Compression garment selection, fitting and monitoring education resource

Component 1: Self guided learning package workbook

Version 4.0 June 2014
Compression garment selection, fitting and monitoring education resource
Component 1: Self guided learning package workbook

Published by the State of Queensland (Queensland Health),
Version Draft 4.0 June 2014

This document is licensed under a Creative Commons Attribution 3.0 Australia licence.
To view a copy of this licence, visitcreativecommons.org/licenses/by/3.0/au

© State of Queensland (Queensland Health) 2014

For more information contact:
Allied Health Professions' Office of Queensland, Department of Health, GPO Box 2368,
Fortitude Valley QLD 4006, email Allied_Health_Advisory@health.qld.gov.au phone 07 3328 9298..

An electronic version of this document is available at

Disclaimer:
The content presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations or warranties about the accuracy, completeness or reliability of any information contained in this publication. The State of Queensland disclaims all responsibility and all liability (including without limitation for liability in negligence) for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason reliance was placed on such information.
Contents

1. Introduction to self guided learning package Workbook............................ 1
   1.1 Background ...................................................................................... 1
   1.2 Purpose ............................................................................................ 1
   1.3 How to use this book ........................................................................ 1
   1.4 Mind Mapping as a Learning Tool...................................................... 1
2. Module 1: Overview of lymphatic system & lymphoedema .................... 4
   2.1 Intended learning outcomes............................................................. 4
3. Module 2: Assessment of lymphoedema .............................................. 7
   3.1 Intended Learning Outcomes............................................................. 7
   3.2 CASE STUDY 1: HENRY ................................................................. 10
4. Module 3: Management of lymphoedema .......................................... 11
   4.1 Intended Learning Outcomes............................................................. 11
5. Module 4: Compression therapy and garments .................................... 18
   5.1 Intended Learning Outcomes............................................................. 18
6. Case Studies ......................................................................................... 23
   6.1 CASE STUDY: HELEN ................................................................. 23
   6.2 CASE STUDY: JOYCE ................................................................. 25
7. CASE STUDY: JACK ............................................................................ 27
8. GARMENT SELECTION CASE STUDIES ...................................... 28
   8.1 Which garments would suit these patients? ...................................... 28
      8.1.1 CASE 1 ..................................................................................... 28
      8.1.2 CASE 2 ..................................................................................... 29
      8.1.3 CASE 3 ..................................................................................... 30

Figures

Figure 1 Example of mind map showing Edward de Bono’s 6 hats. The use of colour is strongly encouraged in drawing mind maps................................. 3
1. Introduction to self guided learning package workbook

1.1 Background

This workbook accompanies the self guided learning package for therapists engaged in the Compression Garment Selection, Fitting and Monitoring Redesign Trial. The workbook contains the activities outlined in each of the 4 modules of the learning package.

1.2 Purpose

This workbook acknowledges that many therapists have a wealth of existing knowledge in this area. The learning activities in this workbook are designed to assist the therapist to reflect on their existing knowledge and integrate any new information that might be presented.

The completed workbook will also be used as a starting point for the period of supported practice (Component 2 of the package).

1.3 How to use this book

This book is designed to be used in conjunction with the self guided learning package. As you work through the package you will be asked to complete certain activities. These are to be completed in this work book.

1.4 Mind mapping as a learning tool

Throughout this learning package you will be encouraged to use mind maps for your written activities. Mind maps can be hand drawn or drawn using computer software (see link to free software at end of this section).

Meaningful learning is about assisting individuals to relate new knowledge to relevant existing knowledge they already have. Mind maps are an attempt to ascertain what the learner knows and bring this to the forefront. New knowledge is then provided and the organisation of new knowledge into the learners existing knowledge is facilitated. The mind map provides a visual road map of how ones knowledge is organised.

Mind mapping (or concept mapping) involves writing down a central idea and thinking up new and related ideas which radiate out from the centre. Mapping information in this way helps to identify key ideas and connections between these ideas. Mind maps are tools to assist in understanding and remembering information.
The following process is recommended if you wish to use mind-mapping to assist your learning:

1. At the start of each module take an initial brief look at the presentation, readings and/or resources. Do not review the material in depth, and then put it away. Now start your mapping task.
   For each topic
   • Brainstorm anything you know about the topic. Write these down without worrying about order or category.
   • Once you have exhausted the information decide which items can be grouped together in some logical manner. You may like to place them in categories and number them category 1, category 2 etc.
   • Next label these groups with a heading which describes the category and transfer them to a new page with groupings according to their relationship to each other. If a clear hierarchy exists then place groupings from top to bottom.
   • Finish by drawing arrows between the groups to depict the relationship between the groupings – they may be uni-directional or bi-directional arrows.

2. Once you have completed this task it is time to listen to the audio with the PowerPoint and read the readings.

3. After you have finished the module construct a second mind map which illustrates the integration of the new information into your existing knowledge on that topic.

Mind maps have been around in many forms from the 1970s. Early exponents were Tony Buzan and Edward de Bono. Tony Buzan’s work identified the usefulness of this tool to solve problems and demonstrate the multiplicity of information, knowledge and skills that any one person, or a group or team may generate. Edward de Bono has developed the use of coloured “hats” as a way to help an individual identify what information they have or may know about a topic but which initially is hidden or constrained.

WHITE HAT
These are the facts of the matter. It is what is known or needs to be known. Are there still gaps in this area?

BLACK HAT
This hat links to difficulties, the risk of problems or accidents or adverse events or even a barrier.

RED HAT
The self in so much as it looks a how one feels, likes, dislikes or fears about a topic.
BLUE HAT
Consider the priorities, depth or resources required to manage this condition.

YELLOW HAT
Consider the new ideas and how they can be incorporated into your practice.

GREEN HAT
Consider the new information creatively, this is important for new directions or for seeing potential in areas of work which may in the normal way, not be considered.

**Figure 1**  Example of mind map showing Edward de Bono’s 6 hats. The use of colour is strongly encouraged in drawing mind maps.

There are many more examples of mind maps on the internet (search for mind map images).

There is free software available at [http://mindmapfree.com/](http://mindmapfree.com/) to assist you in developing your mind map.

For more information see the following links:

[Mind Mapping Resource Link](http://mindmapfree.com/)

[mindwerx.com](http://mindwerx.com)

[How To Mind Map](http://mindwerx.com)
Module 1: Overview of lymphatic system & lymphoedema

1.2 Intended learning outcomes

At the end of this module, you will be able to:

- Describe the basic anatomy and physiology of the lymphatic system
- Identify risk factors for malignancy related lymphoedema and the grade of lymphoedema
- Identify the functional and psychosocial impact of malignancy related lymphoedema

Activity 1: Draw a mind map to illustrate what you know about the lymphatic system & lymphoedema.

Activity 2: Following your review of the module learning resources, write down a summary of key information that you have identified about the lymphatic system. You can use your mind map to do this.
Activity 3: Consider the following scenario and write responses to the questions.

You are a generalist therapist working in a small rural town. The local CWA are going to have a ‘Biggest Morning Tea’ event and have invited you to come and speak. They have asked that you specifically talk about what lymphoedema is, what causes it and how people can tell if they are developing lymphoedema.

Plan the main points of your talk either using a mind map or by writing a summary of the main points you will include in your talk.
**Activity 4:** From your reading, what are some of the main issues that people with lymphoedema have to deal with on a day to day basis?

In your own practice, what have patients/consumers told you about living with lymphoedema?

**Activity 5:** Draw a mind map for each of the following questions:

What is the lymphatic system and how does it work?
What are the types, risk factors and stages of lymphoedema?
How does having lymphoedema impact on everyday life?
2. Module 2: Assessment of lymphoedema

2.1 Intended learning outcomes

At the end of this module, you will be able to:

- Describe the components of a comprehensive assessment of a client with lymphoedema
- Outline the roles of the generalist and lymphoedema therapists within the assessment process
- Identify signs of the clinical presentation of lymphoedema
- Classify the clinical presentation of lymphoedema into stages/grades
- Measure and monitor stable malignancy related lymphoedema

**Activity 1:** Draw a mind map to illustrate what you know about diagnosis, assessment and monitoring of lymphoedema.
Activity 2: Consider the following scenario:

You have been referred a patient/consumer who has been in a large metropolitan health service for cancer treatment. She has returned to her home town in a rural area and has stabilised lymphoedema of her (L) arm.

- Outline the main topics/areas that you will cover in your initial appointment with her. You can use a mind map for this activity.

- Now look at the lymphoedema assessment form found in appendix 1. What are the similarities and differences between this form and your assessment plan? Are there areas not included on the form that you will include in your assessment? Are there any areas that you have missed that are included in the form?
**Activity 3:** With a colleague, perform circumferential measurements as described in the ALA measuring standards document. Use the circumferential measurement form in Appendix 2 to record your measurements. Repeat the set of measurements three times to determine your accuracy.

**Activity 4:** Plan the referral pathway that you will use if you need to refer onto a lymphoedema therapist. Consider the following aspects:

- Who are the lymphoedema therapists in your local area?
- Where is your closest tertiary lymphoedema centre?
- How you will make the referral (what format will you use)?
- What information will be required for the referral?
- Are there any specific forms or requirements at a local level?

Can you develop a flow chart that reflects this below?
2.2 CASE STUDY 1: HENRY

Henry is a 72 y.o. male, who lives at home in a small rural town. He lives alone. He was admitted to the local hospital with recurrent cellulitis LL.

Past Medical Hx:
- hypertension, osteoporosis, type II DM, hypercholesterolaemia

Past Surgical Hx:
- # L) NOF 2007, melanoma left leg 2008, inguinal lymph node dissection 2009, CABG x 3 2005, MVA 2001 with # R) tibia

Medications: Lipitor, Cardaprin, Diuretics

He presents with thickened but low volume left leg swelling. He has not had any previous oedema management.

- What risk factors does Henry have for the development of oedema?

- What risk factors does Henry have for the development of lymphoedema?

- What steps would you take to determine the cause of Henrys’ oedema? Include the resources you might need and the members of the health team you would involve.
3. Module 3: Management of lymphoedema

3.1 Intended learning outcomes

At the end of this module, you will be able to:

- Describe the full scope of malignancy related lymphoedema management
- Outline the scope of practice for generalist therapists in the management of malignancy related lymphoedema
- Identify contraindications and precautions to compression therapy
- Develop appropriate self-management plans with clients with malignancy related lymphoedema, including the use of compression garments, risk reduction strategies, skin care and exercise advice.

Activity 1: Draw a mind map to illustrate what you know about the management of lymphoedema.
**Activity 2:** In the table below, list the absolute contraindications and precautions for compression and the possible implications of applying compression in the presence of these conditions.

<table>
<thead>
<tr>
<th>Contraindications and Precautions</th>
<th>Potential consequence of compression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 3: Consider the following scenario and write your responses below.

You have a long standing client who has stable lymphoedema and wears a compression garment as part of her long term management. She reports she is intending to travel to see family in Canada, and will also be traveling throughout Alaska on a holiday. She has asked you to provide a written list of ways she can best manage her lymphoedema while traveling.

Compile instructions for her for her holiday to reduce the risk of exacerbating her lymphoedema while she is traveling and away from home.

• How would your advice differ if it was her upper limb rather than her lower limb?
Activity 4: Write answers to the following questions below. You can use mind maps if you prefer.

- A client with stable lymphoedema wants to start exercising. They ask you for advice about the benefits of exercising if there are any types of exercise that are better than others for lymphoedema. What advice do you give?

- They ask should they wear their compression garment when exercising? What advice do you give?

Activity 5: Write answers to the following questions below.

- What skin care advice would you provide for a person with lymphoedema?

- How would you explain cellulitis to a patient/consumer?

- What signs should you or a patient/consumer look for if they thought they may have cellulitis?

- What advice would you give to that person if you thought they may be developing cellulitis?
Activity 6: The pictures below are from the Module 3 PowerPoint slides. Match the condition and the picture. There are more than one image of some conditions.

A: Cellulitis  B: Metastatic disease  C: Radiotherapy damage
D: Collateral veins  E: Folliculitis
4. **Module 4: Compression therapy and garments**

4.1 **Intended learning outcomes**

At the end of this module, you will be able to:

- Explain the purpose of compression therapy
- Describe, compare and contrast the range and characteristics of compression garments available
- Apply knowledge to select and order a compression garment for a patient with malignancy-related lymphoedema
- Evaluate the fit of a compression garment
- Decide on appropriate donning and doffing methods and equipment and use of other accessories
- Develop an education and follow up plan for use, care and replacement of compression therapy garments

**Activity 1:** Draw a mind map to illustrate what you know about compression therapy and compression garments.
**Activity 2:** Write down your response to the following situation.

You are seeing a client with stable lymphoedema who is due for replacement of compression garments. He asks you why they have to be so tight. How would you answer him?

**Activity 3:** Your resource kit contains measurement forms and fabric swatches to provide additional information about all garments available on SOA742. Use the compression garment guides in your resource kit to identify:

- A circular knit class 2 below knee garment from Sigvaris
- A flat knit class 2 below knee garment from Smith and Nephew

**Activity 4:** Write responses to the following questions.

1. Describe the primary aim of compression garment use for a person with stable lymphoedema.

2. During which phase of lymphoedema management are compression garments most commonly used as the primary treatment modality?
3. Under what circumstances is it appropriate to use compression garments during the initial management phase?

4. Describe the characteristics of a limb suitable for fitting with a compression garment.

5. When is the best time to measure for a compression garment in terms of lymphoedema volume, time of day and stability of lymphoedema?

6. When considering if a person will successfully use a compression garment that you want to prescribe, what aspects do you need to consider?

7. Do all class 2 compression garments have the same compression value (mmHg)? Why/ why not?

8. Compare the recommended levels of compression for upper & lower limbs. What differences do you see? What are the reasons for different levels of compression between upper & lower limbs?
9. Populate the table in your work book with the appropriate manufacturing technique. When complete, each column in the table should have cut and sew, circle knit and flat knit listed.

<table>
<thead>
<tr>
<th></th>
<th>Lowest</th>
<th>Mid</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of fabric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to bridge skin folds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to accommodate shape distortion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elasticity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Activity 5**: Write responses to the following questions. You can use a mind map to demonstrate your answers.

- You have placed an order for a compression garment and the patient/consumer asks you to post it out to them when it arrives. What response do you give to their request?

- A patient/consumer asks why it is necessary to wash the garments so regularly. What is your response?

- You have just provided a compression garment to a new patient/consumer with stable lymphoedema.
  - What are the key points you will take note of at the initial fitting?
- What are the key factors you will go through about the use of their new garment?

- What is your follow up plan (frequency/mode) for this person?

- What key questions are you going to ask them when you contact them for follow up?

- Is they are wearing their garment daily, what timeframe should they consider for garment replacement?

- When you see this person again in 6 months, they have had a significant increase in lymphoedema even though they are wearing their garment daily. What strategies/plan of action do you consider?
5. Case studies

The following case studies are designed to provide you with the opportunity to apply and consolidate the information presented in this learning package. They can also be used as the basis for discussion/clarification during the Supported Practice meetings.

5.1 CASE STUDY: HELEN

Helen is 55 years old and works part time in a child care centre in a fairly large regional town. She lives with her husband Ben and has 2 adult children, the youngest living at home.

Medical History

- 5 years ago Helen was diagnosed with breast cancer and underwent axillary lymph node dissection and radiotherapy.
- She developed malignancy related (L) upper limb (non-dominant) lymphoedema which has been stable for the past 3 years.
- She reports that her (L) arm aches and feels heavy most days.

Assessment information

- Sum of arm circumference (SOAC) – L > R 12.5 cm
- Texture: Non-pitting soft swelling throughout upper arm with small area of pitting proximal forearm
- Lymphoedema stage classification - ISL Stage 2
- BMI 35 (Obesity classification)

1. What are the characteristics of Stage 2 lymphoedema?

2. What is Helen' self management plan likely to involve?
3. Provide details of the type of compression garment you might consider appropriate for Helen.

- Type of fabric?

- Style of garment?

- Level of compression?
5.2 CASE STUDY: JOYCE

Joyce is a 68 year old widow who lives in a small rural town about a 1 hour drive from a larger regional centre. She has lived in this town for a number of years and has a strong social network. She is a pensioner and has family (a son) who lives close by and helps keep her yard and garden in order. Joyce is able to manage all of her self-care and household tasks. She drives to access her many social events.

Medical History

• Left dominant and left sided breast cancer with axillary lymph node dissection about 2 years ago.

Current presentation

• Swelling present past 18 months
• Responds completely to elevation overnight then re-accumulates throughout the day to feel heavy and aching
• Location: hand, forearm
• Texture: Soft, fluctuant, non-pitting oedema
• SOAC L>R 6cm
• ISL stage: 1

Questions for discussion:

1. What are the characteristics for Stage 1 lymphoedema?

2. Provide details of the type of compression garment you might consider appropriate for Joyce.
   • Type of fabric?
   • Style of garment?
3. What other intervention are you going to provide to Joyce?

- Level of compression?
6. CASE STUDY: JACK

Jack is a 60 year old man who recently retired having worked for most of his life running his own business. He lives with his wife Rona in a large regional city. They spend much of the winter traveling with their caravan around Australia but usually spend the summer months at home near their family.

Medical History

- Melanoma left calf with inguinal lymph node dissection and radiotherapy 3 years ago

Current presentation

- Malignancy-related lymphoedema past 2 years
  - Heavy, aching leg
  - Limits mobility
  - Texture: Mild thickening, adipose proliferation
  - ISL Stage: 2
- Wears compression garment some days but finds it uncomfortable

Questions for discussion:

1. What are the characteristics for Stage 2 lymphoedema?

2. Provide details of the type of compression garment you might consider appropriate for Jack.
   
   - Type of fabric?
   
   - Style of garment?
   
   - Level of compression?
7. GARMENT SELECTION CASE STUDIES

7.1 Which garments would suit these patients?

7.1.1 CASE 1

- 50 year old female
- R) WLE & ALND 0/7 -ve & XRT to breast 1 year ago
- Subjective - heaviness in upper arm, ache in forearm
- Objective - mild soft oedema distal upper arm and proximal forearm, No finger/hand oedema
- Left handed
- BMI 24

<table>
<thead>
<tr>
<th></th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCP</td>
<td>19.0</td>
<td>19.4</td>
</tr>
<tr>
<td>Mid P</td>
<td>19.0</td>
<td>19.7</td>
</tr>
<tr>
<td>0</td>
<td>15.8</td>
<td>16.0</td>
</tr>
<tr>
<td>10</td>
<td>20.4</td>
<td>19.7</td>
</tr>
<tr>
<td>20</td>
<td>24.9</td>
<td>25.0</td>
</tr>
<tr>
<td>30</td>
<td>25.1</td>
<td>25.5</td>
</tr>
<tr>
<td>40</td>
<td>30.1</td>
<td>32.0</td>
</tr>
<tr>
<td>SOAC</td>
<td>154.3</td>
<td>157.3</td>
</tr>
</tbody>
</table>
7.1.2 CASE 2

- 55 year old female
- BMI 28; Right handed
- Melanoma right upper trapezius
- WLE right arm & ALND 1/32
- XRT 48 Gy 20# to R axilla
- History of bilateral frozen shoulders
- Soft non pitting oedema right forearm and hand

<table>
<thead>
<tr>
<th></th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCP</td>
<td>22.9</td>
<td>21.7</td>
</tr>
<tr>
<td>Mid P</td>
<td>19.0</td>
<td>18.5</td>
</tr>
<tr>
<td>0</td>
<td>19.2</td>
<td>17.6</td>
</tr>
<tr>
<td>10</td>
<td>24.3</td>
<td>22.0</td>
</tr>
<tr>
<td>20</td>
<td>30.4</td>
<td>28.2</td>
</tr>
<tr>
<td>30</td>
<td>37.2</td>
<td>36.5</td>
</tr>
<tr>
<td>40</td>
<td>40.1</td>
<td>40.3</td>
</tr>
<tr>
<td>SOAC</td>
<td>193.1</td>
<td>184.8</td>
</tr>
<tr>
<td>Length</td>
<td>43cm</td>
<td></td>
</tr>
</tbody>
</table>
7.1.3 CASE 3

- Myxoid Sarcoma 2007
- Radiation L) thigh 2008 30# 60Gy
- Occupation: Chef
- Other: on feet long hours, allergic to silicone
- Oedema presentation: oedema calf and ankle when working, nil oedema upper leg

<table>
<thead>
<tr>
<th></th>
<th>left</th>
<th>right</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTP</td>
<td>23.2</td>
<td>23.1</td>
</tr>
<tr>
<td>TMT</td>
<td>24.5</td>
<td>24.5</td>
</tr>
<tr>
<td>DAC</td>
<td>33.0</td>
<td>32.3</td>
</tr>
<tr>
<td>10</td>
<td>27.1</td>
<td>25.6</td>
</tr>
<tr>
<td>20</td>
<td>28.9</td>
<td>27.5</td>
</tr>
<tr>
<td>30</td>
<td>40.9</td>
<td>38.6</td>
</tr>
<tr>
<td>40</td>
<td>33.5</td>
<td>33.5</td>
</tr>
<tr>
<td>50</td>
<td>36.1</td>
<td>37.5</td>
</tr>
<tr>
<td>60</td>
<td>39.5</td>
<td>41.7</td>
</tr>
<tr>
<td>70</td>
<td>47.0</td>
<td>47.3</td>
</tr>
<tr>
<td>Sum</td>
<td>333.7</td>
<td>331.6</td>
</tr>
</tbody>
</table>