Lower Limb Oedema: Case Series Showing Oedema Reduction Using **COMPREFLEX** Adjustable Compression System

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**INTRODUCTION**:  
Oedema is a visible swelling that occurs as a result of an imbalance between lymphatic transportation and capillary filtration. Compression therapy is a vital aspect of oedema management and is usually achieved by the use of multi-layered bandaging systems or compression hosiery. Patients are known to fail to comply with these systems due to discomfort, inability to remove bandages for a period of time, difficulty in donning and doffing and not understanding the importance of its benefits. Adjustable compression systems present new opportunities within the field of oedema management including improving treatment outcomes, supporting self-management and promoting patient independence (Williams 2016).

**COMPREFLEX**:  
The **COMPREFLEX** below knee system comprises of a **COMPREBOOT** and a **COMPREFLEX** below knee garment.

**COMPREFLEX** provides 30–40 mmHg firm, graduated and highly adjustable compression. It is easy to measure and size for the clinician and is ideal for day or night time use. It can be easily adjusted by the patient to provide more comfort and maintain compression levels throughout the day.

**COMPREFLEX** is recommended for:

- Moderate Lymphedema
- Pitting Oedema / Non-Fibrotic
- Chronic Venous Insufficiency

**COMPREFLEX Evaluation**

**METHOD**: Six patients with lower limb oedema who met the criteria for compression therapy in order to reduce their limb swelling were fitted with the "**COMPREFLEX**" below knee garment and boot. The system delivers 30-40mmHg pressure when there is normal muscle activity. The pressure is lower at rest. Patients lived alone or did not have carers or family who were able to assist them with application of compression stockings etc. None of the patients had wounds on their legs, therefore the device was used as a tool for reducing oedema and enabling independence with compression therapy.

**Exclusion criteria**: Patients: under the age of 18 years; with severe peripheral arterial disease where compression may be contra-indicated; those who were unable to understand / unwilling to take part in the evaluation.

**RESULTS**: Patients observed that they were able to apply and remove the **COMPREFLEX** independently. They found that the device was comfortable to wear and could be readjusted easily as required throughout the day thereby enhancing concordance. Patients found that their limb swelling reduced more quickly than with the use of compression hosiery and they noticed improvements in their skin and tissues as a result.

**CONCLUSION**: This case series show that patients were satisfied with the ease of application and removal of the device. They were concordant with treatment as they were able to readjust the garment to maintain compression and comfort throughout the day and they all achieved swelling reduction and improvement in their skin and tissue condition.
CASE STUDY

A 64 year-old lady presented with oedema to both her lower limbs, left worse than right. The oedema had been present for 6 months, her skin was intact but was very tender to touch. The skin appeared very fragile, shiny and red with erythema, (figure 1). The oedema was soft in places but in other areas started to fibrose. She had previously tried compression hosiery but found these very painful to apply due to the soreness of her skin, additionally she found that when the hosiery was in place it gathered and dug into her skin and she found these generally too tight so stopped using them.

The limbs were significantly congested and at risk of blistering/ulceration. Her vascular supply was normal. She was placed in COMPREFLEX wrap system and found these extremely comfortable due to the soft fabric and ability to adjust the compression. Within only 2 weeks (figure 2) there was substantial reduction in oedema, the tenderness of the skin was completely resolved and the erythema was now settled. COMPREFLEX provides a long term compression solution to keep oedema at bay which was comfortable, acceptable and effective.

DISCUSSION: There are many adjustable compression devices available on the market and all propose to achieve the same outcomes. Mosti et al (2015) concluded that adjustable compression devices can be more effective than inelastic bandaging by exerting a strong pressure in the initial treatment phase and are well tolerated. A review of evidence for adjustable compression wrap devices (Williams 2016) concluded that despite the lack of robust economic evaluation, claims regarding cost savings are compelling and that an adjustable compression device provides scope for improved quality of life and independence for patients with long term limb swelling. The patients in this case series identified that they felt comfortable applying the device and readjusting it during the day to achieve sustained and active working / resting pressures. They found that they were able to manage their swelling independently and reported being pleased with the results of the reduction in limb volume and improvement in shape. These patients would have had to either return to the clinic on a weekly basis for reapplication of bandages and to have their limbs washed or have community nurse support to reapply the bandages, thus adding to the overall cost of management. The use of adjustable compression devices aids self-care in terms of hygiene and personal needs. The patients are able to remove the device for hygiene purposes and replace it immediately reducing the risk of rebound swelling, skin deterioration and encouraging good skin hydration.

References:


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