



LYMPHOEDEMA MANAGEMENT

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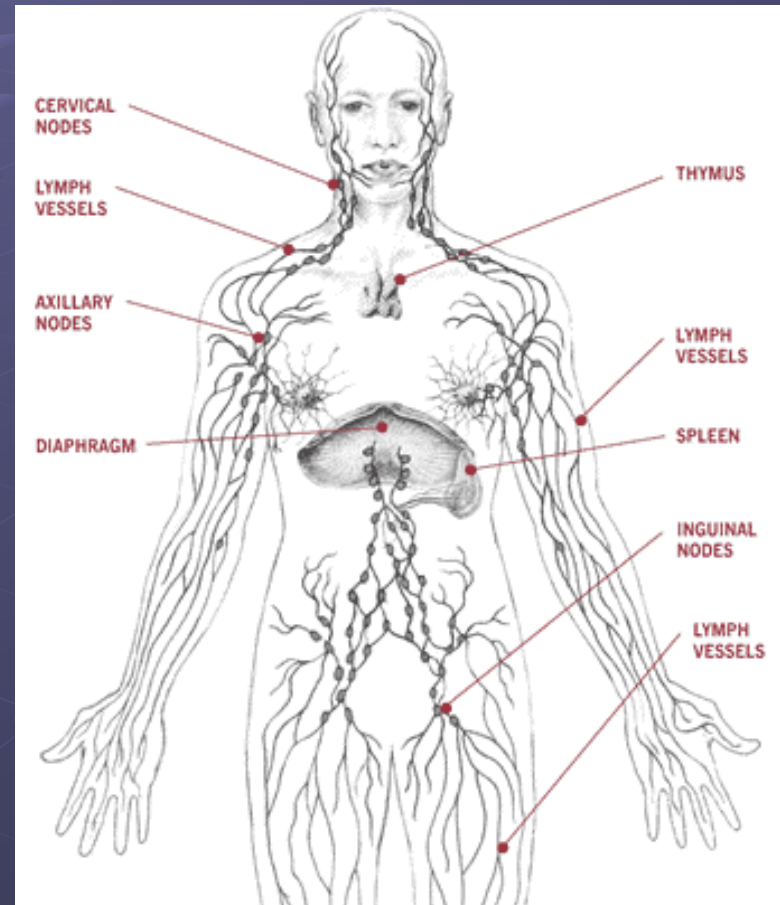
Perth
Integrated
Health Clinic

Demonstration



Lymphatic System

- Lymphatic capillaries → pre-collector vessels → collecting lymphatic vessels → lymph nodes
- One-way directional path
- Returns protein, colloids, and particulate matter to the systemic venous circulation
- Dependent on compressive forces along the lymphatics to propel the flow of the lymph forwards
- Unidirectional valves to prevent backwards movement of lymph fluid



Secondary Lymphoedema

- Reduction in lymphatic transport due to abnormalities in the regional drainage of the extremities
- Excessive regional accumulation of protein-rich interstitial fluid
- Develops as a consequence of acquired damage through lymphatic obstruction or lymphatic interruption:
 - Surgical disruption
 - Radiotherapy
 - Trauma
 - Conditions such as cancer & infection
- More common than primary lymphoedema

Pre Clinical Stage

- **Stage 0** (Subclinical state) has been added to the original three stages.
- Swelling is not evident despite impaired lymph transport.
- Stage may exist for many months or years before lymphoedema becomes evident.
- Time in which lymphoedema is most likely to respond to treatment
(Lymphology 36, 2003, p. 84-91)

Stages of Lymphoedema

● Stage 1 (*Spontaneously Reversible*)

- Swelling is soft to the touch and pitting occurs (when pressed by a finger the area indents and holds the indentation)
- Reduces at night
- Few skin changes present.
- Swelling can temporarily be reduced by elevation of limb; however swelling soon returns.
- *Stage 1 lymphedema can be managed with early treatment and often improves greatly.*

(Harris et al, 2001)

Stages of Lymphoedema

● Stage 2 (Spontaneously Irreversible)

- Accumulated fluid does not reduce on elevation.
- Tissues feel:
 - Firm, even hard / fibrotic
 - Non-pitting so that pressure leaves makes only a slight indentation.
- Frequent infections and skin problems occur
- Limb gradually increases in size as fluids accumulate.
- *Stage 2 lymphoedema can be improved with appropriate treatment.*

(Harris et al, 2001)



Stages of Lymphoedema

● Stage 3 (Lymphostatic elephantiasis)

- Swelling and tissue fibrosis cause skin to thicken and lose its normal elasticity.
- These changes can create folds of tissue that limit mobility and are disfiguring.
- Creases within these folds encourage formation of fungal infections and open wounds that are difficult to heal. *E.g. Cellulitis and ulcers*
- *Improvement with intense therapy and it can be prevented from becoming worse; however, it is rarely reversed to an earlier stage.*

(Harris et al, 2001)



LYMPHOEDEMA MANAGEMENT



BEFORE

AFTER

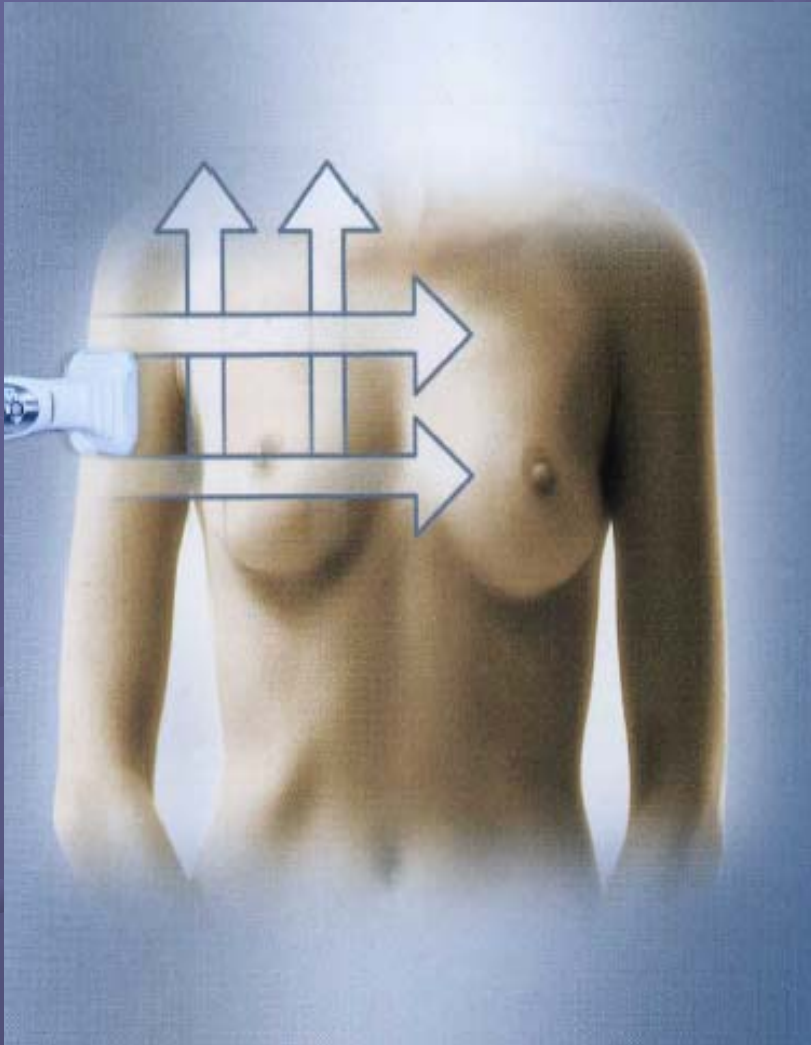
SCAR TISSUE MANAGEMENT



Scar Tissue Demonstration



KEY MODULE TREATMENT



FAQ Key Module Questions

● **Q. Is KEY MODULE new?**

● A. KEY MODULE was developed in 1986 for the treatment of burns and scars. Over 95,000 treatments are now performed every day in over 95 countries worldwide.

● **Q. What does a KEY MODULE treatment feel like?**

● A. KEY MODULE is a gentle, relaxing treatment that should not cause any pain. It is a non-invasive treatment that involves no medical procedures or use of any chemical substances, creams or gels.

FAQ Key Module Questions

- **Q. How many KEY MODULE treatments will it take to achieve the desired result?**
- A. KEY MODULE has a cumulative effect, whereby the connective tissue of the skin becomes healthier over time. An initial assessment of a client's condition will determine the likely number of treatments necessary to achieve the result they desire. Patients report definitive changes at varying stages though clinically it is best to have a minimum of 6 sessions for the results to manifest.
- **Q. How often do I need KEY MODULE treatments?**
- A. KEY MODULE treatments should be performed at least twice a week based on the clinical plan provided by your practitioner. KEY MODULE treatments should be spaced with two days in between treatments.

FAQ Key Module Questions

- **Does KEY MODULE work only on women?**

- A. The KEY MODULE treatment works equally effectively on men and because of the genetic composition of their connective tissue tend to see clinical results at a slightly more rapid rate.

- **Q. Do KEY MODULE treatments have any side effects?**

- A. KEY MODULE treatments may cause light headedness, head aches or nausea, in clients' who are dehydrated or who have low blood pressure. Always remember to drink between 5 to 7 standard glasses of water each day AND especially post treatment sessions. The majority of these sensations that are experienced reflect the level of toxins within the body and the desire for these toxins to be flushed out of the system.

FAQ Key Module Questions

- **What is the effective period after Key Module treatments?**
- A. The results of KEY MODULE treatments vary from person to person based on their specific clinical condition, demographics and activities of daily living. That coupled with a balanced healthy diet and balanced exercise considerations all contribute to a treatment plan that focuses on wellness rather than symptomatic based conditions.

FAQ Key Module Questions

- **Q. Has KEY MODULE been scientifically proven?**
- **A.** KEY MODULE achieved approval from the FDA in 1996 after numerous clinical trials proved its effectiveness. The studies conducted have proven KEY MODULE to increase vascular and lymphatic flow, boost fibroblast numbers and increase collagen production. There are more than 150 clinically proven scientific research undertaken on the Key Module and its multiple applications since its inception. The device is recognised in Australia as a Class II Medical device by the TGA.

FAQ Key Module Questions

- **Q. What are the different KEY MODULE treatments?**
- **A. Endermomedical (EM)**– Refers to the treatment of specific medically based conditions such as:
 - Oedema (fluid) treatment and management;
 - Lymphoedema control and management;
 - Fibromyalgia control and management
 - Myofascial conditions;
 - Neurological conditions affecting muscle tone;
 - Cerebral Vascular Accidents (CVA) or Stroke rehabilitation;
 - Cumulative trauma syndromes;
 - Chronic based soft tissue conditions.
- **Endermosports (ES)** – Refers to the treatment of sports related conditions and trauma such as:
 - Sprains and strains;
 - Tendon and ligament damage and repair;
 - Acute muscle trauma or spasming;

Key Module Principles

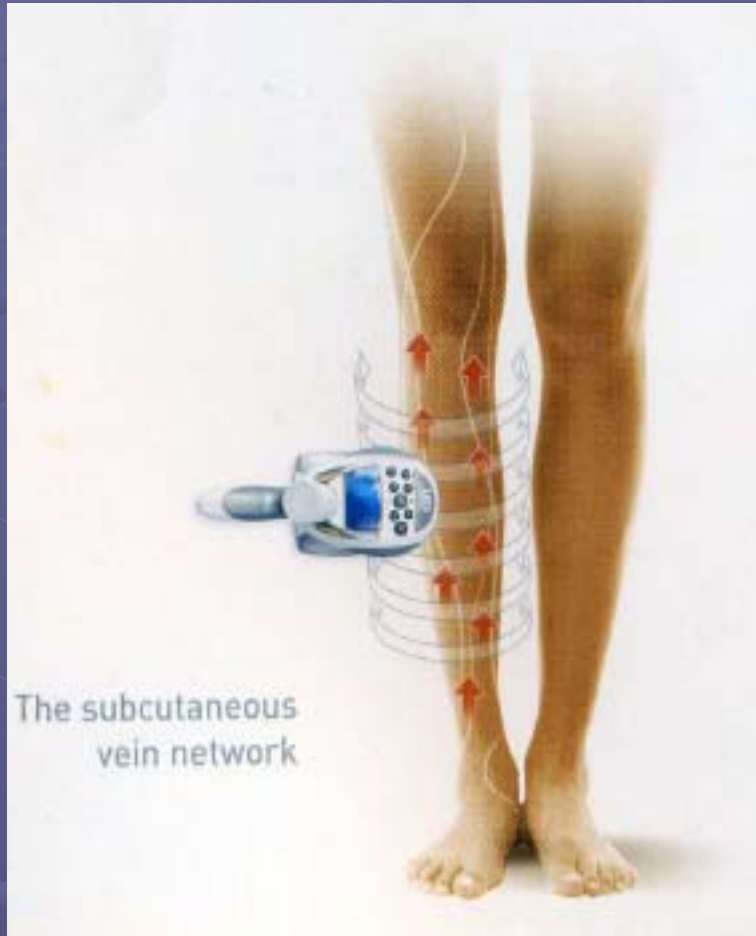


Stimulates venous and lymphatic circulation

- Independent motorised rollers mechanise the connective tissue
- Suction maintains negative pressure and creates a skin fold within the rollers



Key Module Treatment



- Establishes new drainage paths to replace the destroyed blood vessels
- Opens barriers in the scar tissue or fibrotic tissue
- Helps the lymphatic system capture excess lymph/fluid
- Recreates the elimination system

LYMPHOEDEMA CASE STUDY

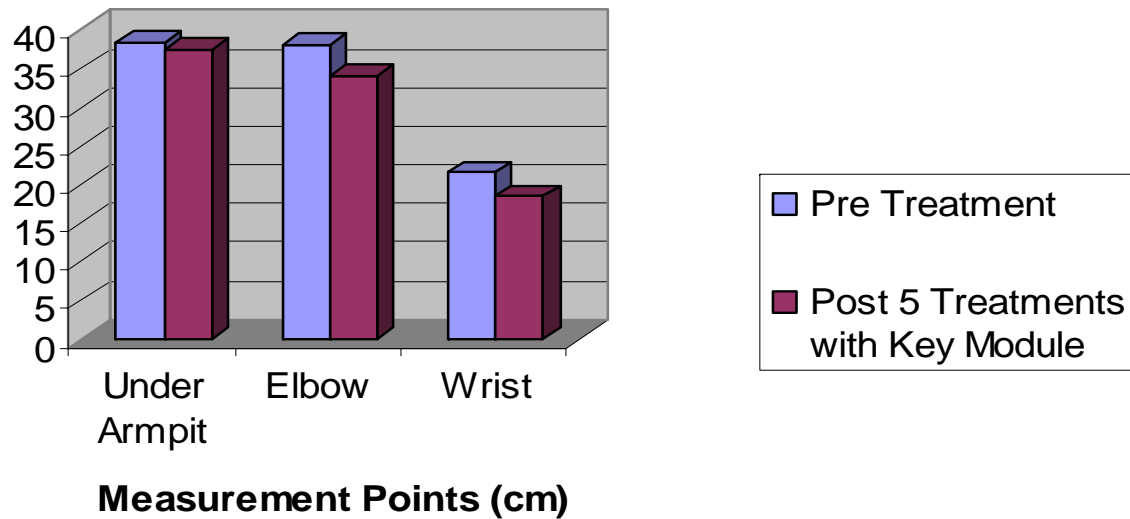
Presenting Condition

- Lymphoedema L) upper limb onset 18 months
- Secondary to L) mastectomy and L) axillary node clearance in 1992
- Associated symptoms:
 - Pain and aches with L) arm movement and upon waking daily
 - Pins and needles with L) arm movement with constant frequency
 - L) thumb and index finger pins and needles with constant frequency
 - L) Neck and shoulder pain constant frequency
- Patient reported her condition to be deteriorating and on a scale from 0-10 (0 = nil symptoms) and (10 = severe symptoms) she rated her condition = 7.

Assessment Results

● *Left Upper Limb Circumference*

L) Upper Limb Circumference



	<u>Under Armpit</u>	<u>Elbow</u>	<u>Wrist</u>
Pre Treatment	38.5 cm	38 cm	21.5 cm
Post 5 Treatments with Key Module	37.5 cm	34 cm	18.5 cm

Treatment Demonstration

- Lymph vessels are gently stimulated to mobilize lymphatic fluid
- Helps regulate the immune system and clears blockages, eliminates metabolic waste and toxins from the body, and reduces excess fluid
- Treatment applied in the direction of lymphatic flow (Distal → Proximal) (Ekici, Baker, Akbayrak, & Yuksel, 2009)
- Bilateral lymph node stimulation/activation: Inguinal, abdominal, axillary & cervical lymph nodes

Empty Bucket Principle

- Principle: You can not put more fluid into an already full bucket – it must be emptied first (Casley-Smith and Casley-Smith, 2007)



- Make space in which the fluid from the overloaded lymphoedematous extremity/area can be drained into
- Drainage starts centrally to clear the main lymph pathways (Harris, Hugi, Olivotto and Levine, 2001)
- Drain proximal areas of the extremity before distal areas (Morrell, Halyard, Schild, Ali and Gunderson, 2005)

Research Objectives

Investigate the effects of Key Module on:

1. Limb circumference

2. Intensity and frequency of symptoms associated with Lymphoedema and fluid retention





Participant Demographics

- 16 participants were all women suffering from secondary lymphoedema
- 15 participants' fluid retention was secondary to the removal of lymph nodes and cancer
- 13 participants had fluid retention in the upper limb
- 1 participant had fluid retention in the lower limb
- 1 participant had fluid retention in the abdomen
- 1 participant had fluid retention in the thyroid area

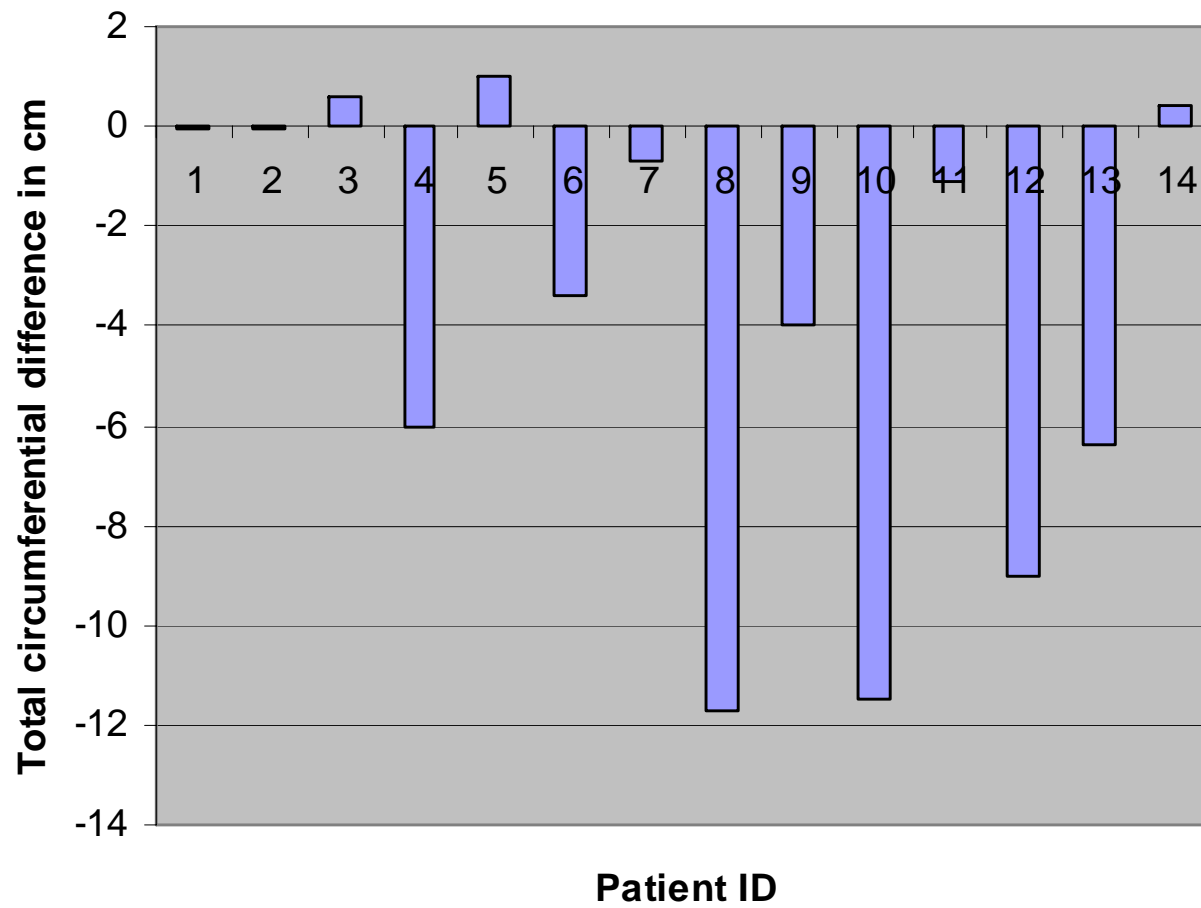
Common Symptoms at Time of Initial Assessment in Affected Limb/Area



- Swelling / fluid retention
- Limited ROM
- Tightness
- Heaviness
- Pain and aching
- Sharp shooting pain into referred areas

Results

Overall Difference in Limb Circumference



Results - Statistics

- **81.25% noticed a decrease in pain with functional results**
- **87.5% reported feelings of being lighter**
- **87.5% reported feelings of being softer**
- **62.5% reported an increase in energy**
- **81.25% reported an increase in bowel movements, frequency of passing concentrated urine**



Discussion

- Majority of the participants found the greater results to be in the reduction of associated symptoms rather than a reduction in circumference
- Participants reported functional improvements like an increase in ROM, being able to sleep without pain, being able to play sport without discomfort and work without tightness.

Discussion

Participants who were manually draining daily ceased this treatment and found their swelling and associated symptoms to be well controlled.

5 patients continued with treatment and are now on monthly maintenance care

Indications for Key Module Lymphoedema Treatment for affected and surrounding areas:



- Lymph node removal
- Surgical intervention / breast cancer / trauma
- Swelling / fluid retention
- Pre Clinical Lymphoedema
- Stage 1 – skin soft to touch with pitting
- Stage 2 - firm, hard skin tissue
- Presence of scar tissue
- Limited ROM
- Tightness
- Heaviness
- Pain and Aching
- Sharp shooting pain into referred areas
- Medical stability

Referrals for Treatment

- Patients referred for a private Initial Consultation (Instruct them to quote Silver Chain as the referring source)
- Patient is assessed to decide on suitability for treatment
- Options after the Initial Consultation:
 - Fee paying through private health cover rebate
 - Medicare Enhanced Primary Care Program via GP referral to PIHC Occupational Therapy specifically for Lymphoedema (5 treatments per year)
 - DVA referral via GP to PIHC Occupational Therapy (if they qualify) specifically for Lymphoedema



Locations

Perth Integrated Health Clinic - North

Unit 12, 8 Booth Place Balcatta

(Entry via Erindale Road)

Tel: 9240 5266 Fax: 9240 1522

Perth Integrated Health Clinic - South

Melville Aquatic Fitness Centre

Marmion St, Booragoon

Tel: 9364 8626



More Information & Direct Referrals:

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Health Funds, Medicare & DVA Registered



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