Innovative compression therapy systems can improve practice

The Problem

Treating leg ulcers makes up a large part of a nurse’s caseload. While compression therapy with graduated multilayer bandaging has been widely accepted as recommended treatment, patients can find it bulky and uncomfortable and clinicians need to be trained and competent in its application. Thus, it is important that clinicians keep up to date with new methods of compression that can promote concordance, improve healing rates and achieve cost savings — all vital elements in leg ulcer management. Juxtacures™ (medi UK), an adjustable compression system, is one such innovation that helps to alleviate some of the challenges associated with multilayer bandaging.

The Answer

Compression therapy has long been accepted as the most effective way to reduce venous hypertension and aid healing of venous leg ulceration. This began with the work of Professor Moffatt and a clinical group at Charing Cross Hospital, who developed the first compression bandaging system in 1992 (Mears and Moffatt, 2002; Moffatt, 2004).

Since 1992 other bandaging systems have been devised and there are now multiple compression therapy choices available to achieve 40mmHg at the ankle and 20mmHg below the knee to activate effective venous return. But, how can we most effectively, consistently and safely accomplish this?

The early work of Professor Moffatt constituted a four-layer bandaging system that led on to the development of four-layer systems. Safe application of these bandages posed challenges as they needed to be applied with skill and consistency to ensure that they were put on with the same bandage tension from ankle to below the knee, and with an accurate 50% overlap to achieve the correct sub-bandage pressure. The risk of inaccurate bandage application, which may be due to knowledge or skill, can result in variable sub-bandage pressures, potentially leading to either pressure damage to the lower limb if too tight, or ineffective venous return if too loose. Therefore, patients may not receive the full benefit of the treatment (Wounds International, 2013).

From the patient’s perspective, the layered bandaging systems have an impact on quality of life as they can be bulky and hot, and result in problems such as odour and difficulty in putting on shoes, thus making patients reluctant to concord (Lay-Flurrie, 2005; Wicks, 2015).

Two-layer bandaging systems were introduced to address the issues of safety and to reduce the risk of incorrect sub-bandage pressures, while offering effective healing rates (Benigni et al, 2007). However, these bandage systems, although less bulky, still created similar challenges for patients as with the four-layer systems.

However, there is now an innovative compression garment called juxtacures™ (medi UK), which offers an effective alternative to traditional compression bandaging.
WHAT IS JUXTACURES?

This innovative velcro-adjustable system is applied to the lower limb, from the ankle to below the knee, and can be easily adjusted to deliver the desired sub-bandage pressure to the lower limb from 20 to 50mmHg.

A pilot study to test juxtacures with sixteen patients was carried out in Wiltshire and after four weeks the average saving for wound dressings and compression therapy was £60.88 per patient per week. The total number of nursing visits also reduced by an average of 87 minutes per patient per week (Wicks, 2015). Following this, juxtacures was considered for every patient with a venous leg ulcer and fifty-six patients had their treatment converted from compression bandaging to the adjustable compression system.

During the first week of the ‘conversion programme’, a quality-of-life questionnaire was given to eighteen patients and this was repeated at week four. The results indicated that the perception of pain was reduced in 70% of patients, sleep pattern improved in 62%, and overall, 80% of patients stated that this change in treatment improved their quality of life. They cited being able to wear normal footwear, better balance, and improved gait and stability leading to greater mobility. Being able to get socks and trousers on was also cited as an advantage, with one patient saying that he could get dressed and have lunch with his friends for the first time in two years. The option to check and adjust pressure by the patient also increased self-care, which improved feelings of being ‘in control’.

In the six months following this conversion programme, the healing rate, as a percentage of the number of patients on the caseload with a venous leg ulcer within the community nursing teams, increased from 19 to 39%, and the healing rate in weeks reduced from an average of 22 to 18 weeks. Fourteen of the fifty-six patients, who had a chronic long-term leg ulcer for twelve months or more, despite being in compression bandaging, healed within six months.

The significant reduction in exudate volume in these patients also led to less dressings and dressing changes.

FIGURE 1. Juxtacures in situ.

The following should be considered when introducing juxtacures:
- Patient choice (some patients are used to having compression bandaging and may not wish to change)
- juxtacures will last for six months, thus, if an ulcer is relatively small and likely to heal quickly, it may be appropriate to use alternative methods of compression (e.g. compression bandages, leg ulcer kits)
- juxtacures is simple to use and training can be given to carers, or patients may wish to self-manage after the initial fit and follow-up
- The product can be laundered easily
- A recent randomised controlled trial (RCT) found that adjustable Velcro compression systems were effective for patients with venous oedema (Mosti et al, 2015), however Juxtafit™ is more suitable, being designed specifically to manage oedema/lymphoedema.

With regard to the financial impact of using juxtacures, the cost of the bandage and dressing regimens for six patients were scrutinised for six months before the conversion to juxtacures and there was a total cost of £4,323.28 for wound dressings and compression bandaging. This reduced to £1,928.16 for the six months following, i.e. a total saving of £3,603.28 for six patients. This included juxtacures and the primary and secondary dressings used.

Whole system changes or developments bring challenges and change takes time to become embedded in workforces, but effective, consistent and safe choices for patients with venous leg ulcers are now readily available.

REFERENCES


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CONCLUSION

Various compression systems are now available for the treatment of venous leg ulcers, each having their own advantages and disadvantages, however the choice for each patient should be an individual one.

Many general practice nurses (GPNs) are overstretched, with challenging workloads. Thus, innovations that can save nursing time and money and improve patient quality of life, to the extent that some people take an active self-care role with treatment, are a welcome progression in the treatment of venous leg ulcers.