

The use of Velcro wrapping devices to improve outcomes on quality of life of lymphoedema patients.

Patryk Gawrysiak MSc Physiotherapy

Lymphoedema Department, St George's Hospital in London, UK

Introduction:

Compression Therapy is an integral part of lymphoedema management. Lymphoedema treatment includes 2 phases: “intensive therapy”, usually in the form of short stretch bandages applied daily for several weeks, and “maintenance therapy” (post intensive), comprising the long-term use of compression garments.

Intensive therapy is necessary for many patients, however it requires visiting hospitals/lymphoedema practitioners on a daily basis or at least 2-3 times a week, which creates issues regarding the cost of travelling, time off work and mobility. Wrapping devices could be considered as an alternative to the traditional bandaging approach as they promote self-management with very good, comparable outcomes.



Case 1:

A 56 year old male presented with late onset primary lymphoedema exacerbated by obesity. He first developed symptoms of mild swelling of the distal portion of the right leg at the age of 36, his weight was 115 kg at the time. His swelling progressed gradually and 1 year later he also developed left leg swelling. His weight steadily increased to 264 kg (BMI 76.3 kg/m²). Prior to his referral to our lymphoedema service, he underwent bariatric surgery which resulted in significant loss of weight (down to 151.8 kg 43.8kg/m²). Introduction of treatment with compression garments using a Velcro strapping system, in combination with increased physical activity resulted in significant limb volume reduction during a 20 week period. Lower limb leg volumes reduced by 23% (from 21379 ml to 16287 ml) and 35% (from 29083 to 18966 ml) in the right and left limb respectively. His weight reduced to 137 kg. His overall quality of life score improved from 5/10 to 7/10. The “6 minutes walking test”¹ result showed an increase in the distance walked, indicating improvement in mobility (300 meters pre-treatment and 550m after treatment).

Case 2:

A 49 year old male presented with right lower limb lymphoedema due to previous treatment for Hodgkin's lymphoma, which included right groin lymph node dissection and chemotherapy. He also suffered from recurrent cellulitis of the right lower limb. He underwent intensive lymphoedema treatment but failed to achieve significant volume reductions because the lymphoedema fluid had turned “fatty”. He was referred for distal lower limb liposuction to remove the abnormal “fatty lymphoedema tissue”. He had a post-liposuction excess volume of the affected leg of 3923ml (compared to his unaffected left leg). The post-liposuction treatment plan included skin care, compression therapy in the form of flat knit compression stockings in addition to a Velcro strapping system (Easy wrap). After 3 months of wearing a combination of compression hosiery and the Easy Wrap system, the excess limb volume of the affected leg dramatically improved by 45% (the post-operative excess volume reduced from 3923 ml to 2127ml after 3 months of treatment). The limb volume continues to decrease during his on-going follow-up. This patient will be considering further liposuction to the thigh area, as he is delighted with the outcomes.

LYMQOL (Lymphoedema Quality of Life questionnaire)² performed pre and post treatment showed significant improvement in his overall quality of life from 3/10 to 7/10 within the space of 3 months.

Discussion:

Recent increased demand for liposuction surgeries for DLT (Decongestive Lymphatic Therapy)-resistant lymphoedema requires careful pre and post-surgical management. Post-operative management may include bandaging or compression garments. More recently, Velcro wrapping devices are being used. DLT (Decongestive Lymphoedema Therapy) for lymphoedema patients often require time off work which may impact professional and family life.

The outcomes of the treatment, including reduction in limb volumes, are comparable with changes of the limb volumes in other studies. Szuba et al³ reported 42% excess volume reduction after DLT treatment.

Use of Velcro wraps offers an alternative to traditional approaches of lymphoedema management. Consideration of different compression regimes should be discussed with a patient and should be considered for those who prefer self-management, have limited time off work or difficulties in applying traditional compression garments. The majority of patients at St George's Hospital that were treated with Velcro strapping system reported positive feedback as self-management does not affect their normal daily routines.



Image 1: Pre-treatment image (case No 2)



Image 2: Application of Easy Wrap (case No 2)

1. Harada, N., Chiu, V., et al. "Mobility-related function in older adults: assessment with a 6-minute walk test." Archives of physical medicine and rehabilitation 1999 80(7): 837-841
 2. Keeley, Vaughan; Crooks, Sue; Locke, Jane; Veigas, Debbie; Riches, Katie and Hilliam, Rachel (2010). A quality of life measure for limb lymphoedema (LYMQOL). *Journal of Lymphoedema*, 5(1) pp. 26-37.
 3. Szuba A, Cooke JP, Yousuf S et al (2000) Decongestive lymphatic therapy for patients with cancer-related or primary lymphoedema. *American Journal of Medicine* 109, 296-300