

# PATIENT INFORMATION

## Radiotherapy following Breast Conservation Surgery



Liverpool & Campbelltown  
Cancer Therapy Centres

# 1. Introduction

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This booklet is to assist you with information related to radiotherapy for treatment of early breast cancer. The information is therefore general and may not specifically apply to your treatment. If you have any concerns, please consult your radiation oncologist.

## 2. Rationale for Breast Conservation as an Alternative to Mastectomy

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The modern management of breast cancer is complex and treatment recommendations vary for different patients. There are three factors that need to be considered. These are: -

- A. The breast
- B. The glands. The main ones are in the armpit of the affected side (axillary lymph nodes). Other glands lie above the collar bone (supra-clavicular nodes) and behind the breast bone (internal mammary nodes).
- C. The rest of the body

### A. The Breast

For many patients, breast cancer can be treated without removing the whole breast. Studies comparing patients treated with a mastectomy (removal of the whole breast) to patients treated with removal of the breast cancer (lumpectomy or partial mastectomy) followed by radiotherapy to the remaining breast have found no difference in overall survival (or “ultimate cure rates”) between the two treatments. Therefore, for patients with small breast cancers the choice between treatments is a personal one as the results of treatments are identical.

Following a lumpectomy, it is usual that radiotherapy is recommended to the remainder of the breast tissue. Without the radiotherapy the risk of the cancer “coming back” in the breast could be 20-40%. With radiotherapy, the risk of the cancer “coming back” is reduced to approximately 5-10%.

### B. Treatment of the Nodes (lymph glands).

The majority of patients who are treated with lumpectomy and radiotherapy will also have either a sample (referred to as sentinel node biopsy) or complete dissection (removal) of the axillary lymph glands, sent for pathological examination. There are 3 main reasons for treatment to the axillary lymph nodes. These are:

- the removal of the glands to determine whether the cancer has spread to the glands,
- to prevent cancer recurring in this region
- to determine whether any further treatment (such as chemotherapy, hormone therapy or additional radiotherapy) is necessary.

### **C. The rest of the body**

Generally speaking, radiotherapy will not reduce the risk of cancer coming back in other parts of the body. Radiotherapy is aimed at reducing the risk of cancer coming back in the affected breast and in some cases the lymph node areas.

Chemotherapy, targeted therapy and/or hormone therapy may be used to reduce the chances of the cancer coming back in other parts of the body, as well as improving your overall chances of cure and survival. You will generally be referred to a medical oncologist to further discuss the role of chemotherapy, targeted therapy and/or hormone therapy in your particular situation.

### 3. Radiotherapy Planning and Treatment

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#### Planning

Your first appointment is for treatment planning. This will involve scanning you on a CT machine, in the same position that you will be treated in. For this scan you will lie on your back, with your arms above your head and with your breasts exposed. This is to accurately visualise the area we need to treat as well as to record measurements of your breast and other body regions.

For the planning appointment, please bring your past x-rays and mammograms. You do not need to fast for this appointment, so eat and drink normally.

Some patients will be taught how to take a deep breath during your planning CT scan and treatment (Deep Inspiration Breath Hold or DIBH). If this is appropriate for you, your radiation oncologist will give you further information about this technique.

At the completion of the planning appointment your skin will be marked with 3 to 4 small permanent tattoos, similar to a dark freckle, to allow accurate set-up each day for treatment. Following this, our planning and physics staff will perform numerous calculations to produce a final radiotherapy plan which is then approved by your treating radiation oncologist.

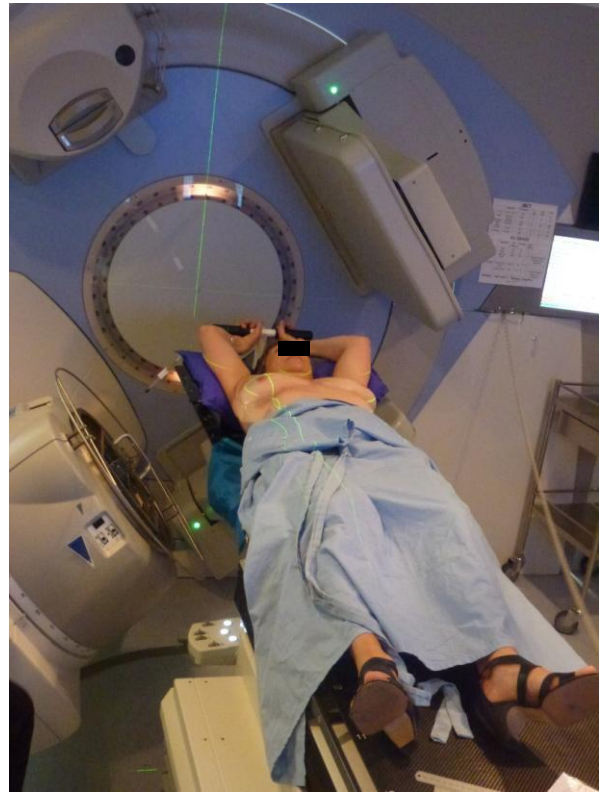
You will be given an appointment to start treatment either at the time of the planning appointment or at a later date by phone contact.

#### Treatment

Radiotherapy to the breast (with or without treatment to the gland areas) generally involves daily visits (Monday to Friday only). Most patients will receive 16 treatments over 3.5 weeks. Some patients may require up to 30 treatments over 6 weeks whilst others may be suitable for 5 treatments over 1 week only. Your doctor will determine the number of treatments most suitable for you, based on several factors including your age, pathology results, the extent of surgery and other factors (such as the size and shape of your breast and whether or not you have breast implants).

You will be able to drive yourself to treatment and, as a general rule, working people can continue to work throughout their treatment (although remember that you may feel a little more tired!).

The actual radiotherapy treatment is given by trained staff called radiation therapists. You will be in exactly the same position as for the treatment scan with your breasts exposed. In general, the treatment takes about 10-30 minutes and you will be in the department anywhere between 15 to 60 minutes depending on the number of patients waiting. Normally you will wait your turn in the waiting room and then change into a gown. You will then wait in the waiting area for your treatment machine. When the radiation therapists are ready for you, they will call you into the treatment room where you will be asked to lie on the treatment couch. Most of the time in the room will be spent making sure that you are in the correct position (this is how the tattoos help) and ensuring that the same area receives radiotherapy each day.



You will be asked to attend the clinic area once or twice during your treatment to be reviewed by your specialist or their registrar (specialist-in-training). The clinic nurse will also review you to advise on skin care.

### **Cost**

All radiation oncology consultations, planning and treatment procedures are fully covered by Medicare. Therefore, there should not be out of pocket cost for the treatment provided if you have a Medicare card and an up-to-date referral. If you have any queries about the billing process you may speak to the office manager. Tests conducted outside the Cancer Therapy Centre such as blood tests or x-rays may carry a charge and you will need to check this with the people conducting the test.

## 4. Side Effects of Treatment

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Radiotherapy works by killing cancer cells that may be present in the breast and/or lymph gland regions following surgery. However, the normal cells in the area being treated are also affected. These normal tissue cells have a greater ability to recover from the radiation compared to cancer cells. The gap between each of the daily treatments allows most normal cells to recover. Despite this recovery, side effects do occur and are usually a normal part of treatment. Some side effects occur “early” (within days to weeks of starting treatment) whilst others may develop in the “long term” (several months to years after completing treatment). Some side effects are common, whilst others are uncommon, or even rare. The following is a list of possible side effects you may experience when having radiotherapy to the breast and, as in some cases, the lymph node areas:

### Short term side effects:

- **Tiredness:** This is a common side effect although the amount of tiredness varies from person to person. Most working people find that they can still attend work throughout the treatment period but feel more tired at the end of the day compared to normal.
- **Skin reddening and irritation:** Skin reddening and dryness can occur by the 2<sup>nd</sup> to the 3<sup>rd</sup> week of treatment. The skin first becomes slightly pinker, then becomes redder towards the end of treatment. Most of these skin changes will settle by 4-6 weeks after the completion of treatment. Irritation is generally relieved by Sorbolene Cream. If the skin changes worsen, your doctor and/or clinic nurse may prescribe an alternative cream for you. Occasionally peeling or even blistering of the skin can occur particularly in the fold under the breast and armpit area, especially in women with larger breasts. If this happens to you, special gels or dressings may be recommended until the skin changes settle.
- **Breast swelling:** During and following radiotherapy it is normal for the breast to accumulate some fluid. Having the glands removed under the armpit can also contribute to this swelling. This swelling will make the breast feel heavier and more tender to pressure compared to the other breast. In most cases this will improve, however may take several years to do so.
- **Occasional aches and pains in the breast:** Generally these are minor twinges only and do not require any pain killers. This is a normal occurrence and may recur periodically for one or more years following completion of treatment.
- **Temporary (sometimes permanent) loss of armpit hair:** May occur as a result of treating the outer aspect of the breast. The hair on your head will not be affected.
- **Nausea:** This is uncommon but possible. Medication can be given to relieve this
- **Lung inflammation and scarring:** All patients having breast radiotherapy will have a small amount of lung included in the treatment area. As a result, some lung scarring can occur which may show up on an x-ray taken months or years after treatment. Although this is NOT usually associated with any symptoms, a small number of



patients (approximately 1 patient in every 100) may develop lung inflammation (pneumonitis). If this occurs it usually happens between 6 weeks and 6 months following the completion of radiotherapy. Symptoms may include a cough and, less frequently, shortness of breath and fever. These symptoms will generally settle with a course of antibiotics and steroid tablets. If you develop a new persistent cough or shortness of breath in the first 6 months after radiotherapy, please make an appointment to see your radiation oncologist.

### **Long term side effects:**

- **Breast firmness, scarring and skin pigmentation:** Several months after treatment the breast may feel firmer and the overlying skin may appear darker especially the area beneath the excision scar. Occasionally some distortion or shrinkage of the breast may occur as a result of ongoing tissue firming (fibrosis). It is useful to become familiar with the breast, particularly the area beneath the scar, by performing monthly breast self-examination.
- **Rib pain and fracture:** Some patients will complain of rib pain and tenderness some months or years after treatment, which may be a result of ongoing inflammation of the soft tissues, including the cartilage, around the ribs. Less commonly (1 patient in every 100), a rib fracture may occur due to weakening of the rib bone in the treated area.
- **Heart problems:** There is some evidence that radiotherapy to the heart slightly increases the risk of heart disease in the years after radiotherapy. When the left breast is treated with radiotherapy, the heart may receive some radiation. The dose to the heart will be minimised during the planning process and by using deep inspiration breath hold technique for some patients, however sometimes the heart cannot be avoided completely. It is important for you to reduce other risk factors for heart disease such as smoking, diabetes, high blood pressure and high cholesterol.
- **Developing a second cancer:** Radiation exposure can cause cancer. Although this is true, the risk is extremely small (less than 1 in 200 patients) and would usually take more than 10-15 years to develop. Most would agree that the benefit of radiation in reducing the risk of their breast cancer returning outweighs any risk of developing a cancer caused by radiation.

### **If you are having your lymph nodes treated:**

- **Sore throat:** Some patients, having radiotherapy to the lymph nodes above the collar bone or lower neck (referred to as “supraclavicular lymph nodes”), may develop a sore throat. This will generally improve 2-3 weeks after completion of treatment. Simply avoid hot or spicy foods or alcohol during this period. If this occurs discuss this with your doctor.
- **Lymphoedema (arm swelling):** This can result from either having a “complete axillary dissection” and/or radiotherapy to the lymph node areas. Generally speaking, radiotherapy to the breast alone will NOT increase your risk of lymphoedema. If however, the armpit glands are included, the risk may be between 9-15 patients in every 100. If the lymph glands are removed, and radiotherapy is also given to the armpit, the risk



of lymphoedema may be as high as 30 patients in every 100. The decision as to whether to treat the lymph nodes with radiotherapy will be based on your individual circumstances and your specialist will discuss this with you in more detail.

- **Damage to the nerves which supply the arm:** The nerves which supply the arm pass through the base of the neck, above the collar bone, which may be treated with radiotherapy. The dose of radiotherapy given is below that which would usually cause damage to the nerves, however rarely (1 in 1000 patients) radiation may damage these nerves causing numbness and weakness in the affected arm.

## 5. Support Services

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The Cancer Therapy Centre has a range of support services. These include:

- Breast Cancer Nurse can assist you with information and support.
- Breast cancer support groups, including “Look Good, Feel Better” program.
- Breast cancer education sessions
- Dietician assessment and advice
- Physiotherapy
- Occupational therapy
- Psychological counselling
- Social work advice on financial support, social support, sickness benefits etc.
- Exercise programmes for patients to improve their fitness during and after radiotherapy

Please ask a member of staff to help you with these.

## 6. Skin Care during Radiotherapy

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The nurses will meet with you in your first week of treatment to discuss your skin care during the radiotherapy. During the course of your treatment, the area of skin treated by the radiotherapy may become dry, itchy or red. Usually these reactions are temporary and will subside within a few weeks after the end of therapy. In addition, some patients may develop darkened skin of their treated breast which may take some months to subside. The following are some suggestions for the care of your skin that is exposed to radiation:

- (i) Keep the skin clean and dry. When bathing, cleanse the treated skin with water and a mild soap. Pat the area dry; avoid vigorous rubbing of the skin.
- (ii) Check with your treating team before using any creams, lotions or deodorants in the treatment area. Creams such as aqueous cream/ Sorbolene are usually recommended. Do not apply any creams for 2-3 hours before your radiotherapy treatment.
- (iii) Avoid shaving under the treated arm with a razor blade. You may use an electric shaver.
- (iv) Check your skin daily and report any changes. If there are any areas of broken skin or blisters, stop using creams in that area until it has been reviewed by your treating team.
- (v) Avoid wearing tight-fitting clothing that could rub, press against or irritate the skin. Underwire bras or those that are very tight and constricting are not recommended when you have a skin reaction. Cotton t-shirts and bras without underwire may be more comfortable. Avoid exposure of the treated skin to excessive temperatures. This includes heat or sunlamps, hot water bottles or ice packs directly applied to the skin. A face washer immersed in tap water and applied to the skin is OK and may sometimes ease discomfort.
- (vi) Avoid sun exposure to the treated skin while you are receiving radiation. Once you have completed therapy, use a sun screen agent with a sun protection factor (SPF) of 30+ to protect your skin.
- (vii) If you experience any significant skin discomfort in the treated area please inform your radiation therapist, nurse or doctor as they may recommend a different cream or skin care routine to you. Your doctor and/or nurse will check your skin at least once a week or more often if necessary. Please do not hesitate to ask questions or let us know if you have any concerns.
- (viii) It is OK to swim in pools if there is no broken or blistered skin. If the skin is broken then you should avoid swimming or using public spas.

## 7. Caring for Yourself Following the Completion of Radiotherapy

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- (i) When all side effects from the radiotherapy have settled (usually about 4-6 weeks after treatment has finished) you can resume your normal skin care.
- (ii) It may be helpful to continue using some form of moisturising cream on the affected skin on a regular basis, as the skin will tend to be dry following radiotherapy.
- (iii) Minimise sun exposure to the treated area and protect your skin with an SPF 30+ sunscreen.
- (iv) Gradually increase your activities or exercises. Any fatigue that you experienced during radiotherapy usually resolves after a few weeks. Being active after cancer treatment has been shown to reduce the chance of breast cancer recurrence.
- (v) You are encouraged to continue to perform breast self-examination. You may notice some minor thickening in the area of your lumpectomy scar which is related to the treatment received.
- (vi) You may experience minor twinges or shooting pains throughout the breast and you may feel some discomfort or tightness in your arm. Continue to perform hand and arm exercises. Swimming may also be helpful. Massage of a swollen breast can sometimes improve the pain.
- (vii) After complete removal of the lymph glands under the arm, the body has a decreased ability to drain lymph fluid from the arm. Arm and hand swelling can occur many years later. The following are some suggestions for the care of your hand and arm:
  - a. Avoid having blood tests, blood pressure measurements or injections on the affected side
  - b. Protect your arm and hand from cuts, bruises and scratches
  - c. Wear gloves whilst cleaning or gardening and use skin cream for your skin, nails and cuticles
  - d. If your arm ever becomes red or swollen, see your local doctor or surgeon who may recommend a course of antibiotics.
- (viii) Liverpool and Campbelltown Cancer Therapy Centres both have a Wellness Centre with a range of services available. Ask your oncologist or breast cancer nurse.

## **8. Follow Up**

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The main aims of follow up are to check on whether there is any sign of cancer recurrence within the breast or lymph node areas as well as managing any ongoing concerns or side effects you may have from treatment. Follow up is recommended every 3-6 months for the first 2 years, every 6 months for the next 3 years and yearly thereafter. This follow up may be done by your surgeon, radiation oncologist, medical oncologist and in some cases your local doctor.

We recommend having a mammogram 6-12 months after completing radiotherapy and then yearly after that for the rest of your life. No blood tests or scans are usually necessary unless you develop some new symptoms that require these tests.

## **9. For Patients Receiving Chemotherapy**

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Some patients will also be receiving chemotherapy treatment. This will be prescribed by a medical oncologist and could be given either before or after surgery depending on your cancer type. If you received chemotherapy after your surgery, we usually recommend that the radiotherapy and chemotherapy be given separately and the chemotherapy will be given first (usually takes 3-6 months depending on the type of chemotherapy you are recommended) followed by radiotherapy (this usually commences about 3-6 weeks after the completion of the chemotherapy). If you are having chemotherapy you should ensure that you make a follow-up appointment to see your radiation oncologist just before your last cycle of chemotherapy so that arrangements can be made for radiotherapy.

## 10. Helpful Sources of Further Information

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You may find the need for further information. Please discuss your needs with your doctor and/or your breast nurse. You may consult the Cancer Therapy Centre Resource Library and borrow a book or DVD.

### **Books that may be helpful include: -**

The Management of Early Breast Cancer – A consumer's guide. National Breast cancer Centre

Understanding radiotherapy – NSW Cancer Council

Understanding breast cancer - NSW Cancer Council

Understanding chemotherapy – NSW Cancer Council

### **Websites and/or organizations that may be helpful include: -**

[www.targetingcancer.com.au](http://www.targetingcancer.com.au)

Radiation Oncology Targeting Cancer

[www.swslhd.nsw.gov.au/cancer](http://www.swslhd.nsw.gov.au/cancer)

Sydney South West Area Cancer Service

[www.eviq.org.au](http://www.eviq.org.au)

eviQ Cancer Institute NSW

[www.bcna.org.au](http://www.bcna.org.au)

Breast Cancer Network Australia

[www.canceraustralia.gov.au](http://www.canceraustralia.gov.au)

Cancer Australia

[www.cancercouncil.com.au](http://www.cancercouncil.com.au)

Cancer Council NSW

[www.mskcc.org/cancer-care/adult/breast](http://www.mskcc.org/cancer-care/adult/breast)

Memorial Sloan Kettering Cancer Centre

[www.bcia.org.au](http://www.bcia.org.au)

Breast Cancer Institute Australia

[www.mcgrathfoundation.com.au](http://www.mcgrathfoundation.com.au)

McGrath Foundation