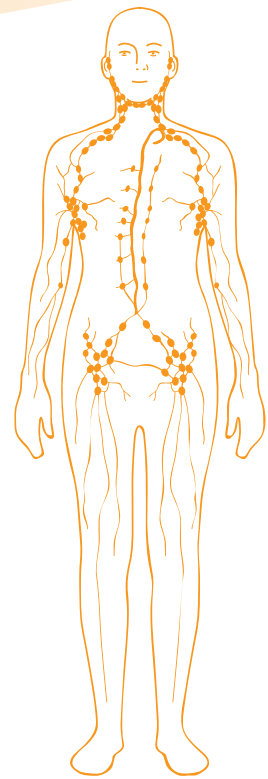




NATIONAL  
BREAST AND OVARIAN  
CANCER CENTRE

# The Management of Secondary Lymphoedema

Workshop module for health professionals



Workshop Module



NATIONAL BREAST  
AND OVARIAN  
CANCER CENTRE

**THE MANAGEMENT OF  
SECONDARY LYMPHOEDEMA**  
WORKSHOP MODULE FOR  
HEALTH PROFESSIONALS

MARCH 2008

Presenter's notes  
&  
workshop resources

Lymphoedema — what you need to know  
was prepared and produced by:

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Copies of this booklet can be downloaded from National Breast and Ovarian Cancer Centre website: [www.nbocc.org.au](http://www.nbocc.org.au) or ordered by telephone: 1800 624 973

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## Contact us

If you experience any problems with *The management of secondary lymphoedema: workshop module for health professionals* (MSL module) CD-ROM or have any further queries please contact NBOCC directly on 02 9357 9400.

# ACKNOWLEDGEMENTS

National Breast and Ovarian Cancer Centre (NBOCC) would like to thank members of the Secondary Lymphoedema Initiative Steering Committee and the Health Professionals Working Group (see *Appendix* for membership list) for their contributions to the development of *The management of secondary lymphoedema: workshop module for health professionals*. We would also like to thank the Border Division of General Practice for their support in piloting the module material.

## **National Breast and Ovarian Cancer Centre Staff**

The following people were involved in the development of this module:

- Dr Julie Thompson, module author
- Dr Helen Zorbas
- Ms Elizabeth Metelovski
- Ms Janice Peterson

## **Funding**

National Breast and Ovarian Cancer Centre is funded by the Australian Government Department of Health and Ageing.

# INTRODUCTION

## BACKGROUND

National Breast and Ovarian Cancer Centre (NBOCC) was awarded a grant by the Australian Government Department of Health and Ageing in June 2007 to undertake a 12-month program to improve the knowledge and management of secondary lymphoedema in Australia. This program of work was funded in recognition of the fact that:

- inconsistent information and advice is often provided to patients at potential risk of secondary lymphoedema
- evidence about effective treatments for secondary lymphoedema is limited
- research about secondary lymphoedema has been undertaken predominately in women following a diagnosis of breast cancer, with few studies in other cancer populations.

As a first step, NBOCC commissioned an evidence review in August 2007 to inform the development of evidence-based education and information resources about secondary lymphoedema for health professionals and consumers. The *Review of research evidence on secondary lymphoedema: incidence, prevention, risk factors and treatment*<sup>1</sup> found that at least 20% of patients treated for melanoma, breast, gynaecological or genitourinary cancers will experience secondary lymphoedema following treatment for cancer. This equates to more than 8000 new cases per year in Australia.

## MANAGING SECONDARY LYMPHOEDEMA

Health professionals have a key role in identifying secondary lymphoedema at an early stage, in an effort to reduce the severity of the condition. NBOCC has also produced a guide to assist health professionals in the early identification and management of patients who may be at risk or who have developed secondary lymphoedema following treatment for cancer. *The management of secondary lymphoedema: a guide for health professionals* should be used in conjunction with this workshop module.

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1. National Breast and Ovarian Cancer Centre. *Review of research evidence on secondary lymphoedema: incidence, prevention, risk factors and treatment*. National Breast and Ovarian Cancer Centre, Surry Hills, NSW, 2008.

## LEARNING OUTCOMES

This workshop aims to provide health professionals with an understanding of best practice relating to the management of secondary lymphoedema.

Following participation in the workshop, participants will:

- be aware of the incidence of secondary lymphoedema in Australia
- understand the risk factors associated with secondary lymphoedema
- be able to identify prevention and treatment strategies for secondary lymphoedema
- be aware of clinical guides and other resources that can assist with the early identification and management of secondary lymphoedema.

## WORKSHOP FORMAT & PRESENTERS

This workshop is designed to be run over 90 minutes. A suggested workshop program is included. It is recommended that a general practitioner (GP) present this module with assistance from a lymphoedema practitioner.

## FEEDBACK

Your feedback is important to us and will help improve the quality of our education resources. When you have used the module to run a workshop, please forward a copy of your evaluation summary and any other comments to [director@nbocc.org.au](mailto:director@nbocc.org.au). Thank you for your assistance.

# IMPLEMENTING A WORKSHOP

## PLANNING

### **Tips for planning an effective workshop**

This workshop is designed to cover a 90 minute session. Include time for refreshments in the workshop program as this is an opportunity for networking.

Costs to consider when planning a budget could include catering, venue hire, computer projection equipment and printing of materials for workshop participants.

## PROMOTION

### **Tips for promoting the workshop**

It is recommended that the promotion of the workshop commence at least 8 weeks prior to the workshop date.

A template for a promotional flyer is included within this module and should be modified to reflect local workshop details.

## DELIVERY

### **Tips for delivering a successful workshop**

It is intended that the module be delivered by a GP and lymphoedema practitioner.

This module is designed to be presented in an informal lecture style utilising the PowerPoint slides and speaker's notes provided.

Presenter's notes provide the key points relevant to each PowerPoint slide. Key teaching points are highlighted and relevant additional information is provided where indicated for the presenter.

## WORKSHOP RESOURCES

A CD-ROM containing all suggested resources to implement the MSL workshop is included in this kit. Resources include:

- MSL PowerPoint presentation
- MSL presenter's notes
- MSL workshop agenda (template)
- MSL promotional flyer (template)
- MSL certificate of attendance (template)
- MSL workshop evaluation form (template)
- *The management of secondary lymphoedema: a guide for health professionals*
- Consumer booklet titled *Lymphoedema – what you need to know*
- NBOCC resource order form.

It is recommended that the following resources be provided to workshop participants:

- MSL PowerPoint presentation printed as a handout (3 slides per page)
- *The management of secondary lymphoedema: a guide for health professionals\**
- *Lymphoedema – what you need to know\**
- NBOCC resource order form.

\*A sample copy of these resources has been included in the MSL module and a PDF copy is on the CD-ROM. Additional copies for workshop participants will need to be ordered directly from NBOCC (please allow 2 weeks for delivery). Freecall 1800 624 973 or order online from [www.nbocc.org.au](http://www.nbocc.org.au).

## EVALUATION

An evaluation form is included as part of this module and is based on the learning outcomes relevant to this module.

## QA&CPD POINTS

Divisions will need to contact NBOCC to obtain details regarding an activity number for the workshop. Please contact [director@nbocc.org.au](mailto:director@nbocc.org.au) or (02) 9357 9400.

## CHECKLIST FOR WORKSHOP ORGANISERS

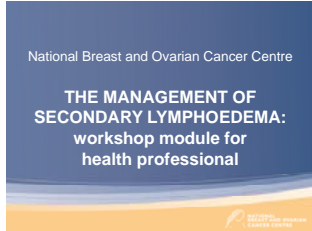
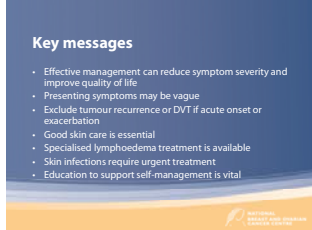
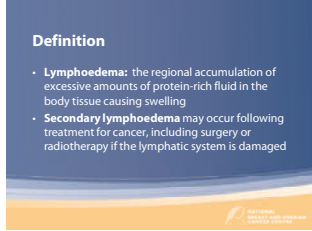
Complete the following checklist for each workshop to ensure all aspects relating to effective workshop planning and implementation have been undertaken:

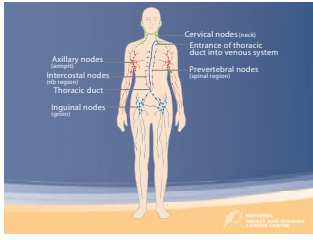

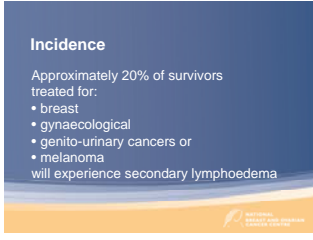
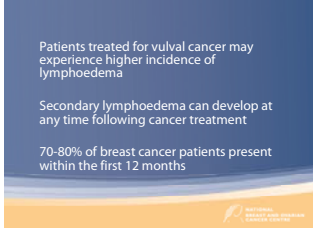
- Plan budget and investigate external funding if required
- Source presenters and confirm availability
- Confirm the date, venue and catering
- Promote the workshop to target audience
- Source equipment for workshop (eg laptop, data projector, name tags)
- Organise participant packs and certificates.

# PRESENTING THE LYMPHOEDEMA WORKSHOP

## PRESENTER'S NOTES

### THE MANAGEMENT OF SECONDARY LYMPHOEDEMA

<p><b>Slide 1</b></p> 	<p>National Breast and Ovarian Cancer Centre (NBOCC) has developed a guide to assist general practitioners (GPs) and other health professionals in the diagnosis and management of secondary lymphoedema.</p> <p>This presentation consists of some preliminary slides providing basic information such as incidence and risk factors, and then two case studies will be discussed during which we will refer to the guide.</p>
<p><b>Slide 2</b></p> 	<p>Although lymphoedema may not be a common presenting problem in general practice, GPs have a key role to play in its management.</p> <p>We know that early intervention and effective management can reduce the severity of symptoms.</p> <p>It is important that GPs are proactive when seeing patients at risk.</p>
<p><b>Slide 3</b></p> 	<p>A normally functioning lymphatic system pumps 2 – 4 litres of lymph daily. 100ml of lymph is drained from each arm, and 200-300ml from each leg daily. If lymph nodes in any part of the body are removed, damaged or affected by cancer, lymph drainage is reduced. Imagine the impact on a limb if there is a blockage given this amount of fluid.</p> <p>Damage to the axillary or inguinal/iliac nodes may affect drainage of the upper or lower limbs, while damage to the submaxillary or cervical nodes may affect the head and neck.</p> <p>Fluid moves through the lymphatic system by a combination of the pressure gradient produced by muscle contractions and the rhythmic pulsations of the larger lymphatic vessels. The larger lymphatic vessels also contain small valves ensuring the direction of the lymph flow is proximal.</p> <p>Lymphoedema occurs when the rate of accumulation of lymphatic fluid exceeds the drainage capacity of the lymphatic circulation.</p> <p>Primary lymphoedema is a congenital abnormality of the lymphatic system.</p>

<p><b>Slide 4</b></p>  <p>A diagram of a human figure with the lymphatic system highlighted in red. Labels include: Axillary nodes (armpits), Intercostal nodes (rib spaces), Thoracic duct, Inguinal nodes (groin), Cervical nodes (neck), Entrance of thoracic duct into venous system, and Prevertebral nodes (spinal region).</p>	<p>Refer to colour diagram of the lymphatic system</p> <p>Lymphoedema usually affects the limbs but can also involve the trunk, breast, head and neck or genital area depending on the site of the cancer and its treatment.</p>
<p><b>Slide 5</b></p>  <p>Two photographs side-by-side. The left photo shows a person's arms with significant swelling. The right photo shows a person's legs with significant swelling. Text below the photos reads: 'Country: The Australian' and 'Source: Royal Adelaide Hospital'.</p>	<p><u>First photo</u> is of a patient with arm lymphoedema following a mastectomy and axillary clearance for breast cancer. The picture is courtesy of <i>The Australian</i>.</p> <p><u>Second photo</u> is of a patient with leg lymphoedema following extensive pelvic surgery and radiotherapy for cervical cancer. The source of the photos is from Royal Adelaide Hospital.</p>
<p><b>Slide 6</b></p>  <p><b>Incidence</b> Approximately 20% of survivors treated for: • breast • gynaecological • genito-urinary cancers or • melanoma will experience secondary lymphoedema</p>	<p>There are approximately 8,000 new cases of secondary lymphoedema per year in Australia<sup>1</sup>.</p> <p>More specifically, the incidence of secondary lymphoedema associated with:</p> <ul style="list-style-type: none"> <li>• vulval cancer is estimated at 36-47%</li> <li>• breast cancer 20%</li> <li>• cervical cancer 24%</li> <li>• melanoma 9-29%<sup>1</sup>.</li> </ul> <p>Incidence depends on extent of surgery, type of cancer and radiotherapy.</p> <p>These rates are outlined in <i>The management of secondary lymphoedema: a guide for health professionals</i>.</p>
<p><b>Slide 7</b></p>  <p>Patients treated for vulval cancer may experience higher incidence of lymphoedema</p> <p>Secondary lymphoedema can develop at any time following cancer treatment</p> <p>70-80% of breast cancer patients present within the first 12 months</p>	<p>Reference: National Breast and Ovarian Cancer Centre. <i>Review of research evidence on secondary lymphoedema: incidence, prevention, risk factors and treatment, 2008</i><sup>1</sup></p> <p>Lymphoedema can develop at any time following cancer treatment. The majority of presentations of lymphoedema following breast cancer treatment occur within the first 12 months, however onset may be quite delayed in some patients. A patient may have had initial surgery years ago but recent trauma/surgery can put stress on the lymphatic system and trigger lymphoedema. One such example is a patient successfully treated for prostate cancer 8 years prior with no evidence of lymphoedema, but following recent hip replacement surgery presented with lymphoedema in that leg.</p>

## Slide 8

### Key risk factors

- Extent of surgery and whether lymph node dissection is performed
- Radiation therapy
- Trauma
- Infection
- Body mass index
- Immobility

Both surgery and radiotherapy may disrupt lymphatic drainage patterns. Lower incidence rates are associated with less invasive surgical procedures such as sentinel node biopsy (SNB). During surgery, the sentinel node is located by injecting a detection agent (for example blue dye, radioisotopes) around the cancer and locating which node(s) the detection agent has travelled to. Once detected, the sentinel node(s) is surgically removed and investigated by a pathologist to determine if the cancer cells are present. If cancer cells are found (a positive sentinel node), further surgery to remove more lymph nodes, and/or radiotherapy to the area may be required. Therefore, if SNB is performed, some people still need an axillary clearance.

The risk following radiotherapy depends on the extent and whether it is combined with lymph node surgery.

Current evidence suggests that the stage of disease, node status and adjuvant treatments other than radiotherapy do not impact on risk.

Trauma associated with clinical procedures: It is currently unknown whether certain procedures such as injections, IV cannulations, blood pressure monitoring and excising skin lesions increase the risk of lymphoedema. Therefore, as a precaution, use the untreated limb for these actions whenever possible. It is important to ensure sterile procedures are used to minimise risk of infection.

Infection increases both blood flow and lymph production in the affected limb/body part and thus can overwhelm a damaged lymphatic system.

Body mass index: higher body mass index increases risk. A high BMI increases the amount of fluid to be drained, and subcutaneous fat deposits may reduce the efficiency of the lymphatics to remove excess fluid.

Immobility: lymph and venous flow are significantly reduced if movement is minimal.

Lymphoedema affecting the lower limbs: May be worsened in the presence of raised central venous pressure or phlebitis.

## Slide 9

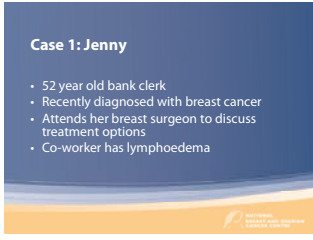


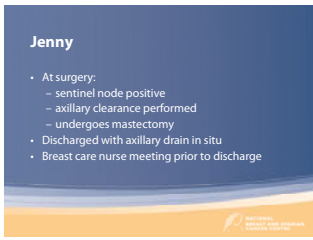
### Early warning signs

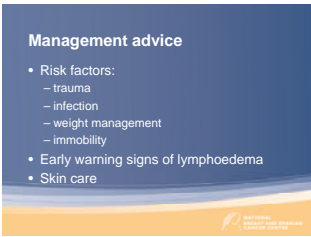
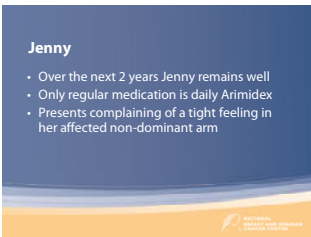
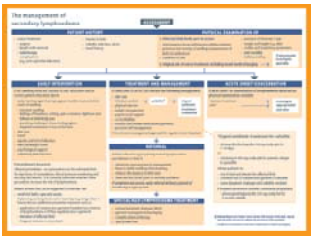
May be vague and intermittent and include:


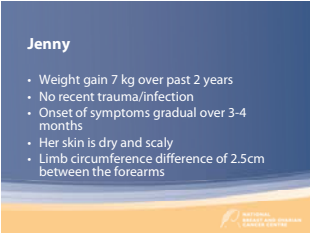
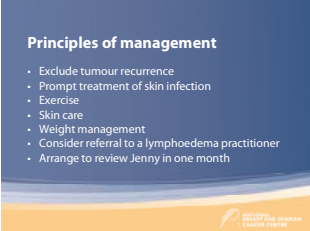
- Feelings of heaviness
- Aching, pain or tension
- Tightness or fullness
- Clothing, shoes or jewellery feeling tighter
- Transient swelling



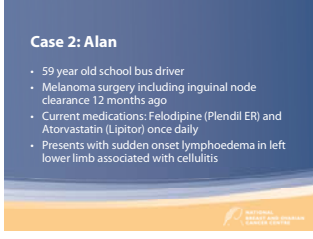
Presenting symptoms in the affected body part may be vague and intermittent (e.g. following vigorous exercise of that limb) and may be present for months or years prior to the development of persistent swelling.

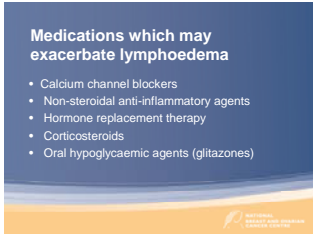

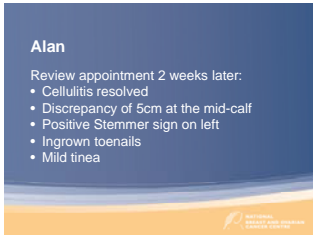

Early intervention can reduce symptom severity, long term complications and improve quality of life.

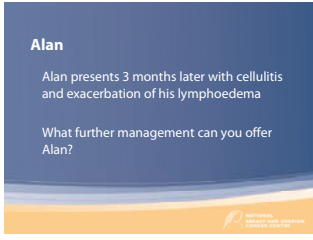
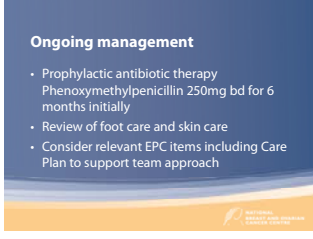

<p><b>Slide 10</b></p>  <p><b>Case 1: Jenny</b></p> <ul style="list-style-type: none"> <li>• 52 year old bank clerk</li> <li>• Recently diagnosed with breast cancer</li> <li>• Attends her breast surgeon to discuss treatment options</li> <li>• Co-worker has lymphoedema</li> </ul>	<p><i>The case study helps to illustrate the guide and promote group discussion.</i></p> <p><b>Case study 1:</b></p> <ul style="list-style-type: none"> <li>• Jenny is a 52 year old bank clerk who lives in a large regional centre</li> <li>• Recently diagnosed with breast cancer</li> <li>• Attends her breast surgeon to discuss treatment options</li> <li>• Co-worker has lymphoedema following breast cancer treatment and wears a compression stocking</li> </ul> <p>Jenny is concerned about her risk of lymphoedema post treatment. Her general health is excellent; she is physically active and not overweight.</p> <p>What options should be considered to reduce Jenny's risk of developing lymphoedema?</p>
<p><b>Slide 11</b></p>  <p><b>Breast cancer treatment options and reducing risk</b></p> <ul style="list-style-type: none"> <li>• Sentinel lymph node biopsy versus axillary node clearance reduces incidence to &lt;3%</li> <li>• Resuming normal activity after surgery</li> <li>• Avoid treatment of axilla with both surgery and radiotherapy whenever possible</li> </ul>	<p>Both axillary node clearance and radiotherapy applied to the axillary nodes are associated with an increased risk of lymphoedema of the upper limb.</p> <p>Sentinel lymph biopsy management versus axillary node clearance is associated with greatly reduced incidence of lymphoedema - less than 5% in women treated for breast cancer in some centres.<sup>2</sup></p> <p>No evidence to suggest that breast conserving surgery versus mastectomy has any impact on the risk of developing lymphoedema.</p> <p>Current radiotherapy treatments aim to avoid beams to axilla.</p> <p>Radiotherapy to the breast alone does not increase the risk of lymphoedema in the affected arm. However, lymphoedema may occur in the remaining breast following radiotherapy.</p>
<p><b>Slide 12</b></p>  <p>Courtesy Dragons Abreast Australia</p>	<p>In the past, women were often advised not to use their arm post surgery. Women are now encouraged to use their arm and resume normal activity.</p> <p>The picture is courtesy of <i>Dragons Abreast Australia</i>.</p>
<p><b>Slide 13</b></p>  <p><b>Jenny</b></p> <ul style="list-style-type: none"> <li>• At surgery: <ul style="list-style-type: none"> <li>– sentinel node positive</li> <li>– axillary clearance performed</li> <li>– undergoes mastectomy</li> </ul> </li> <li>• Discharged with axillary drain in situ</li> <li>• Breast care nurse meeting prior to discharge</li> </ul>	<p>What specific advice in terms of secondary lymphoedema risk and management should Jenny receive?</p> <p><i>Introduce management issues covered in the guide.</i></p> <p>Drain tubes: exercise is limited, but once the drain is removed the amount of exercise can be increased.</p>



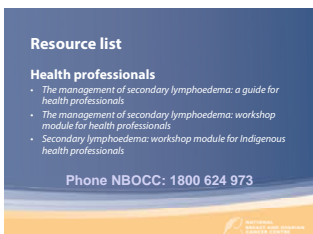

<p><b>Slide 14</b></p>  <p><b>Management advice</b></p> <ul style="list-style-type: none"> <li>• Risk factors: <ul style="list-style-type: none"> <li>– trauma</li> <li>– infection</li> <li>– weight management</li> <li>– immobility</li> </ul> </li> <li>• Early warning signs of lymphoedema</li> <li>• Skin care</li> </ul>	<p>As in about 30% cases<sup>2</sup>, SNB was positive and therefore axillary clearance to examine the extent of lymph node involvement was indicated.</p> <p>Breast care nurse reassures Jenny that the district nurses will manage the drainage, that some swelling may be expected in the first 6 weeks and sometimes fluid may collect in the axilla. The drain itself does not increase risk of lymphoedema, however infection can.</p> <p>The breast care nurse provides material on secondary lymphoedema and discusses several of the risk reducing strategies.</p> <p>Jenny can also be reassured that although the incidence of lymphoedema in women who have had axillary clearance is about 20% there are strategies she can employ to reduce her risk.</p> <p>Axillary seroma are common post-operatively and may require aspiration by the breast surgeon. They are not a risk factor for the later development of lymphoedema.</p> <p>It is important to avoid trauma to the affected limb where possible. It is currently unknown whether certain procedures such as injections, IV cannulations, blood pressure monitoring and excising skin lesions increase the risk of lymphoedema. Therefore, as a precaution, use the untreated limb for these actions whenever possible.</p> <p>Jenny should maintain a healthy weight and pay due attention to her diet and exercise. She should be encouraged to maintain normal functioning, mobility and activity.</p> <p>Good skin care is essential as healthy skin provides a barrier to infection. She should moisturise her skin regularly and avoid constrictions by jewellery or tight clothes. A number of practical 'tips' are outlined in the tear off section of the consumer booklet produced by NBOCC.</p>
<p><b>Slide 15</b></p>  <p><b>Jenny</b></p> <ul style="list-style-type: none"> <li>• Over the next 2 years Jenny remains well</li> <li>• Only regular medication is daily Arimidex</li> <li>• Presents complaining of a tight feeling in her affected non-dominant arm</li> </ul>	<p>She is sure it looks bigger than her left arm and her rings are tight.</p> <p>She is very anxious.</p> <p>What details of her history and examination interest you?</p>
<p><b>Slide 16</b></p>  <p><b>The management of secondary lymphoedema</b></p>	<p><i>Refer to guide.</i></p> <p><b>Patient history and physical examination</b></p> <p>During routine consultations with cancer survivors whose treatments have been linked to an increased risk of lymphoedema, it is important to be <u>proactive</u> and enquire about arm/leg function and comfort. Early warning signs of lymphoedema may be vague and intermittent and the patient may not recognise the symptoms as being indicative of lymphoedema.</p> <p><i>The lymphoedema practitioner could present this section of the workshop.</i></p>

	<p><b>Measurement of limb circumference:</b> is usually measured with a tape measure at 10cm intervals along the limb beginning across the meta carpal-phalangeal joints and then the mid-styloid process as the zero point<sup>3</sup>. A recent discrepancy in limb size of &gt; 2cm in any measurement when compared to the unaffected limb is significant and requires intervention. In a person unaffected by lymphoedema, a disparity of 2cm in circumference can occur between the dominant and non-dominant limb.</p>
<p><b>Slide 17</b></p> 	<p>The Australasian Lymphology Association (ALA) has a standard measurement form on their website at <a href="http://www.lymphology.asn.au">www.lymphology.asn.au</a>. This can assist with monitoring progress and response to treatment.</p>
<p><b>Slide 18</b></p> 	<p>The key features of Jenny's presentation are noted.</p> <p>Her onset has been gradual and not precipitated by recent trauma or infection.</p> <p>Her risk factors include a weight gain of 7kg and dry skin.</p> <p>What is your management plan?</p>
<p><b>Slide 19</b></p> 	<p>Exclude tumour recurrence (original site of cancer treatment and recent medical imaging):</p> <ul style="list-style-type: none"> <li>- breast examination</li> <li>- check axilla and supra clavicular fossa</li> <li>- review recent mammogram and consider further medical imaging</li> <li>- if concerned about the possibility of recurrence consider referral to the original treating specialist.</li> </ul> <p>Emphasise an increase in BMI as a risk factor and discuss weight management. Encourage exercise both to maintain an ideal body weight and to assist lymphatic flow.</p> <p>Discuss skin care and provide a pamphlet on skin management (refer to <i>Tips for managing your lymphoedema</i> in NBOCC consumer booklet).</p> <p>Emphasise the need to treat any skin infections promptly.</p> <p>Referral to a lymphoedema practitioner for further management depends on severity of symptoms. Not everyone with lymphoedema needs to see a lymphoedema practitioner, but it is important to treat early so if patient does not respond to your initial management, then refer.</p> <p>Enhanced Primary Care (EPC) items: if chronic condition is present for greater than 3 months within a twelve month period, EPC items to support team approach can be accessed.</p> <p>Arrange to review Jenny in one month.</p>

<p><b>Slide 20</b></p> 	<p>Refer to guide where the key indications are listed.</p>
<p><b>Slide 21</b></p> 	<p><i>The lymphoedema practitioner could present this section of the workshop.</i></p> <p><b>Specialised lymphoedema treatment options<sup>4</sup></b></p> <p><u>Manual lymphatic drainage (MLD)</u>: is a light and slow form of massage designed to assist lymphatic flow. The torso is massaged initially to create a reservoir for the fluid from the limb, and then the affected limb is massaged. Both patients and their carers can be trained to perform MLD. It is more effective if combined with wearing a compression garment.</p> <p><u>Compression bandaging/individually fitted garment</u>: Compression bandaging is usually done for a short period of time, in combination with MLD, to reduce severe swelling prior to the fitting of a compression garment or if the skin is very fragile or damaged. The bandages must be replaced every day. Compression garments are more practical for long-term use. A large range of ready-made garments are available or they may be tailor-made.</p> <p>It is important that garments are replaced regularly to minimise any complications that can result from poor fit.</p> <p><i>(Suggest lymphoedema practitioner displays several garments and explains in more detail)</i></p> <p><u>Special exercises</u>: Special exercises have been developed to encourage lymphatic flow. Exercises to build strength and improve fitness should also be encouraged.</p>
<p><b>Slide 22</b></p> 	<p><b>Case study 2:</b></p> <p>Alan is a 59 year old school bus driver who lives in a small farming community</p> <p>What is your initial management?</p> <p><i>Refer to clinical pathway in the guide</i></p> <p>It is important to beware of acute presentation (refer to guide). Must exclude DVT or tumour recurrence.</p> <p>Also review medications: Felodipine may cause exacerbation, therefore consider different antihypertensive.</p>

<p><b>Slide 23</b></p>  <p><b>Medications which may exacerbate lymphoedema</b></p> <ul style="list-style-type: none"> <li>• Calcium channel blockers</li> <li>• Non-steroidal anti-inflammatory agents</li> <li>• Hormone replacement therapy</li> <li>• Corticosteroids</li> <li>• Oral hypoglycaemic agents (glitazones)</li> </ul>	<p>Medications which may exacerbate lymphoedema include:</p> <ul style="list-style-type: none"> <li>• Calcium channel blockers</li> <li>• Non-steroidal anti-inflammatory agents</li> <li>• Hormone replacement therapy</li> <li>• Corticosteroids</li> <li>• Oral hypoglycaemic agents (glitazones)</li> </ul>
<p><b>Slide 24</b></p>  <p><b>Initial management</b></p> <ul style="list-style-type: none"> <li>• Exclude tumour recurrence, DVT</li> <li>• Urgent antibiotic therapy</li> <li>• Bed rest and elevation of limb</li> </ul>	<p>Duplex scan and pelvic CT scan are both clear.</p> <p><u>Cellulitis</u>: the cause of most episodes of cellulitis is Group A streptococci. Prompt treatment is essential to prevent further damage that can predispose to recurrent attacks.</p> <p>Hospital admission for intravenous antibiotic therapy should be considered if:</p> <ul style="list-style-type: none"> <li>• the patient shows signs of septicaemia – hypotension, tachycardia, high fever</li> <li>• local symptoms have not started to improve following 48 hours of oral antibiotic therapy.</li> </ul> <p>Swab any exudate or likely source of infection prior to commencing antibiotic therapy.</p> <p><u>Commence antibiotics as soon as possible</u>: for example di/flucloxacillin 500mg 6hrly for 10 days or clindamycin 450mg orally 8 hourly for patients allergic to penicillin<sup>5</sup> as stated in the guide.</p> <p>During bed rest elevate the limb and increase fluid intake.</p> <p>Compression at a reduced level if tolerated.</p> <p>Review response at 24–48 hours depending on severity of presentation.</p>
<p><b>Slide 25</b></p>  <p><b>Alan</b></p> <p>Review appointment 2 weeks later:</p> <ul style="list-style-type: none"> <li>• Cellulitis resolved</li> <li>• Discrepancy of 5cm at the mid-calf</li> <li>• Positive Stemmer sign on left</li> <li>• Ingrown toenails</li> <li>• Mild tinea</li> </ul>	<p>What are the key points in your management plan?</p> <p>Stemmer’s sign – thickened skin at the base of the second toe or middle finger, compared with the unaffected limb indicates lymphoedema. i.e. cannot pick up skin between middle toes because of induration or fibrosis.</p>
<p><b>Slide 26</b></p>  <p><b>Lymphoedema management</b></p> <ul style="list-style-type: none"> <li>• Skin and foot care</li> <li>• Weight management/exercise</li> <li>• Elevate and exercise affected leg</li> <li>• Referral for MLD/ compression therapy</li> <li>• Self-management education</li> <li>• Psychosocial support</li> <li>• Review medications</li> </ul>	<p>Skin and foot care including appropriate toenail care and treatment of tinea are essential.</p>

<p><b>Slide 27</b></p> 	
<p><b>Slide 28</b></p> 	<p><i>Discussion about team approach including podiatry, psychologist referral as well as lymphoedema specialist.</i></p> <p>In rural and regional settings: it is important that the local Division provides information about local services including access to specialist lymphoedema practitioners.</p> <p>An agreed management plan will assist Alan’s self care and minimise possible future complications. This plan could include:</p> <ul style="list-style-type: none"> <li>• Indications for initiating antibiotic therapy – Alan would need to keep a prescription on hand and be educated as to the early warning signs of cellulitis</li> <li>• Instructions on who to contact should he develop an acute episode of cellulitis</li> <li>• Skin and nail conditions that may cause cellulitis and how to manage them.</li> </ul>
<p><b>Slide 29</b></p> 	<p><u>Laser therapy</u>: the aim of laser therapy is to reduce fibrosis and scarring resulting from surgery, radiotherapy or the progression of lymphoedema to improve lymphatic drainage. Studies have focussed on the axilla and suggest a reduction in both the extent of induration and swelling of the arm is achievable. Further research is required to validate treatment doses and regimes.</p> <p><u>Pneumatic pumps</u>: a pneumatic or compression pump is applied to a limb with the intent of pushing fluid from the affected limb towards and into the trunk. They are used in combination with compression bandages or garments to maintain any reduction achieved. However studies suggest that their use may worsen lymphoedema proximal to the compression sleeve and are not recommended for use in lower limb lymphoedema where the risk of causing genital lymphoedema is significant.</p> <p><u>Alternative therapies</u>: There is currently no evidence that ultrasound therapy, hyperbaric oxygen, vitamin E, microwave therapy, acupuncture, magnetic field therapy, vibration, hyperthermia nor aromatherapy are effective.</p> <p><u>Surgery</u>: No surgical method for secondary lymphoedema treatment has received universal acceptance and surgical techniques are considered useful for only a small subset of secondary lymphoedema sufferers who have failed to obtain relief from less invasive measures.</p> <p>Liposuction aims to debulk the affected limb by removing fatty tissue.</p>

	<p>Although it may produce an immediate effect, it does not address the underlying cause, and unless compression garments are worn, the lymphoedema will recur.</p> <p>Lymphatic reconstruction aims to create lymphovenous anastomoses via microsurgery to bypass the obstruction. Several anastomoses may be created in the limb, aiming for proximal locations where possible.</p> <p><b>Pharmacological therapy:</b></p> <ul style="list-style-type: none"> <li>• Diuretics are ineffective</li> <li>• No evidence to support the use of benzopyrones</li> <li>• Some medications may exacerbate lymphoedema.</li> </ul>
<p><b>Slide 30</b></p>  <p><b>Key messages</b></p> <ul style="list-style-type: none"> <li>• Effective management can reduce symptom severity and improve quality of life</li> <li>• Presenting symptoms may be vague</li> <li>• Exclude tumour recurrence or DVT if acute onset or exacerbation</li> <li>• Good skin care is essential</li> <li>• Specialised lymphoedema treatment is available</li> <li>• Skin infections require urgent treatment</li> <li>• Education to support self-management is vital</li> </ul>	<p>Intervene early and use team approach to support you and the patient in their care.</p>
<p><b>Slide 31</b></p>  <p><b>Web-based resources</b></p> <ul style="list-style-type: none"> <li>• <a href="http://www.nbocc.org.au">www.nbocc.org.au</a></li> <li>• <a href="http://www.lymphology.asn.au">www.lymphology.asn.au</a></li> <li>• <a href="http://www.cancerbackup.org.uk">www.cancerbackup.org.uk</a></li> </ul>	<p><b>References</b></p> <ol style="list-style-type: none"> <li>1. National Breast and Ovarian Cancer Centre. <i>Review of research evidence on secondary lymphoedema: incidence, prevention, risk factors and treatment</i>, 2008</li> <li>2. Gill PG, GebSKI V, Wetzig N, Ung O, Campbell I, Collins J, Sourjina T, Coskinas X, Stockler M, Simes RJ. <i>Sentinel node (SN) based management causes less arm swelling and better quality of life than routine axillary clearance (AC): 1 year outcomes of the SNAC trial</i>. Royal Australasian College of Surgeons, Australia; University of Sydney, Australia (Abstract presented at the San Antonio Breast Cancer Symposium 2006)</li> <li>3. Australasian Lymphology Association Standards Committee. <i>Setting a National Standard for Measurement of Lymphoedematous Limb</i>, 2004</li> <li>4. <i>Best Practice for the Management of Lymphoedema. International consensus</i>. London: MEP Ltd, 2006</li> <li>5. <i>Therapeutic Guidelines: Antibiotic</i>, 2006. Version 13:274-277</li> </ol>
<p><b>Slide 32</b></p>  <p><b>Resource list</b></p> <p><b>Health professionals</b></p> <ul style="list-style-type: none"> <li>• <i>The management of secondary lymphoedema: a guide for health professionals</i></li> <li>• <i>The management of secondary lymphoedema: workshop module for health professionals</i></li> <li>• <i>Secondary lymphoedema: workshop module for Indigenous health professionals</i></li> </ul> <p>Phone NBOCC: 1800 624 973</p>	
<p><b>Slide 33</b></p>  <p><b>Resource list</b></p> <p><b>Consumers</b></p> <ul style="list-style-type: none"> <li>• Consumer leaflet and booklet about secondary lymphoedema (also available in Arabic, Chinese, Greek, Italian, Vietnamese)</li> <li>• Information pamphlet for Aboriginal and Torres Strait Islander consumers</li> </ul> <p>Phone NBOCC: 1800 624 973</p>	

# RESOURCES

**National Breast and Ovarian Cancer Centre publications available at [www.nbocc.org.au](http://www.nbocc.org.au):**

## ***Resources for health professionals***

- *Review of research evidence on secondary lymphoedema: Incidence, prevention, risk factors and treatment (2008) Online only*
- *The management of secondary lymphoedema: a guide for health professionals (2008)*
- *Secondary lymphoedema: workshop module for health professionals (2008)*
- *Secondary lymphoedema: workshop module for Indigenous health workers (2008)*
- *Clinical practice guidelines for the psychosocial care of adults with cancer (2003)*
- *Clinical practice guidelines for the psychosocial care of adults with cancer: a summary guide for health professionals (2003)*

## ***Resources for consumers***

- *Understanding lymphoedema (2008)*
- *Lymphoedema – what you need to know (2008)*

These consumer resources have also been translated into five languages (Arabic, Chinese, Greek, Italian and Vietnamese) and specifically tailored into a culturally appropriate version for Aboriginal and Torres Strait Islander people

- *Cancer – how are you travelling? (2007)*

# REFERENCES

1. National Breast and Ovarian Cancer Centre. *Review of research evidence on secondary lymphoedema: incidence, prevention, risk factors and treatment*, 2008
2. Gill PG, GebSKI V, Wetzig N, Ung O, Campbell I, Collins J, Sourjina T, Coskinas X, Stockler M, Simes RJ. *Sentinel node (SN) based management causes less arm swelling and better quality of life than routine axillary clearance (AC): 1 year outcomes of the SNAC trial*. Royal Australasian College of Surgeons, Australia; University of Sydney, Australia (Abstract presented at the San Antonio Breast Cancer Symposium 2006)
3. Australasian Lymphology Association Standards Committee. *Setting a National Standard for Measurement of Lymphoedematous Limb*, 2004
4. *Best Practice for the Management of Lymphoedema. International consensus*. London: MEP Ltd, 2006
5. *Therapeutic Guidelines: Antibiotic*, 2006. Version 13:274-277

Insert Division  
Logo



# THE MANAGEMENT OF SECONDARY LYMPHOEDEMA

Presented by <insert Division>

The workshop will be presented by <insert presenter's name and  
biography details if applicable>

The workshop will utilise interactive case studies to assist participants to:

- be aware of the incidence of secondary lymphoedema in Australia
- understand the risk factors associated with secondary lymphoedema
- identify prevention and treatment strategies for secondary lymphoedema
- be aware of clinical guides and other resources that can assist with the early identification and management of secondary lymphoedema.

**WHEN:** <Dates>  
**WHERE:** <Location>  
**TIME:** <Start/finish time>

**Refreshments** <If being held>

**Contact person** <Name, Phone, fax, e-mail>

To register, please fax this page to <fax number>

Registrations close <insert date>

Name

---

Occupation

---

Organisation

---

Address

P/Code

---

Telephone

Facsimile

---

E-mail

---

Insert  
Division Logo



# THE MANAGEMENT OF SECONDARY LYMPHOEDEMA

## Workshop agenda

<insert date>

**Presented by**

<insert name> (General Practitioner)

<insert name> (Lymphoedema Practitioner)

Start	Session	Presented by
10 min	Registration Refreshments	Division Representative
20 min presentation + 15 mins discussion per case study	<ul style="list-style-type: none"> <li>• Welcome and introduction</li> <li>• The incidence of secondary lymphoedema in Australia</li> <li>• Risk factors</li> <li>• Discussion: Case Study 1               <ul style="list-style-type: none"> <li>○ Upper limb lymphoedema following treatment for breast cancer</li> </ul> </li> <li>• Early signs and symptoms of secondary lymphoedema</li> <li>• Management of secondary lymphoedema</li> <li>• Discussion: Case Study 2               <ul style="list-style-type: none"> <li>○ Lower limb lymphoedema following treatment for melanoma</li> </ul> </li> </ul>	General Practitioner Lymphoedema Practitioner
10 mins	Summary Evaluation	General Practitioner Lymphoedema Practitioner
5 min	<b>Close</b>	Division Representative

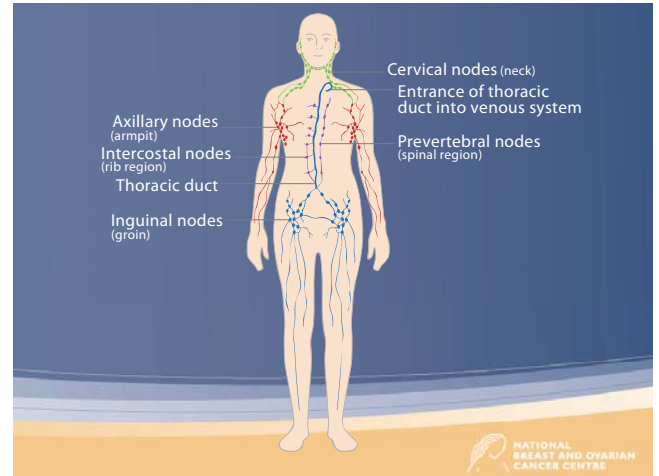
## THE MANAGEMENT OF SECONDARY LYMPHOEDEMA: workshop module for health professional

### Key messages

- Effective management can reduce symptom severity and improve quality of life
- Presenting symptoms may be vague
- Exclude tumour recurrence or DVT if acute onset or exacerbation
- Good skin care is essential
- Specialised lymphoedema treatment is available
- Skin infections require urgent treatment
- Education to support self-management is vital

### Definition

- **Lymphoedema:** the regional accumulation of excessive amounts of protein-rich fluid in the body tissue causing swelling
- **Secondary lymphoedema** may occur following treatment for cancer, including surgery or radiotherapy if the lymphatic system is damaged



### Incidence

Approximately 20% of survivors treated for:

- breast
- gynaecological
- genito-urinary cancers or
- melanoma

will experience secondary lymphoedema



Courtesy *The Australian*



Source: Royal Adelaide Hospital

Patients treated for vulval cancer may experience higher incidence of lymphoedema

Secondary lymphoedema can develop at any time following cancer treatment

70-80% of breast cancer patients present within the first 12 months

## Key risk factors

- Extent of surgery and whether lymph node dissection is performed
- Radiation therapy
- Trauma
- Infection
- Body mass index
- Immobility

## Early warning signs

May be vague and intermittent and include:

- Feelings of heaviness
- Aching, pain or tension
- Tightness or fullness
- Clothing, shoes or jewellery feeling tighter
- Transient swelling

## Case 1: Jenny

- 52 year old bank clerk
- Recently diagnosed with breast cancer
- Attends her breast surgeon to discuss treatment options
- Co-worker has lymphoedema

## Breast cancer treatment options and reducing risk

- Sentinel lymph node biopsy versus axillary node clearance reduces incidence to <5%
- Resuming normal activity after surgery
- Avoid treatment of axilla with *both* surgery and radiotherapy whenever possible



Courtesy Dragons Abreast Australia

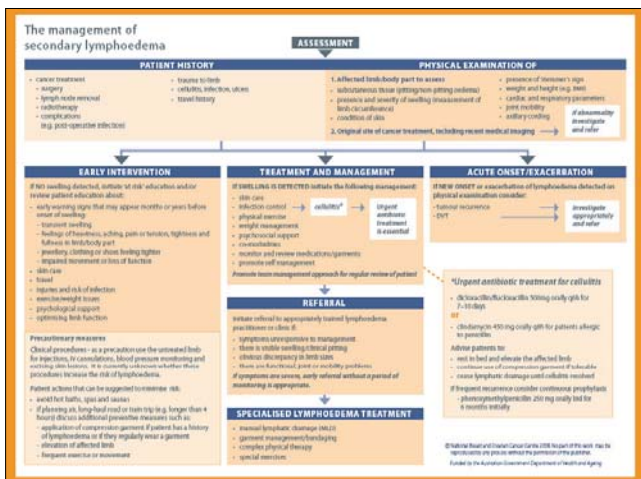


## Principles of management

- Exclude tumour recurrence
- Prompt treatment of skin infection
- Exercise
- Skin care
- Weight management
- Consider referral to a lymphoedema practitioner
- Arrange to review Jenny in one month

## Indications for referral for specialist treatment

- Symptoms unresponsive to initial management
- Visible swelling and/or clinical pitting
- Obvious discrepancy in limb sizes
- Patient experiences functional, joint or mobility problems



## Case 2: Alan

- 59 year old school bus driver
- Melanoma surgery including inguinal node clearance 12 months ago
- Current medications: Felodipine (Plendil ER) and Atorvastatin (Lipitor) once daily
- Presents with sudden onset lymphoedema in left lower limb associated with cellulitis

## Medications which may exacerbate lymphoedema

- Calcium channel blockers
- Non-steroidal anti-inflammatory agents
- Hormone replacement therapy
- Corticosteroids
- Oral hypoglycaemic agents (glitazones)

## Initial management

- Exclude tumour recurrence, DVT
- Urgent antibiotic therapy
- Bed rest and elevation of limb

## Alan

Review appointment 2 weeks later:

- Cellulitis resolved
- Discrepancy of 5cm at the mid-calf
- Positive Stemmer sign on left
- Ingrown toenails
- Mild tinea

## Lymphoedema management

- Skin and foot care
- Weight management/exercise
- Elevate and exercise affected leg
- Referral for MLD/ compression therapy
- Self-management education
- Psychosocial support
- Review medications

## Alan

Alan presents 3 months later with cellulitis and exacerbation of his lymphoedema

What further management can you offer Alan?

## Ongoing management

- Prophylactic antibiotic therapy  
Phenoxymethylpenicillin 250mg bd for 6 months initially
- Review of foot care and skin care
- Consider relevant EPC items including Care Plan to support team approach

## Other therapies

- Laser therapy
- Pneumatic pumps
- Surgery:
  - liposuction
  - lymphatic reconstruction
- Pharmacological therapy
- Alternative therapies

## Key messages

- Effective management can reduce symptom severity and improve quality of life
- Presenting symptoms may be vague
- Exclude tumour recurrence or DVT if acute onset or exacerbation
- Good skin care is essential
- Specialised lymphoedema treatment is available
- Skin infections require urgent treatment
- Education to support self-management is vital

## Web-based resources

- [www.nbocc.org.au](http://www.nbocc.org.au)
- [www.lymphology.asn.au](http://www.lymphology.asn.au)
- [www.cancerbackup.org.uk](http://www.cancerbackup.org.uk)



## Resource list

### Health professionals

- *The management of secondary lymphoedema: a guide for health professionals*
- Workshop resource
- Aboriginal and Torres Strait Islander health professionals training resource

Phone NBOCC: 1800 624 973



## Resource list

### Consumers

- Consumer leaflet and booklet about secondary lymphoedema (also available in Arabic, Chinese, Greek, Italian, Vietnamese)
- Information pamphlet for Aboriginal and Torres Strait Islander consumers

Phone NBOCC: 1800 624 973



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# THE MANAGEMENT OF SECONDARY LYMPHOEDEMA

## Workshop evaluation

Provider:

Date of Activity:

Venue:

Q1 Please rate the presenters and their delivery style:	1 Poor	2 Adequate	3 Good	4 Excellent
Speaker 1 <insert name>				
Speaker 2 <insert name>				
Q2 Please rate the following aspects of the workshop:				
Overall quality				
Opportunity to ask questions				
Opportunity to interact				

Please rate the following:	Agree	Disagree	Not applicable
Q3 The workshop increased my knowledge of the incidence of secondary lymphoedema in Australia.			
Q4 The workshop increased my understanding of the risk factors associated with secondary lymphoedema.			
Q5 The workshop increased my knowledge of prevention and treatment strategies for secondary lymphoedema.			
Q6 The workshop increased my awareness of clinical guides and consumer resources that can be used to assist in the early identification and management of secondary lymphoedema.			
Q7 I now understand the benefits of using a systems approach in the management of secondary lymphoedema.			

Q8 Please rate to what degree your learning needs were met:  
 Not met       Partially met       Entirely met

Q9 Please rate to what degree this activity is relevant to your practice:  
 Not relevant       Partially relevant       Entirely relevant

Q10 Comments:

Evaluation completed by **GP** **Nurse** **Other (please circle)**

*Thank you for taking the time to complete this evaluation.*

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NATIONAL BREAST  
AND OVARIAN  
CANCER CENTRE

*This is to certify that:*

<insert GPs full name>

*attended*

## THE MANAGEMENT OF SECONDARY LYMPHOEDEMA

*presented by*

<speaker/s>

*on*

<insert date and duration>

<organisation head signature>

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<organisation head>

# APPENDIX

## **Membership of the Secondary Lymphoedema Initiative Steering Committee:**

- Ms Rebecca James (Chair)
- Ms Andrena Doyle
- Associate Professor Jacinta Elston
- Ms Margaret Ford
- Ms Anne Holmes
- Mr Jim Kollias
- Dr Ronald McCoy
- Ms Julie Middleton
- Ms Maree O'Connor
- Dr Selvan Pather
- Dr Sue Pendlebury
- Professor Neil Piller
- Ms Kerryn Shanley (Proxy)
- Dr Kerwin Shannon
- Dr David Speakman
- Ms Di Wyatt (Proxy)
- Professor Patsy Yates

## **Membership of the Health Professional Working Group:**

- Associate Professor Margaret Davy (Chair)
- Ms Jane Fletcher
- Ms Tish Lancaster
- Dr Katrina Read
- Ms Hildegard Reul-Hirche
- Mr Andrew Spillane
- Dr Yvonne Zwar



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