Hello again and welcome to the third edition of the 3M Under Pressure Compression newsletter.

There are a wide variety of multi-disciplinary health care professionals who are involved with compression therapy. Many of you are managing wounds, chronic oedema and lymphoedema and we know that compression therapy is a recommended and effective component of care for treating these chronic conditions1,2. We also know that compression therapy can reduce the average healing time compared to no compression therapy as well as being very cost-effective3. The case studies presented in this newsletter highlight how essential effective compression therapy is in managing some of the challenges faced in daily clinical practice and we hope that you find it informative, interesting and relevant to your own practice.

It’s been a busy year so far with many national conferences taking place around ANZ including the Australasian Lymphology Association (ALA) conference in Auckland NZ in April, and the Australian Wound Management Association (AWMA) conference at the Gold Coast in May.

At the AWMA conference, 3M introduced wound care clinicians to the Full leg and Toe boot application techniques for the first time. These techniques can help provide solutions for managing challenging leg shapes and foot/toe oedema and are an extension to the basic below knee application techniques that many of you are familiar with. Demonstration videos of these techniques are available to view on our websites www.coban2.com.au and www.coban2.co.nz.

In this edition we have some interesting case studies to share with you. There is a case study on inflammatory lower limb ulceration, a paediatric case study, and two case studies demonstrating how the Toe Boot technique was used to manage difficult toe and foot oedema. Three of these case studies were presented at the ALA conference in Auckland, and we thank the authors for allowing us to share them with you here.

Look out for our ‘Ask Connie Compression’ section as there are some great tips and tricks to ensure you are getting the best results and to enhance patient comfort when using 3M™ Coban™ 2 Layer Compression Systems.

Thank you for taking the time to read this Under Pressure Newsletter and we value your input and feedback.

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2. Australian New Zealand Clinical Practice Guideline for prevention and Management of Venous Leg Ulcers 2011
Inflammatory Lower Limb Ulceration

Case Study

Monica Stankiewicz
Nurse Practitioner Wound Management & Dermatology
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Over the course of her appointments, several biopsies were taken; finally a diagnosis of bullous pemphigoid (BP) was made. A wound care regime was selected based on reducing wound inflammation, reducing wound pain and improving venous return. Including pharmacological treatment of oral Prednisone (starting dose 40mg OD) and Diclofenac (100mg OD). Emotional support and careful initiation of compression therapy was required for the patient to develop trust and confidence in the wound care regime selected for her. Initially, her wound care regime included:

- Paraffin and preservative free emollient
- Silver foam (silicone)
- Inelastic compression therapy, 3M™ Coban™ 2 Layer Lite Compression System

At the third dressing change Coban™ 2 Lite Compression System was then substituted for a 3M™ Coban™ 2 Layer Compression System and was continued until healed (complete wound closure/no epithelialisation for two weeks). Complete healing was in May 2013.

Discussion

BP is an autoimmune blistering disorder 1,5. Autoantibodies (notably IgG, IgA, IgM & IgE) attach to the basement membrane of the epidermis causing detachment and blisters 1,5. This disorder can be specific to one area of the integumentary system for example the abdomen or limb, specific to the mucosa (such as oral or genitalia) or prolific in nature 3,5. BP is generally reported on the limbs of patients over 60 years of age 3,4,5. It is this autoimmune disorder which may have led to deterioration of skin integrity in this patient’s right limb; and in the presence of poor venous return and mild arterial disease, lead to a chronic wound. No blisters were witnessed however; this may have been due to the location of lesions and the fact that the right limb was continuously covered by home-fashioned dressings.

In regards to chronic wound healing, the use of silver wound care products are a useful non-pharmacological therapy to assist with reduction of inflammation at the wound interface, but also to assist in managing exudate and control bacterial load 6,10,11.

The most significant aspect of her treatment was the adjunctive use of compression bandages. This initially consisted of Coban™ 2 Lite Compression System (walking peak of >40mmHg) then increasing to Coban™ 2 Compression System (walking peak of >70mmHg), which are both safe to use and required to improve venous disease in this lady with venous disease symptoms and mild arterial disease 6,11,12.

Initially the Coban™ 2 Lite Compression System was chosen as the patient was highly anxious over ‘tight’ bandages, due to her negative experience with ill-fitting compression hosiery which caused her significant leg pain and exacerbated ulcer pain.

After the first two compression bandage changes with Coban™ 2 Lite Compression System the patient was confident and happy to increase to Coban™ 2 Compression System, which facilitated wound healing due to an appropriate level of walking pressure specific to improve the patient’s venous return.

References

Compression Therapy For Paediatric Lymphangiohaemangioma

Case Report

Jodie Reynolds
Lymphoedema Physiotherapist
 Counties Manukau District Health Board, Auckland, New Zealand

This case study was presented as a poster at the ALA conference, April 2014. It has also been published as a case report in the Journal of Lymphoedema (June 2014, vol 9, issue 3) and is included in this newsletter with the permission of the publishers.

Abstract
The following is a case report evaluating the use of the 2 layer compression bandage system: 3M™ Coban™ 2 Layer Lite Compression System for unilateral lower limb lymphoedema secondary to a congenital lymphangiohaemangioma in a twelve month old child.

Compression therapy for adults is well recognised treatment for unilateral lymphoedema but remains less well defined for children.

Treatment with an inelastic bandaging system capable of providing reduced (20-30mmHg) pressure to the site resulted in a clinically significant improvement in the lymphoedema. A one month bandaging protocol allowed for sufficient improvement to progress to a fitted measure to manage garment therapy.

Introduction
Compression therapy, whether by intermittent pneumatic compression or by inelastic compression bandaging for lymphoedema in adults is a well established clinical practice, both for primary and secondary lymphoedema. By comparison, treatment of paediatric lymphoedema is less well substantiated in the literature.

In this report, we describe a case study of a paediatric lymphoedema patient who was treated for the management of lower limb lymphoedema using the 3M™ Coban™ 2 Layer Lite Compression System. This 2 layer bandage system was applied three times a week for one month allowing for sufficient improvement to progress to a fitted measure to manage garment therapy.

Background
In May 2012, an 11 month old baby girl was referred to our Lymphoedema Service by a Consultant Plastic Surgeon to assess progressive swelling associated with a lymphangiohaemangioma which had been present from birth. The antenatal of these lesions is unclear and the only remarkable feature of the lesion was a viral infection contracted by the mother during the pregnancy. On examination, the majority of the swelling was visible on the dorsum of the foot and ankle. The patient was referred to our service and assessed for the management of lymphoedema.

Results
No problems were reported on the second day of treatment and there was no apparent slippage of the bandage. No skin damage or redness was observed on removal of the bandage. The leg was remeasured, washed, dried and moisturised and the patient was re-bandaged and reviewed again 2 days later. The patient was bandaged in total three times per week for four weeks.

Discussion
The successful reduction in circumference indicates that this bandaging system and treatment protocol were effective in reducing swelling and improved the shape of the affected limb with no complications.

Conclusion
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The 5th International Lymphoedema Framework (ILF) Conference was held on 5-7 June, 2014 at University of Glasgow. It was well attended by delegates from all continents of the world.

Day 1 of the conference provided an overview of lymphoedema as a non-discriminating condition which can affect any individual throughout the world requiring population-specific interventions ranging from education on skin hygiene as presented by Clement Bagnoa from Bukino Faso, to genetic research hotly pursued for a better treatment model in primary and secondary lymphoedema. The ILF presented information on their LIMPRINT project. This is a much needed international multi-site population study to determine the prevalence and functional impact of lymphoedema and chronic oedema in the adult population of member countries of the ILF. This will include the Australian Lymphoedema Framework.

Day 2 of the conference introduced the audience to the utilisation of technology such as: e-Health, social media & web-based physiotherapy in the facilitation of patient self-management as an alternative to management for remote and rural patients. This is a concept that could be beneficial in the Australian population where distance travelled to attend a clinic can often be an issue. The novel educational GP postcard was also presented. This effective and informal tool allows General Practitioners to be better informed about lymphoedema and its management.

Day 3 of the conference alluded to developments and challenges in lymphoedema management including that of the paediatric population and the controversies of compression therapy.

Throughout the conference, clinically relevant and informative concurrent sessions were presented by researchers and clinicians working in the field. A 3M workshop which highlighted the versatility and effectiveness of the Coban™ 2 Compression System was very informative with the sharing of clinical observations and the results from various clinical settings.

Conference abstracts and some presentations will be available at http://www.ilfconference.org

Overall, the conference provided an enjoyable and supportive learning environment for all professionals working in the field of lymphoedema.

The ILF is partnering with the ALA for their next conference to be held in Darwin May 2016.

Report written by Sarah Ang Physiotherapist (WA) and Maree O’Connor Physiotherapist (VIC)
Use of a two-layer compression system in severe bilateral leg lymphoedema with ulceration: A Case Report

This case study was presented as a poster at the ALA conference, April 2014. It has also been published as a case report in the Journal of Lymphoedema (December 2013, vol 8, issue 2) and is included in this newsletter with the permission of the publishers.

Background
A 61-year-old Caucasian male presented at the Lymphoedema Research Unit at Flinders University early April 2013. He had severe bilateral lymphoedema, which had progressed since he ceased all lymphoedema treatment in 2011 due to high treatment costs (Figure 1).

Figure 1 - baseline anterior, baseline posterior

The cause of lymphoedema has been traced back to a severe bilateral deep soft tissue wound infection in the groin after surgical removal of fibroma in 2009 (Figure 2). In addition to the lymphoedema he has several comorbidities including morbid obesity, hypertension, and diabetes (type 2) impacting his health and complicating the lymphoedema.

Aim
Reduce lymphoedema, facilitate wound healing and reduce associated wound discomfort.

Materials and Methods
Both lower limbs were bandaged to the knee with 3M™ Coban™ 2 Layer Compression System using the toe-boot application method (3M, 2011) for four weeks. 42–45mmHg garment pressure, was required to reach the desired 50mmHg of under-bandage pressure when standing (Kikuhime TT-MediTrade).

Whole limb volume was measured using perometry (Pero-System) and both bio-impedance (In-Body) and site-specific tissue fluid (MoistureMeter-D, Delfin) was measured at anterior and posterior mid-thigh and both calf as well as dorsal site of the feet.

Wound circumference was measured with a grid placed over the wound. Measurements were obtained at baseline, three times per week during treatment, at the end of the four week treatment, and at the eight week follow up.

Results
Treatment with the Coban™ 2 Layer Compression System resulted in a clinically relevant reduction of limb volume (Graph 1, Figure 3) and facilitated wound healing (Table 1, Figure 3).

Table 1 - Wound size reduction

<table>
<thead>
<tr>
<th>Total wound size in cm²</th>
<th>Left leg</th>
<th>Right leg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>25.8</td>
<td>29.7</td>
</tr>
<tr>
<td>Final</td>
<td>4.1</td>
<td>12.0</td>
</tr>
<tr>
<td>Follow up</td>
<td>none</td>
<td>9.75</td>
</tr>
<tr>
<td>Total reduction</td>
<td>21.7</td>
<td>19.95</td>
</tr>
</tbody>
</table>

Graph 1 - Fluid and volume reduction

Conclusion
This case report demonstrates two tenets of lymphoedema treatment:
1. Early detection is crucial to prevent further progression in lymphoedema, including skin breakdown and the appearance of chronic wounds.
2. Correctly applied bandaging using the right pressure, pressure gradient, and adapting to the individual patient’s needs (including mobility, comfort, and cost) can be effective even in severe cases as presented here. In addition to volume reduction and cessation of leakage, removal of excess fluid in the interstitial space is also thought to be an essential component for wound healing.

Acknowledgements
• A sincere thank you to Professor Neil Piller for providing us with the measurement equipment and invaluable advice.
• A sincere thank you to 3M for supplying the Coban™ 2 Compression bandages.

References

Have you seen?
Did you know that we have patient information sheets for both venous leg ulcer and lymphoedema patients who are being treated with 3M™ Coban™ 2 Compression Systems?
These patient information sheets have information for patients about Coban™ 2 Compression Systems and what it means for them.
There are also some tips, information on when to seek help, and space to record their appointments with you.
They come in pads of 50 sheets and they are free of charge. If you would like a pad to use with your patients, please contact your local 3M representative.
Bilateral Lower Leg Lymphoedema
Case Study

Patricia Mahon
Senior Physiotherapist
Blue Care Allied Health Sunshine Coast, Queensland

Provision of optimal management, using 3M™ Coban™ 2 Layer Compression System, in a 70 year old female with a 50 year history of Primary bilateral lower leg Lymphoedema, with client reporting improved quality of life and overall treatment.

Introduction

The quality of life of individuals with lymphoedema can be significantly impaired physically and psychologically. With impaired mobility, chronic pain, reduced function, recurrent infections, dependence and changes in body image, issues with isolation, depression and reduced self esteem can arise. Management of lymphoedema, collectively known as decongestive lymphatic therapy (DLT) includes exercise, skin care, manual lymphatic drainage (MLD), and compression therapy including lymphoedema compression bandaging (LCB) and hosiery which enhances lymphatic and venous return. In the clinical setting, providing effective compression and in particular toe bandaging, can be challenging.

The aim of this poster presentation is to illustrate how some of these difficulties were overcome and how the client was provided with an improved experience in a community based setting using a cohesive bandage system, 3M™ Coban™ 2 Layer Compression Bandaging. This system provides a thin, comfortable, inelastic sleeve, with just two layers.

Blue Care is one of Australia’s leading not-for-profit providers of residential aged care, community care and retirement living, operating more than 260 centres in 80 communities across Queensland and northern New South Wales. Operating for more than 60 years, Blue Care directly touches the lives of 13,000 people every day, assisting them in maintaining their independence.

Client Background

- 70 year old female with right above knee amputation, wheelchair bound
- 50 year history of bilateral lower limb oedema which began aged 20
- Septicaemia and ulcers worsened and the palliative decision was made to amputate 4 years ago.
- Unusual growth developed over the dorsum of the middle toes about 5 years ago.
- Co-morbidities included asthma, hypertension, ventricular trigeminy.
- Concern for the integrity of the remaining left leg.
- Referral received due to worsening lymphoedema, toe wounds and fungal infection.
- On examination - thickened, fibrotic, dry, hyperpigmented skin and tenderness of the lower left leg, firm pitting oedema over the dorsum of foot and toes, a thickened growth slightly oozing over dorsum 2/3 toes and painful skin between the toes (see photo 2).

Treatment/Method

Following a multidisciplinary approach a course of treatment commenced including skincare, exercise, MLD and compression bandaging.

- Specialist paediatric and wound clinic for the toe wounds and resultant tissue, vascular clearance for arterial status.
- Mrs T was happy to try Coban 2 Layer Compression systems. Due to previous experiences the client felt daunted by the thought of the multi layer lymphoedema bandaging (MLLB) in the humid climate.
- Leg washed, self MLD to trunk, MLD to left leg, emollient applied.
- Application of 3M™ Cavilon™ No-Sting Barrier Film to leg and dorsum plantargrade in supine, and Mrs T was unable to stand for the above knee amputation.
- 3M™ Coban™ 2 Layer Compression System applied to full leg with toe boot (see figure 3).
- Treatment continued for 13 days with four repeated treatments as above, with remeasures and re-application of Coban 2 Layer Compression System.
- Reapplied between 2/4 days to accommodate the part-time nature of therapist and to gauge initial skin reaction in humidity.

Results and Conclusions

Patient Perspective

- Mrs T reported that the system was lighter, thinner and unexpectedly comfortable to wear.
- Was pleasantly surprised how little itch she felt in the foot macaroon – different to prior to the bandaging.
- The pleasant appearance similar to usual compression garments enabled Mrs T to continue her community activities, with confidence.
- Regained functional independence being able to wear normal shoes during treatment- essential for her safe standing and slide board transfers (see figure 4).
- During and after treatment Mrs T commented favourably on improved knee and ankle movement allowing easier transfers and positioning in her wheelchair.

Therapist Perspective

- The application resulted in reductions of up to 8.3cm circumferentially (see figure 1).
- Suffer leg and foot with, improved skin texture and colour.
- Improved left ankle and knee movement.
- Resolution of the oozing toe wound after the first application of the bandage system.
- Softening of the dorsal toe growth.
- The skin condition remained remarkably good during the treatment, a pleasant surprise to the therapist.
- Following compression therapy remeasuring for new compression garments was completed.

Figure 1 – before treatment
Figure 2 – before treatment

Figure 3 – during treatment. Full leg wrap applied
Figure 4 – during treatment. Mrs T wearing normal footwear

Figure 5 – on completion of treatment

If you’d like to receive these newsletters as soon as they are published, please go to our websites to sign up www.Coban2.com.au/newsletter, or www.Coban2.co.nz/newsletter

Under Pressure 3M COMPRESSION THERAPY NEWSLETTER

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Join our mailing list

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Full Leg Application for Wound Care Clinicians

For some patients with venous leg ulcers, oedema is not isolated in the lower leg, and, more bandaging is required.

At the recent AWMA conference, 3M introduced wound care clinicians to the Full leg and Toe boot application techniques for the first time.

These techniques are familiar to the lymphoedema therapists who have received training in the application of 3M™ Coban™ 2 Layer Compression Bandages. These techniques can help provide solutions for managing challenging leg shapes and foot/toe oedema and are an extension to the basic below knee application techniques that many of you are familiar with. Demonstration videos of these techniques are available to view on our websites www.coban2.com.au and www.coban2.co.nz.

Key points:
- There are now a wider and longer size bandages for the knee and upper leg
- There is now a narrower and shorter bandage for the toes
- Application is quick and easy to teach and learn
- The application can be adapted to suit your patients’ needs

For more information, please contact your local 3M representative.

3M News

Videos now on our websites

The videos for our lymphoedema application techniques are now on our websites: www.coban2.com.au and www.coban2.co.nz.

3M Education Available On-Line

3M provides free and easy to use e-learning modules covering topics such as skin care, wound care and compression therapy. To access these courses, go to www.3M.webcentral.com.au, or look for the link in the education sections on our 3M websites.

3M Lymphoedema Workshops

We had another busy year of 3M Coban 2 for Lymphoedema workshops, once again holding workshops in Sydney, Brisbane and Melbourne. We were also able to hold workshops in Cairns and Perth that were very well attended.

We are currently putting together our schedule for workshops for 2015. If you are interested in attending, you can register your interest on our websites; www.coban2.com.au and www.coban2.co.nz. (Note: in New Zealand, workshops are scheduled on demand, there will not be a calendar of 2015 workshop published).