidence that this effect is less marked in women having breast conserving therapy. The most consistent finding is that body image is much better in women who have breast conserving surgery. Further research is needed to elucidate the impact of different forms of surgery on physical health, anxiety, depression and global quality of life. (pp. 51-52).

Further Information:

Guideline	Level of evidence	Reference
Where appropriate women should be offered a choice of either breast conserving surgery followed by radiotherapy or mastectomy, as there is no difference in the rate of survival or distant metastasis	I	195

The NSW Breast Cancer Institute has produced a number of good leaflets on a range of topics. This information is directed at the consumer.

Download leaflet: [Breast Conservation](#)

Related Topics

- [5.2 Sentinel Node Biopsy](#)
- [5.3 Mastectomy](#)
- [5.4 Axillary Dissection](#)
- [5.5 Breast Reconstruction](#)
- [5.6 Surgical Complications](#)

Sentinel Node Biopsy

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Sentinel node biopsy is a new surgical procedure, still being tested in clinical trials. Research conducted to date indicates that it has fewer side effects than the standard surgery to remove lymph nodes (axillary node dissection or axillary clearance).

Sentinel node biopsy is being tested in clinical trials to see:

- if it can accurately find out whether cancer cells have spread to the lymph nodes
- what (if any) side effects it has.

A sentinel node biopsy means surgery to remove the sentinel lymph node or nodes. There can be more than one sentinel node. The sentinel node is the first lymph node that breast cancer cells may spread to outside the breast. In most cases, the sentinel node is in the armpit.

However, sometimes the sentinel node is in a different area of the body, such as a lymph node under the breastbone or above the collar bone.

There are different ways to find the sentinel node. In one technique, a slightly radioactive substance is injected around the breast cancer. Special scans are used before and during surgery to find out which lymph node the radioactive substance has travelled to. This is the sentinel node, and is removed during surgery.

Another technique is to inject a blue dye around the breast cancer. The injection is given in the operating theatre just before breast surgery. The surgeon

Related Topics

[5.1 Breast Conservation](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Sentinel Node Biopsy *cont'd*

can see and remove the sentinel node because it turns blue when the dye travels to it. The patient's urine may be blue for the next 24 hours after surgery, and the skin of the breast may be blue. The blue colour will fade over time.

After the sentinel node has been removed, a pathologist examines it for cancer cells. If cancer cells are found, further surgery to remove more lymph nodes, and/or radiotherapy to the area may be needed. If the pathology tests are done during the operation and cancer cells are found, it is sometimes possible to do the additional surgery during the same operation. However, a second operation is sometimes needed.

While sentinel node biopsy has been shown to be an accurate way of finding out whether breast cancer has spread to the lymph nodes in women with early breast cancer, trials are ongoing to investigate its use in larger breast cancers and DCIS. It is important that women discuss the risks and benefits of both procedures with their surgeon before surgery.

Further Information:

Sentinel Node Biopsy p 57 Clinical Practice Guidelines Management of Early Breast Cancer

[Sentinel Node Biopsy \(SNB\) as opposed to Axillary Clearance \(AC\)](#) - Breast Cancer Network Australia

[Sentinal Node Biopsy](#)—NSW Breast Cancer Institute

Related Topics

[5.1 Breast Conservation](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Mastectomy pp 52—53

The surgical protocol for a total mastectomy includes complete excision of the breast parenchyma with preservation of the underlying pectoral muscles.

Total mastectomy is an appropriate treatment for women whose tumours extend widely within the breast, have ill defined margins which defy CLE, directly involve the nipple or overlying skin, or who do not choose breast conservation. Nipple involvement does not always preclude breast conservation. In such cases, excision of the central breast tissue, including the nipple, is often feasible. It is reasonable to reconstruct the nipple as a secondary procedure.

Skin sparing and nipple preserving mastectomy with immediate reconstruction may have a place in the treatment of early breast cancer. Although no long-term results of this technique are yet available, early data suggest no increase in the risk of local recurrence when tumours of comparable size are treated by skin sparing mastectomy as opposed to total mastectomy (Level III).

Further Information:

The NSW Breast Cancer Institute has produced a number of good leaflets on a range of topics. This information is directed at the consumer.

Download leaflet: [Mastectomy](#)

Related Topics

- [5.1 Breast Conservation](#)
- [5.2 Sentinel Node Biopsy](#)
- [5.4 Axillary Dissection](#)
- [5.5 Breast Reconstruction](#)
- [5.6 Surgical Complications](#)

Management of the Axilla Including Dissection p 55

Management of the axilla has several aims:

- Eradication of metastatic disease within the axillary nodes
- Assessment of nodal status for evaluation of prognosis
- Assessment of nodal status to determine adjuvant therapy

Both dissection and irradiation are used in managing the axilla. The best approach needs to be considered, as there are side effects from both axillary dissection and axillary irradiation—in particular, lymphoedema. Reported estimates of rates of lymphoedema following axillary surgery (sampling or dissection) and / or axillary irradiation vary widely, reflecting the methodological weaknesses of many of the studies.

Axillary dissection

The extent of axillary dissection can be defined with reference to the pectoralis minor muscle:

- Level 1: lower axilla up to the lower border of pectoralis minor
- Level 2: axillary contents up to the upper border of pectoralis minor
- Level 3 : axillary contents extending to the apex of the axilla

All nodes removed should be sent to the pathologist for examination.

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[5.1 Breast Conservation](#)

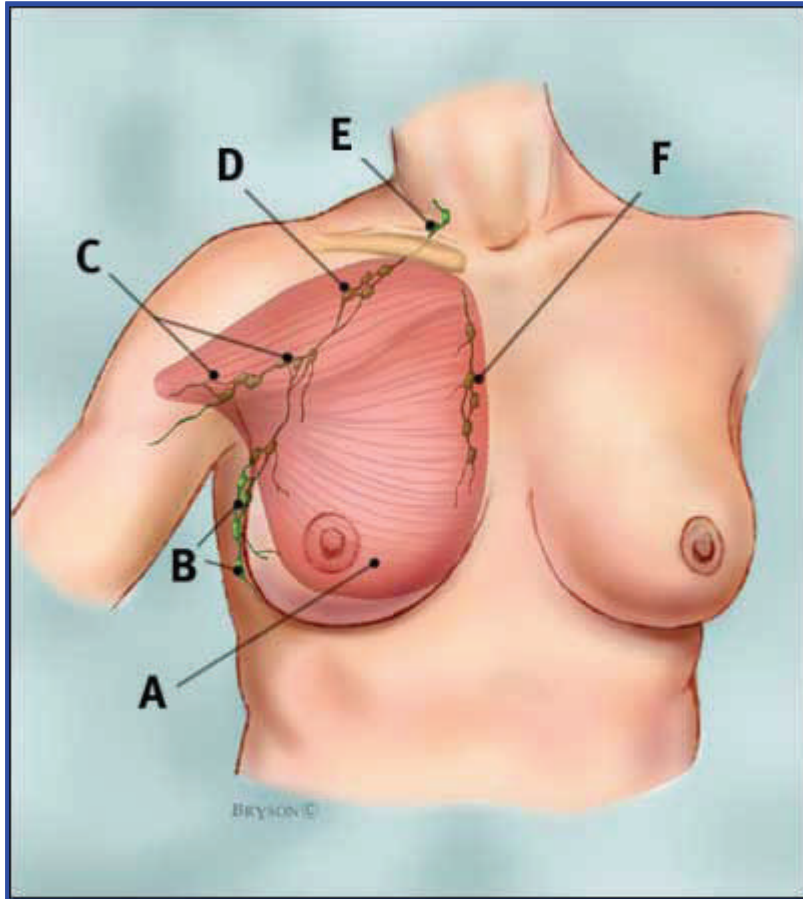
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[5.3 Mastectomy](#)

[5.5 Breast Reconstruction](#)

[5.6 Surgical Complications](#)

Axillary Lymph Node dissection



Lymph node areas adjacent to breast area

- A** pectoralis major muscle
- B** axillary lymph nodes: levels I
- C** axillary lymph nodes: levels II
- D** axillary lymph nodes: levels III
- E** supraclavicular lymph nodes
- F** internal mammary lymph nodes

Reproduced from: <http://www.breastcancer.org>

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- [5.1 Breast Conservation](#)
- [5.2 Sentinel Node Biopsy](#)
- [5.3 Mastectomy](#)
- [5.5 Breast Reconstruction](#)
- [5.6 Surgical Complications](#)

Breast reconstruction

Adapted from the National Breast Cancer Centre (NBCC website) :
www.nbcc.org.au

If a woman wants to have breast reconstruction it is best for her to discuss this with her doctor as soon as she realises she needs a mastectomy, although, breast reconstruction can be done months to years after a mastectomy or immediately after mastectomy as part of the same operation.

There are two main types, one in which muscle and/or skin are taken from another part of the body eg. the back or stomach or from the unaffected breast based on the breast size and the woman's personal preferences. Either choice may be appropriate in some cases.

It is useful to do the research on this and look at photos and videos, both in relation to the type of operation and to the choice of surgeon.

Depending what is preferred, the nipple and aureola may or may not be added to the reconstructed breast. Reconstruction of the nipple is often deferred until after the breast reconstruction to allow for better placement of the nipple.

Women undertake breast reconstruction for a number of reasons including:

- Maintenance of self-esteem and confidence
- Body image reinforcement
- Sexual attractiveness
- Appearance for professional reasons
- To avoid the inconvenience of a mammary prosthesis which may be uncomfortable in hot weather, especially if the woman plays active sports and swims.

In Australia more younger women opt for breast reconstruction, but it is equally

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[5.1 Breast Conservation](#)

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.6 Surgical Complications](#)

Breast Reconstruction *cont'd*

available to women of all ages who desire it for any of the above reasons.

Ideally the GP or surgeon will initiate a discussion about reconstruction, but all mastectomy patients should feel free to request this option. It is a legitimate request, not a matter of vanity.

Further Information:

Breast reconstruction pp. 60-61 Clinical Practice Guidelines Management of Early Breast Cancer

Breast reconstruction [Questions Most Women Ask](#)— National Breast Cancer Centre

Breast reconstruction video available from: [The Wesley Hospital](#)
Qld Tel: 07 3232 7000 Fax: (03) 3371 6834 Email:
info@wesley.com.au

[Breast reconstruction: your choice](#)— The Cancer Council Tasmania

For a diagram of [TRAM Flap breast reconstruction](#) see *overleaf*

Related Topics

[5.1 Breast Conservation](#)

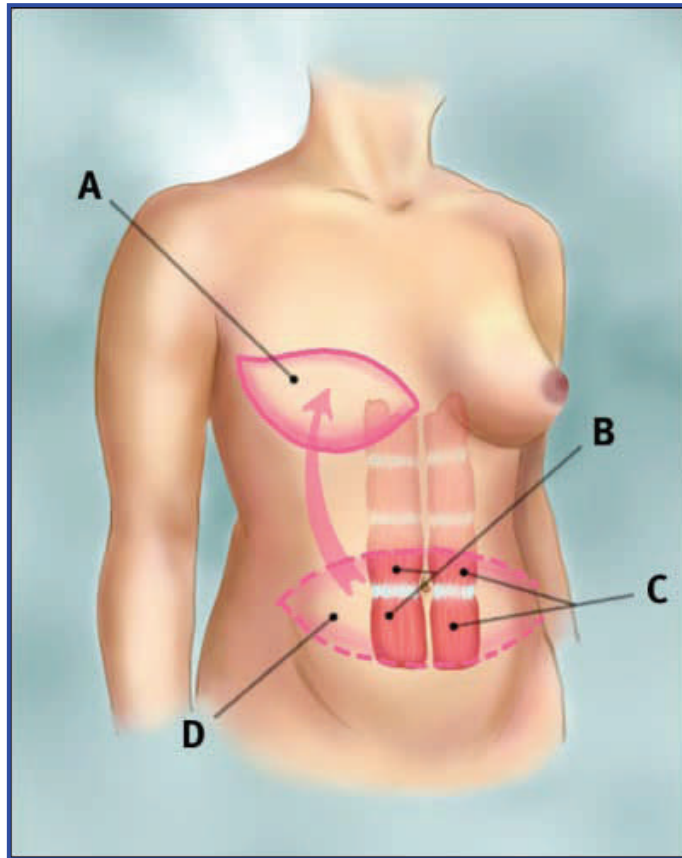
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[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.6 Surgical Complications](#)

TRAM Flap Breast Reconstruction - Preparation



Woman after mastectomy, showing trans-rectus abdominis muscle (TRAM) and surrounding tissues, in preparation for reconstruction.

A mastectomy site

B right trans rectus abdominis muscle

C left trans rectus abdominal muscle

D segment of abdominal tissues: skin and fat, to be transferred along with muscle to create the new breast

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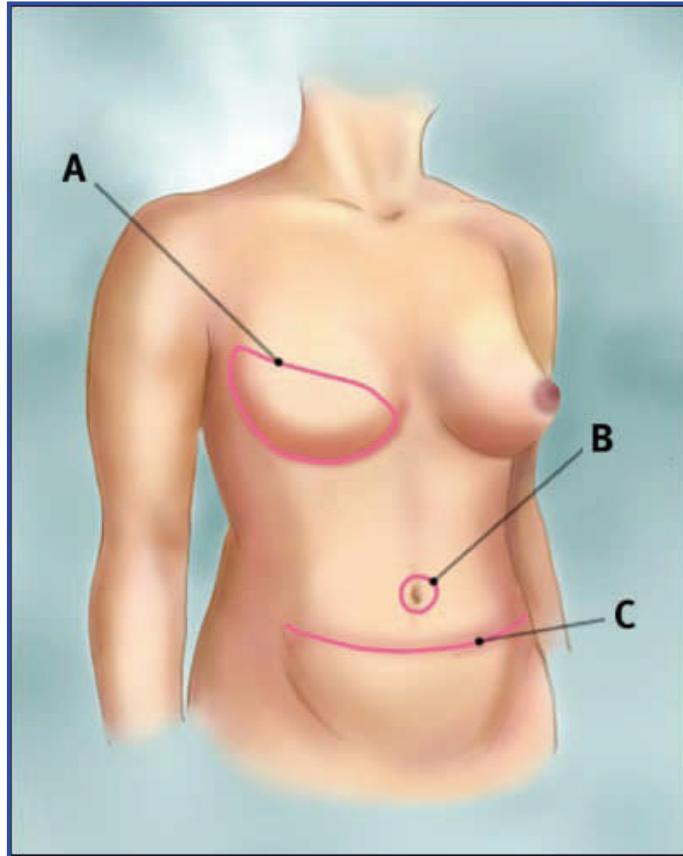
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[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.6 Surgical Complications](#)

TRAM Flap Breast Reconstruction - Lines of incisions



Woman with lines of trans-rectus abdominis muscle (TRAM) reconstruction incisions.

A lines of reconstructed breast incisions

B circle of re-positioned "belly button" incision

C line of abdominal surgery incision

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[For more breast reconstruction pictures](#)

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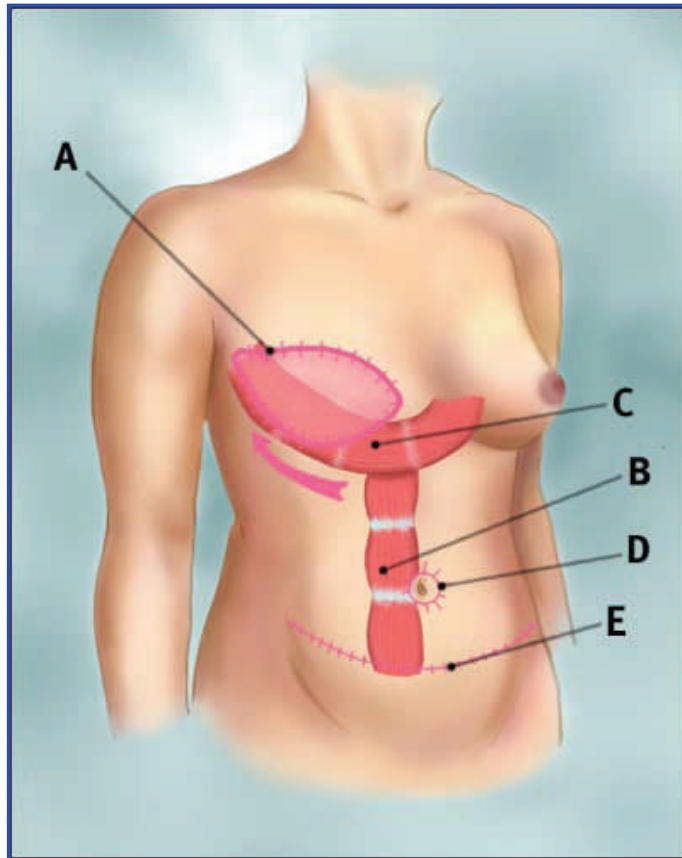
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[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.6 Surgical Complications](#)

TRAM Flap Breast Reconstruction - In Process



Woman in process of trans-rectus abdominis muscle (TRAM) reconstruction.

A lines of reconstructed breast incisions

B right trans rectus abdominis muscle

C left TRAM muscle is swung over to re-create the new breast

D incision circle of re-positioned "belly button" incision

E line of abdominal surgery

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Related Topics

[5.1 Breast Conservation](#)

[5.2 Sentinel Node Biopsy](#)

[5.3 Mastectomy](#)

[5.4 Axillary Dissection](#)

[5.6 Surgical Complications](#)

Surgical Complications

This section reproduces information from the publication [*The Clinical Practice Guidelines for the Management of Early Breast Cancer*](#), Chapter 4 pp 62—64

Breast surgery requiring general anaesthesia has a low risk of complications. The main risks are:

- Post operative wound infection
- Haematoma
- Deep venous thrombosis

Women who have other unrelated diseases may have increased risk associated with anaesthesia. In appropriate cases, this increased risk should be discussed prior to surgery.

Following **mastectomy and axillary dissection**, a woman may experience:

- Seroma of the axilla (following axillary dissection) or skin flap (See Seroma).
- Pain in the upper medial aspect of the arm and chest wall
- Impact of loss of the breast on body image, appearance and self-esteem;
- Lymphoedema of the arm (following axillary dissection) - which can occur at any stage, even years after treatment (See [the Section Lymphoedema](#)).
- Chest wall discomfort—which should settle within six months.

Following **breast conservation** and subsequent breast irradiation, a woman may experience:

Related Topics

- [5.1 Breast Conservation](#)
- [5.2 Sentinel Node Biopsy](#)
- [5.3 Mastectomy](#)
- [5.4 Axillary Dissection](#)
- [5.5 Breast Reconstruction](#)

Surgical Complications

- Seroma of the axilla (following axillary dissection)
- Breast oedema
- Breast pain and / or chest wall pain—which may last from three months to up to several years in some cases
- Lymphoedema of the arm (following axillary dissection and/or irradiation) which can occur at any stage, even years after treatment (*See the Section [Lymphoedema](#)*).

Following **breast reconstruction**, a woman may experience:

- Partial necrosis (death of tissue) of a soft tissue reconstruction
- Infection and delayed healing
- Infection and rejection of a prosthesis (in prosthetic breast reconstruction)
- A second primary tumour in retained breast tissue
- Weakness of the abdominal wall (where tissue is in the rectus flap method of reconstruction).

Seroma

A seroma is a build-up of normal body fluid that often occurs after armpit (axillary) surgery. Although seromas can be uncomfortable and cause significant swelling, they are not dangerous. A seroma is not a recurrence of cancer, nor is it a long-term swelling of the arm (lymphoedema). Seromas tend to develop over a period of days to weeks and are not emergencies. Some patients (up to 30%) will need to have the fluid from a seroma removed using a syringe and needle. This will often need to be done a few times over a period of days to weeks until the build-up of fluid settles. This procedure is not usually painful as the needle can be placed

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- [5.1 Breast Conservation](#)
- [5.2 Sentinel Node Biopsy](#)
- [5.3 Mastectomy](#)
- [5.4 Axillary Dissection](#)
- [5.5 Breast Reconstruction](#)

Surgical Complications

in a numb patch in the skin. After a seroma has been drained once, it is easy to recognise the signs if the fluid collects again.

Occasionally, seromas can discharge by themselves causing a release of blood-stained fluid through the armpit wound. This distressing event is not an emergency. If this occurs, the area should be washed with warm water and a dry dressing applied to the wound.

**Extract from [Wound Care: An information guide for patients](#)
NSW Breast Cancer Institute**

Haematoma

Occasionally, blood collects within the tissues surrounding the wound causing swelling, discomfort and hardness called a haematoma.

The body can take several weeks to reabsorb the blood. If the haematoma causes a lot of discomfort the surgeon may decide to draw off the fluid using a syringe and needle.

Related Topics

- [5.1 Breast Conservation](#)
- [5.2 Sentinel Node Biopsy](#)
- [5.3 Mastectomy](#)
- [5.4 Axillary Dissection](#)
- [5.5 Breast Reconstruction](#)