

# A simple and effective solution to preventing recurrent venous leg ulcers

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When trying to prevent the recurrence of leg ulcers, many community nurses find it hard to get patients to concord with compression devices and techniques, particularly over the long term. This article looks at a new adjustable Velcro compression device, juxtalite (part of the juxta® range; medi UK), which is designed to be simple to apply. It has a built-in pressure system (BPS™) that allows the nurse to accurately monitor the level of compression being applied to the limb, ensuring a therapeutic level of compression is maintained. Here, the author relates her own experience of using the juxta system (in particular the juxtalite version) through a series of case studies that show how the system aids patient concordance with treatment over an extended period of time.

## KEYWORDS:

- Leg ulcers ■ Compression bandaging ■ Healing
- Adjustable Velcro compression device ■ Patient concordance

It is widely accepted that good compression therapy is required to aid the healing of venous leg ulceration. However, recurrence is a common problem with 26–69% of ulcers recurring within 12 months (Harding et al, 2015), which obviously has cost implications for the NHS and, more importantly, an effect on patients' quality of life. Consistent compression is required after healing to prevent recurrence of venous leg ulcers and the principles of this and how it can be delivered should be discussed with the patient during the treatment phase.

A recent Cochrane review indicated that the use of adequate compression post-healing will prevent recurrence (Nelson and Bell-Syer, 2014). The Scottish Intercollegiate Guidelines Network (SIGN) (2010) also recommended below-knee compression hosiery to prevent ulcer recurrence; this

compression should be applied at the strongest class that the patient can tolerate.

Concordance or compliance with compression post-healing can be an issue for community nurses, as there are a wide range of garments and compression classes available and it can be difficult to know which ones to choose and why. Non-concordance, on the other hand, has a significant cost implication for the NHS, as people with recurrent ulcers return for further treatment (Anderson, 2012).

However, it is important for community nurses to consider why a patient may be non-concordant with compression — there may be a range of valid reasons and these should be explored with the patient (Moffatt et al, 2009). Reasons for non-compliance with compression may include:

- ▶ Pain on application
- ▶ Difficulty with application and removal of dressings or hosiery
- ▶ Lack of understanding of why compression is important (Moffatt et al, 2009).

It is important to empathise with the patient and understand their concerns regarding compression, rather than labelling them as 'difficult' (Gray, 2013). Community nurses should be prepared to question their own practice, i.e. 'Have I found the most appropriate solution for the patient?' or, 'Does the patient fully understand the significance of continuing to use compression after their ulcer is healed?'

It is important that nurses work jointly with patients in this way to find a treatment that is acceptable, achievable and clinically effective.

However, even when nurses do employ these techniques, concordance with treatment in some patients can still be a difficult and challenging task. The case studies below highlight the benefits of an alternative compression system (juxtalite®, medi UK), that is simple to apply, measure and adjust (see 'science' box below for a guide to the full juxta range). The system is effective in preventing recurrence of venous leg ulcers in previously non-concordant patients.

## WHAT IS JUXTALITE?

Juxtalite forms part of the juxta range of compression devices. It is an instantly readjustable compression device with measurable compression. This ensures that it is safe for patients, carers and allied healthcare professionals to apply while simultaneously monitoring the compression being applied.

Juxtalite is available in eight sizes and two lengths to cater for a wide range of leg shapes. The extra wide calf sizes accommodate patients with lipodermatosclerosis whose legs have developed the associated inverted 'champagne bottle' shape, along

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with more usual lower limb shapes associated with venous disease.

Juxtalite is useful for patients who are unable to use conventional compression garments due to:

- ▶ Musculoskeletal disorders or other comorbidities
- ▶ Intolerance or inability to use compression hosiery
- ▶ Fragile skin.

Juxtalite is available on prescription and the pack contains:

- ▶ juxtalite
- ▶ Calibrated built-in pressure system (BPS) card (Figure 1). This is used to ensure the prescribed level of compression is applied and maintained
- ▶ Two liners (one to wash and another to wear)
- ▶ Two anklets (one to wash and another to wear), which provide effective compression for the foot. These are closed-toe, but the toe-piece can be cut off, allowing for an open-toe garment if the patient prefers.

The anklets allow patients to return to conventional footwear, improving the gait, which may have been restricted by conventional bandages and bandage slippers. Dorsiflexion (backward flexion or 'bending' of the foot) and plantarflexion (extension of the ankle, pointing of the foot and toes) are immediately improved; this allows the calf muscle pump to function better, which aids venous return.

### CASE STUDIES

#### Case 1

Nadia was a 44-year-old woman who had been attending the author's leg

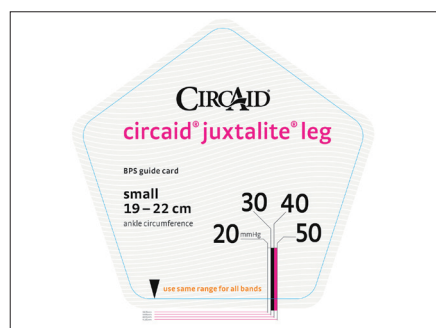


Figure 1. The calibrated BPS card that comes with the juxtalite system.

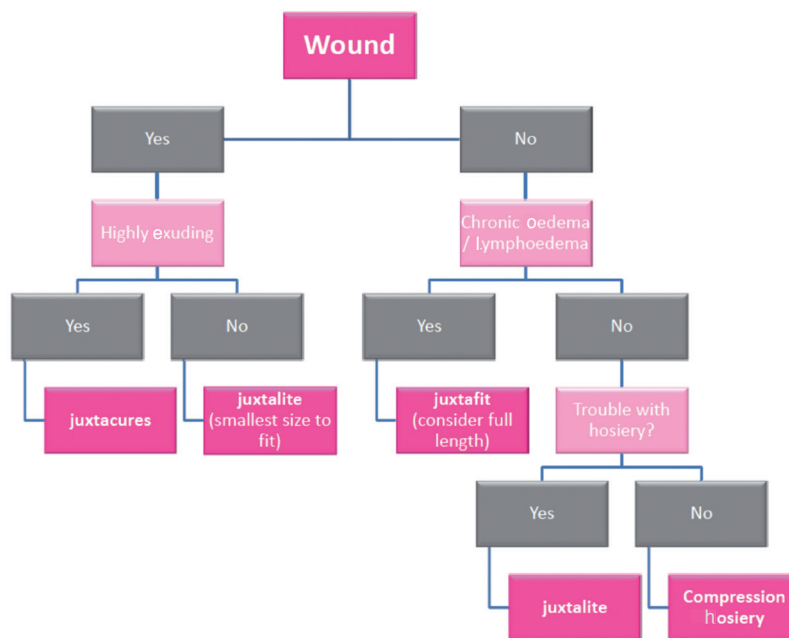


Figure 2. Flow chart showing which juxta product to use in different clinical situations.

ulcer clinic sporadically over a two-year period. She had experienced frequent bouts of lower limb cellulitis (infection of the deeper layers of the skin and the underlying tissue) and recurrence of leg ulceration. Her past medical history included type 2 diabetes and epilepsy. She was also morbidly obese and had lower limb lymphoedema with a lipodermatosclerotic leg; commonly referred to as the inverted champagne bottle shape mentioned above. Nadia worked in a shop, which involved standing for long periods of time and had further strained her venous system.

#### Initial treatment

Nadia was treated initially with short-stretch bandages, which she often removed before her next appointment as she said they frequently slipped and caused discomfort. Her limb shape caused considerable issues and once the ulcers were healed, made-to-measure hosiery was prescribed.

However, Nadia did not like made-to-measure hosiery as she felt that it was too difficult for her to apply, frequently slipped and caused irritation to her skin. She was fully aware of the importance of compression to the healing of her ulcer, but a compression solution that suited her post-healing was very difficult to find. Nadia also had to take long periods of time off work for wound infections and she was

worried that she would lose her job due to her poor sickness record.

Nadia's ulcer had previously healed, but had recurred two years before the author saw her, and at the time of writing measured 7x5.5cm with unhealthy granulation to the wound bed. It had previously been treated with a topical antimicrobial dressing, however, after discussion with Nadia it was decided to try a juxtacures garment (see Figure 2 for guide to which juxtacure product to use).

It was essential that Nadia was involved in every aspect of her treatment. She was measured for the device and shown how to apply and adjust it. The device's built-in BPS (Figure 1) allows the safe application of measurable compression (Smith, 2016). The author's team discussed the optimum compression level with Nadia and showed her how to check that it was being applied using the BPS card.

Nadia became very proactive in managing the device and would check it and adjust it throughout the day. In fact, she became quite an expert and even developed a positive attitude towards the management of her venous leg ulcers. Overall, Nadia's ulcer healed within 10 weeks of commencing the treatment with juxtalite.

Looking at the future control of her condition, it was decided to maintain her limb in a juxtalite garment (see 'Science' box for explanation of different types of juxta products) and she has remained healed using this device for the past two years.

## Case 2

Andrew was a 72-year-old man with atrial fibrillation and chronic obstructive pulmonary disease (COPD). He presented to the author's leg ulcer service with oedema and superficial leg ulceration, although his ankle-brachial pressure index (ABPI) was within normal limits.



**Figure 3.**  
*One of Andrew's legs before the application of the juxtalite system.*

Once the superficial ulceration was healed, class 1 compression hosiery was prescribed. However, Andrew was unable to apply it due to his COPD and relied on his wife to help him. Unfortunately, his



**Figure 4.**  
*Andrew's leg following application of juxtalite (before the comfort compression sock had been applied).*

wife had arthritis and was finding it increasingly difficult to apply the hosiery due to lack of strength in her wrists; as a result, it was only applied sporadically.

Due to a lack of consistent compression, Andrew experienced a recurrence of his leg ulceration. After discussion with Andrew and his wife, the author demonstrated the juxtalite garment, which Andrew's wife found much easier to apply and adjust. She was also confident that she would not harm Andrew by applying too much compression as the BPS allowed her to check the levels.

Andrew's oedema subsequently became very well controlled and he has remained healed for the past 18 months (*Figures 3 and 4*). As a testimony to the garment, he referred to it as his 'miracle treatment' and it has become an effective — and essential — part of his daily regimen.

## Case 3

Amy was a 55-year-old woman who had become obese and developed chronic oedema in her legs. Because of this, she had experienced several episodes of leg ulcer recurrence over the past few years. Amy was very vocal regarding which treatments she would or would not accept and felt that her venous leg ulceration would never heal — as a result, she had lost faith in the healthcare system. She was horrified when she was shown a compression bandage and stated that someone of her age should not be made to look like 'Nora Batty'.

The option of compression hosiery was discussed with Amy, but she did

### THE SCIENCE — THE FULL JUXTA RANGE?



juxta® (medi UK) compression devices are easy to apply and can be mastered by any individual with minimal training. They all have a built-in pressure system (BPS) so that the level of compression can be measured to ensure accurate application and consistent pressures (Lawrence, 2014).

#### juxtafit Lower Legging®

The juxtafit Lower Legging is an inelastic, adjustable compression

garment for the management of lymphoedema or chronic oedema and is available in two lengths — petite (28cm) and standard (36cm) — and five sizes, ranging from small to XXL. It is made from a special breathable fabric for a flexible and comfortable fit and is also latex-free. Evidence shows that using juxtafit can be more effective in reducing limb volume when compared to an inelastic multicomponent compression bandage (Damstra and Partsch, 2013).

#### juxtacures

juxtacures is an instantly readjustable device for the healing of venous leg ulcers and is available in three lengths: short (28cm); standard (33cm); and long (38cm). It has a detachable 'spine' that enables the garment to be bespoke for each patient. Adjustable Velcro compression devices such as juxtacures have been proven to be more effective than inelastic bandages at reducing venous oedema and maintaining a precise and consistent measurable therapeutic level of compression (Mosti et al, 2015).

#### juxtalite®

juxtalite is an instantly adjustable Velcro device suitable for maintenance of all venous conditions and specifically for patients who have healed leg ulcers or venous disease; cannot tolerate or apply compression garments; have fragile skin; musculoskeletal disorders or other comorbidities; or who experience problems with elastic compression. juxtalite uses a built-in pressure system to apply the individual's recommended level of compression (from 20–50 mmHg) as prescribed.



not like the thought of wearing hosiery and felt the garments were no better than bandages. The author decided to demonstrate a juxtafit garment, however, which showed Amy how she could be actively involved in her own treatment regimen. After the demonstration, Amy decided that she was happy to try juxtafit.

The juxtafit is a stronger device than the juxtalite (see 'Science' box for a full explanation of the different juxta products), and is designed for patients with chronic oedema and lymphoedema. Amy felt that the device was aesthetically more acceptable than bandages or hosiery.

Amy's latest incidence of recurrent ulceration healed using the juxtalite system and she switched to the juxtalite permanently to prevent further recurrence of venous leg ulcers. She was extremely impressed with the outcome of the treatment and at the time of writing remains self-caring and healed.

## EVIDENCE

Elvin (2015) showed that converting patients to juxta products resulted in improved quality of life scores when judged against the compression techniques used previously. Elvin (2015) stated that additional benefits to using juxta products include:

- ▶ Improved clinical and personal outcomes for patients
- ▶ Improved quality of life scores using a visual analogue scale (VAS), with 1 equalling 'very unhappy', and 5 indicating 'very happy'. Of the patients surveyed, 74% scored the maximum score of 5, indicating that they were very happy with the product
- ▶ Instant return to conventional footwear for patients
- ▶ Improved ability to self-care.

## CONCLUSION

When a venous leg ulcer has healed it is important to maintain a level of compression to prevent recurrence. This a challenge for the patient and nurse and in some cases leads to long-term bandaging as the only possible solution.

However, the recent introduction of wraparound devices that include a system for measuring the compression applied has resulted in an effective alternative for preventing recurrence.

The benefits of these systems is clearly demonstrated in the case studies above, where adoption of these new devices led to improved quality of life for patients who had become disillusioned with conventional compression therapy. Cost and time savings were also achieved (National Institute for Health and Care Excellence [NICE], 2015; Wicks, 2015).

Listening to patients and trying to understand the issues they face with compression garments are important factors to consider to ensure that patient concordance is achieved. In the case studies featured here, the juxta devices offered solutions that were safe and easy for patients to use and thereby encouraged concordance with compression therapy. **JCN**

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## KEY POINTS

- When trying to prevent the recurrence of leg ulcers, many community nurses find it hard to get patients to concord with compression devices and techniques, particularly over the long term.
- This article looks at a new adjustable Velcro compression device, juxtalite (part of the juxta® range; medi UK), which is designed to be simple to apply.
- The system has a built-in pressure system that allows the nurse to accurately monitor the level of compression being applied to the limb, ensuring a therapeutic level of compression is maintained.
- This article demonstrates a series of case studies that show how the system aids patient concordance with treatment over a period of time.