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Central London Community Healthcare NHS
NHS Trust

A multi-centre non-comparative evaluation of a new two component short stretch compression bandage system.

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Aim

The purpose of this study was to evaluate a new, two component short stretch (inelastic) bandage system* in a sixteen patient, non-comparative case series. The evaluation formed part of a larger International study of eighty patients (Mazzei et al, 2012). The bandage system, comprising a foam comfort layer and an inelastic compression layer, is available in two kits for 18-25cm and 25-32cm ankle sizes. The recent development of compression kits has been a gradual progression to assist the practitioner with a simple and convenient system alongside individual bandage units. A good stiffness index makes the system a short stretch bandage system and the static stiffness index (SSI) is defined as the difference between the interface pressure between the bandage and the leg when standing and lying (mmHg) (Partsch, 2005). The benefits of alternating the high working pressures and the lower resting pressures aiding venous return and the pumping action stimulated by the foot and calf muscles have been well documented (Mosti et al, 2008) and result in an increased tolerability.

Methods

Two participating UK sites were involved in the evaluation, one urban and one semi-rural, with patients between the ages of 22 and 89 years old. The evaluation period was six weeks and the bandage change was as the condition required. The aetiology of the sixteen patients' leg ulcers varied between venous, mixed aetiology and ISL stage one oedema (ISL - International Society of Lymphology staging). These patients were all fully informed of the evaluation and each agreed to take part and signed consent.

Results

The outcomes were:

- 2 completely healed at 2 weeks (12.5%)
- 2 completely healed at 6 weeks (12.5%)
- 1 achieved >50% healing at 6 weeks
- 1 transferred into hosiery at 2 weeks
- 1 transferred into European** Class 2 hosiery due to unmanaged oedema.

Now doing well

- 2 on-going and doing well
- 7 improved during the evaluation and continued with the new two component inelastic bandage system.

All patients described the application and the wearing of the new two component inelastic bandage system as "very comfortable" and there were no problems with non-concordance.

All patients reported a reduction in oedema, where applicable, the ability to move their ankle and to wear their shoes. The new bandage system was also comfortable during the day and at night, with minimal slippage. Patient comments were very positive and the ability to self-bandage was noted.
No adverse skin reactions were noted during and after the evaluation. The new foam layer has a cotton, skin-friendly lining, which combines well with the use of emollients and minimises sensitivities.

Nurses reported that the bandage system "feels very light and easy to use", used "the same easy method of application as with SafeLoc® in a cohesive short stretch bandage***" and that "the comfort layer conformed well to the leg".

Conclusions

This new, two component leg ulcer kit has proved to be easy to use, effective and comfortable and is suitable for the treatment of venous leg ulcers without or with mild, uncomplicated oedema. It is also suitable for mixed aetiology and for those patients requiring a system that is comfortable, which can lead to a greater concordance with compression therapy.

References

Mazzei et al (2012) First results of an observational study in 80 leg ulcer patients. Poster presentation. Wounds UK Conference, Harrogate 12-14 November 2012.

Partsch H (2005) The Static Stiffness Index:A simple method to assess the elastic property of compression material in vivo. American Society for Dermatologic Surgery, Inc Dermatol Surg 31: 625-630.

Mosti G et al (2008) Inelastic compression increases ejection fraction more than elastic bandages in patients with superficial venous return. Phlebology. 28: 287-294.

Case study

This is a case study of a 78 year old man with a 29 year history of leg ulceration that has been identified as mixed aetiology by vascular and general assessment including history taking. Due to the high exudate levels, daily changes were required. Past treatments were many different types of dressings including superabsorbent dressings, skin protection and compression with a light version of a 2 layer kit**** bandage system for the mixed aetiology vascular status.

Figure 1 shows day 1 of the new two component inelastic bandage system and Figure 2 shows the wound after 18 days of treatment with the bandage system over superabsorbent dressings with changes every 4 days. The exudate levels have reduced and the wound appears shallower and smaller, decreasing from 18.76cm to 13.67cm.

The patient describes the bandage system as being "perfect" commenting that "it did not stick to the other leg or bed sheets overnight."

Figure 1 - Day 1 of the evaluation

Figure 2 - Day 18 of treatment

* Actico® 2C Two component leg ulcer kit - Activa Healthcare ** ActiLymph® - Activa Healthcare *** Actico® - Activa Healthcare **** Coban 2 Lite® - 3M Healthcare

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