

ReadyWrap®: case studies in practice

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It is estimated that 730 000 patients develop an active leg ulcer every year (Guest et al, 2015), and lower limb ulceration has a high prevalence, affecting 1.5% of the adult population in the UK (Guest et al, 2015). This value increases with age, and it has been found to be 3% for those aged over 80 years (Poskitt and Gohel, 2010). With the prevalence of lower leg ulceration increasing due to an ageing population, it is likely that this figure will rise further and lead to an even greater burden on NHS services (Atkin and Tickle, 2016). The majority of patients with lower limb ulceration are managed by community nursing services, but this often goes hand-in-hand with referral to specialist services, such as tissue viability, plastics surgery, dermatology and vascular specialists (Cullum et al, 2016). The cost of managing patients with lower limb ulceration is substantial (Guest et al, 2015), and the expenditure from wound-dressing prescribing alone has increased by 21% between 2004 and 2012, with over 9 million wound dressing items being prescribed in the

community at a cost of £184 million in 2012 (Cullum et al, 2016).

Compression therapy is the mainstay of the management of venous leg ulcers, but before it can be initiated, any potential signs and symptoms of venous disease should be identified as soon as possible (Atkin and Tickle, 2016).

In North Lincolnshire community services, patients presenting with leg ulcers are seen at home or in care homes by district nursing teams, or they attend local GP practices where practice nurses (PNs) are usually the first clinicians involved in their wound care assessment and management. There is also a chronic wound clinic service that functions in different locations across the large geographical area and predominantly delivers a leg ulcer service, with referrals from primary care for non-healing wounds. The local formulary has a large choice of wound products, bandage systems and compression hosiery types, which community nurses have anecdotally described as being confusing when they have to decide which type of compression to apply. Many are unfamiliar with two-layer bandage systems, which provide the same amount of compression as a four-layer system. The nurses had not considered the use of full therapeutic compression hosiery kits and were unaware of the compression wrap systems available. Findings from a retrospective cohort analysis of 505 patients suggested that compression therapy was not initiated or used correctly (Guest et al, 2018). Compression therapy may not be initiated or maintained due to the lack of clinician skill, confidence, resources and time.

The largest barrier in the application of full therapeutic compression in the author's Trust, as stated in a survey that was created to identify education and training needs of community staff, was the belief held by nurses that their patients would not tolerate it and would be labelled as non-concordant.

Moffatt (2004) said that concordance comprises three elements:

1. Patients having the knowledge to be able to participate in their own care
2. Patients being involved in their assessments or consultations
3. Patients being supported through the treatment.

The concept of a 'social ulcer' has been used by clinicians to describe ulceration in patients who they

ABSTRACT

The cost that chronic wound care imposes on both patients and health services worldwide is well recognised. Most patients with venous leg ulcers require compression therapy over the long term, for both treatment as well as to prevent recurrence of these wounds. Caring for patients with chronic wounds makes up a large part of the workload for district and community nurses, and encouraging self-management among patients is a worthwhile effort to limit the costs and resources directed for this purpose. The present article describes the practical use of the ReadyWrap range of compression garments, which are available in various different styles, and aid patients, their families and carers in the self-management of venous leg ulcers. These products are designed with their long-term use in mind, and, as described in the case studies in this article, patients show good concordance to compression therapy involving ReadyWrap.

KEY WORDS

- ◆ Compression ◆ Venous leg ulcers ◆ Peripheral artery disease
- ◆ Patient concordance ◆ ReadyWrap

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believed did not wish for their ulcer to get better, as they had a greater fear of social isolation when nurses and carers stopped visiting for treatment (Muir Gray, 1983). There is no evidence to support this happening in reality, and, what may be interpreted as non-concordance, such as removal of bandages and slippage, may be due to incorrect application and type of compression rather than patient refusal to use the treatment.

Central to maintaining patient engagement and concordance with venous leg ulcer management is the development of an effective therapeutic relationship between the clinician and patient (Stanton et al, 2016). Patient consent, capacity and understanding are key to leg ulcer management care planning. The aim should be to educate patients on the steps required to heal their leg ulcers from the first meeting, and central to this regimen is the establishment of a non-judgemental relationship between the nurse and patient, based on effective communication, education (Brooks et al, 2004), and a willingness to listen to patients and not 'label' them. According to Mandal (2006), a therapeutic bond between the patient and clinician is vital, where the patient believes the clinician has a sustained interest in understanding their problems. Treatment should be fitted into the patient's everyday life without much disruption, and patients feel encouraged when family members share an interest in their progress.

This article describes three patient case studies. These three patients had different leg ulceration journeys but achieved good outcomes by entering into the best-practice algorithm (Atkin and Tickle, 2016) treatment plan. The ReadyWrap adjustable compression garment (L&R) was the final treatment of choice in all three cases and resulted in healing of the ulceration, limb volume reduction and concordance of use. This product encourages self-care and has led to the prevention of ulcer recurrence within the author's trust.

ReadyWrap compression garments

ReadyWrap compression garments (L&R) make it easy to achieve clinically effective levels of compression and offer the support that clinicians and patients need to manage venous and lymphatic conditions, not just in the short term, but for life.

ReadyWrap has been designed as an easy-to-use compression therapy for patients with venous and lymphatic diseases and has been shown to deliver positive results in oedema reduction and leg ulcer healing. These garments are suited to many budgets and enable patients to be empowered to self-care, whether alone or with support from family, carers or clinicians.

The garments are available in various formats, to meet different needs. For the management of leg ulceration a ReadyWrap foot and calf piece can be used. For patients needing additional support for the management of full-limb oedema, ReadyWrap Knee and Thigh garments may also be worn. In addition to these, ReadyWrap toe, extender strap, arm and gauntlet are also available.

Case 1

A 65-year-old man developed a leg ulcer in 1993 and presented to the local GP practice with a weeping leg and a wound on the left inner malleolus. Low-adherence absorbent dressings were prescribed, and the patient spent many years self-caring, during which the ulcer healed but recurred. In 2003, he presented again at the GP centre with more extensive skin break down in the same area. No lower limb assessment or measurement of ankle brachial pressure index (ABPI) was undertaken, but a variety of dressings were prescribed for the patient to self-apply; this occurred over the next 7 years. In 2010, after further ulceration occurred on the left leg, a referral was completed to the chronic wound clinic provided by the NHS Northern Lincolnshire Trust. Some 26 years has passed since the first signs of vascular impairment had presented (Figure 1).

Following a full lower limb assessment, a treatment plan was put into place, involving compression therapy. Doppler ABPI measurement showed this index to be 1.19 and 1.2. There was a history of deep vein thrombosis (DVT) in the affected left leg and previous fracture to the ankle. Venous hypertension and venous leg ulcer were diagnosed; this was the first explanation and diagnosis the patient had received in his entire wound journey.

Initially, as the patient wanted to practise some autonomous self-care, dressings and hosiery were prescribed. The hosiery was British class 1 hosiery providing 14–17 mmHg compression, as the patient expressed a fear of it being too tight and it was hoped compliance with this would be better.

The ulcer did not heal, and class 2 made-to-measure compression hosiery was prescribed. However, the patient often arrived at the clinic without the hosiery, and the clinicians were unsure how often it was actually worn. As the ulcer deteriorated, the amount of exudate increased, and the treatment was changed to a compression bandage system. Because the patient was anxious about using full compression, the clinicians applied a reduced compression bandage system. Compression therapy can be perceived



Figure 1. Initial presentation to specialist wound clinic on 26 May 2010



Figure 2. Taken in the specialist wound clinic on 7 April 2014; left leg, outer gaiter



Figure 3. Taken in the specialist wound clinic on 7 April 2014; left leg, inner ankle

as painful, and, in practice, clinicians often avoid using compression in patients with painful ulceration (Wounds UK, 2016). However, compression can, in fact, relieve the pain associated with venous disease, and delaying treatment or applying suboptimal compression can cause patients more harm (Figures 2 and 3).

With rapid deterioration in January 2016 (Figure 4), the clinicians discussed with the patient that a higher compression level would assist improvement, and he consented to using a class 3 British garment, which delivers a graduated compression of 25–35 mmHg.

At the 8-week follow-up, the ulcer showed some signs of healing and improvement (Figure 5), but the patient found the hosiery very tight and lapsed in clinic attendance, choosing to self-care at home and reverting to older class 1 hosiery systems.

Experience suggests that, given a choice of less pressure on an existing chronic wound that is already painful, most people would choose reduced pressure. Adoption of the algorithm for venous leg ulcer management from the best-practice statement (Wounds UK, 2016) offers additional options to ensure that patients receive optimal therapy with increased healing rates and less bulky compression items.

In March 2019, the patient presented to clinic with further ulcerated areas (Figure 6) and requested advice and support. At this time, the clinician discussed the



Figure 4. Deterioration of the ulcer on the mid-gaiter of the left leg, observed on 28 January 2016



Figure 5. Left leg at 8 weeks after the use of class 3 garment (25–35 mmHg) over a dressing



Figure 6. Patient presented to the clinic with deterioration of leg ulceration in March 2019

best-practice algorithm, which had been introduced into the trust in October 2017, as well as alternative products that were more suitable for the patient while involving self-care.

The clinician demonstrated a ReadyWrap system and prescribed a foot plus calf piece. After a wear time of 7 days, the patient described the ReadyWrap system as comfortable and easy to apply. He was given a spare pair, as he worked in a dusty environment and the product would get soiled easily.

Figure 7 shows the status of the ulcer after 3 weeks of ReadyWrap usage; at this point, the ulcer had reduced in size and healing was evident.



Figure 7. After 3 weeks of ReadyWrap usage, the ulcer reduced in size and healing was evident

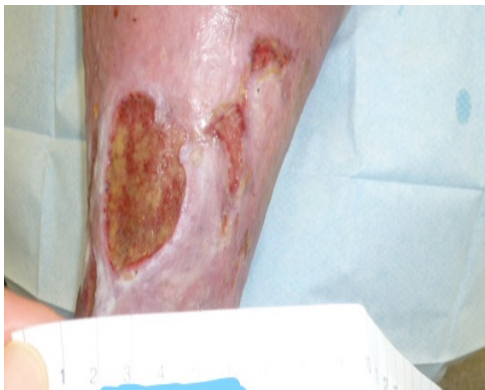


Figure 8. Following 8 weeks of ReadyWrap usage



Figure 9. Wound close to fully healed. Complete healing was achieved by 23 August 2019 (20 weeks of ReadyWrap wear time), and the patient continues to wear ReadyWrap on both legs to prevent recurrence

All patients with venous leg ulcers in the service receive some degree of compression therapy, including bandages, compression hosiery (off-the-shelf or custom-made) or wraps, depending on their diagnosis and tolerance. Nurses work with patients to achieve optimal levels of compression, and each patient works with their nurse to achieve a balance of therapeutic compression and tolerance.

The national leg ulcer burden might be lessened with a more patient-centred approach, where nurses listen to patients' concerns rather than forcing their own perceptions and beliefs onto patients. This case study demonstrates that a patient should be holistically assessed with consideration towards lifestyle and quality of life. This patient was working and had a preference to self-

care; his comfort with the compression products was an important factor underlying the ability to achieve full therapeutic compression levels. After persistence of his venous leg ulcers for many years, a patient-centred approach finally led to healing (Figures 8 and 9), and this patient has continued to wear the ReadyWrap garment to prevent further ulceration. He seems to be satisfied with the compression and comfort of the garment.

Case 2

A 74-year-old woman with oedema and painful legs initially presented to the GP in 2008 and was prescribed furosemide, which had little or no effect on her symptoms. In 2010, she again presented to the GP practice, and varicosities were documented. An anti-inflammatory gel was prescribed for calf pain. In 2012, antibiotics were prescribed as the patient experienced redness on the legs, and varicose veins were observed. Several scans had been undertaken over a period for suspected DVT due to swelling but this was ruled out in the diagnosis. Blistering to the lower leg occurred in 2014 and the oedema was still present. The nurse at the primary care practice applied silicone dressings. Following the blistering, skin integrity deteriorated, resulting in lower limb ulceration, which required dressing application several times per week in the practice nurse clinic for a further 7 months.

A referral was completed to the chronic wound specialist clinic in November 2014 (Figure 10). A full assessment, including a Doppler scan, was undertaken, and the ABPI was found to be 1.3 and 1.25. This indicated that arterial disease was not present and compression was suitable. The management and treatment selected by the clinician was a bandage compression system, due to the amount of exudate. This was a two-layer bandage system that provided a reduced amount of graduated compression at 20 mmHg; the full compression kit delivers 40 mmHg. The patient had not previously used any compression products and was hesitant to do so, as she felt they may be too tight and uncomfortable. The healing was delayed, and it took 12 months to reach the point of almost healing (Figure 11).

A discussion with the patient regarding compression hosiery took place at this stage, to prevent recurrence and manage any oedema following healing. For ease of application, the clinician prescribed hosiery liners, which provide 10 mmHg of compression. This did not manage the oedema, the ulcer recurred after 14 days and the patient presented again to the clinic (Figure 12).

This pattern of healing and recurrence continued, until the algorithm was introduced in the author's Trust, and the clinician discussed the use of ReadyWrap with the patient in November 2017. These wraps are easier to apply for some patients who may have dexterity problems, as the Velcro holds the straps in place while the patients pull the lower sections to full strength. Further, carers and family members, too, find these much easier to apply than hosiery. In the present case, the patient's family member



Figure 10. Left leg ulcer at presentation at the chronic wound specialist clinic



Figure 11. After 12 months of a reduced compression bandage system

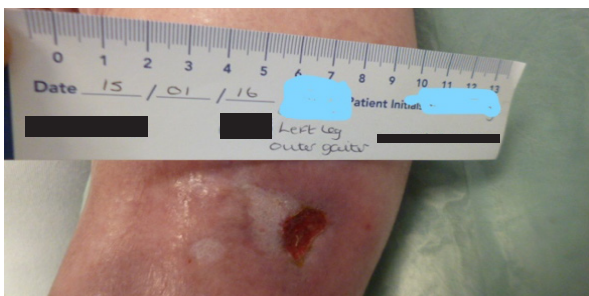


Figure 12. Recurrence of oedema and ulceration occurred and presented back to clinic after 14 days of hosiery liner application

felt confident to apply the wraps after demonstration, and the patient found them comfortable to wear. Healing occurred within 12 weeks of ReadyWrap use, and the patient continues to wear them without further ulceration.

Case 3

A 60-year-old man who had experienced leg ulceration and lymphoedema for many years was referred to the specialist service in 2012 for lower limb assessment. The ulceration and lymphoedema involved both legs, with weeping and swelling, and they would heal but then recur. A cycle of bandages followed by hosiery after healing persisted until March 2018, when the patient attended for routine Doppler assessment and reported not wearing hosiery as it was causing trauma to the skin. His

legs were weepy and excoriated (Figures 13 and 14), and the clinician proposed ReadyWrap, which had become available on the local formulary when the algorithm had been put in place following the best-practice statement (Atkin and Tickle, 2016). The pieces prescribed were foot, calf and knee; extender straps are available if the pieces require extra width, as well as additional toe caps if toe swelling is a concern. It is important to consider appropriate referral to a multidisciplinary team including lymphoedema specialists, in case there is no such service available locally.

The patient's wife applied the ReadyWrap and followed a routine of daily washing with emollient use for skin care. This system seemed to be manageable for the couple, and with an occasional leakage, the legs remained in good condition and the limb volume was reduced. The dressings are self-applied if required, and the patient attends the clinic if he has any concerns and for routine Doppler assessment. To prevent re-ulceration in patients with complexities, skin maintenance is vital and, after healing, the case should be reviewed at 3, 6 or 12 months depending on need or the risk of recurrence (Wounds UK, 2019).



Figure 14. Weepy and excoriated legs at presentation; back of the right ankle

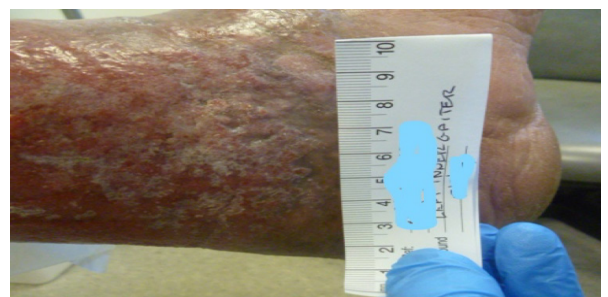


Figure 13. Weepy and excoriated legs at presentation; left mid-gaiter

Conclusion

Self-care is vital for the future NHS care system and integral to the NHS 10-year plan (2019), and patient empowerment and involvement are key to this. Patients who feel more empowered with their care are more likely

to adhere to it (Moore, 2016). With an ageing population, the prevalence of chronic venous disease is expected to increase, and, for preventative measures and to ensure full compression therapy in treatment, ReadyWrap certainly has a place. Often there is inequality in the care received by patients in care homes and those in acute settings with leg ulcers, due to the lack of skills and competency in safe application of compression. ReadyWrap enables patients to self-apply the garment safely, meaning it may be the answer for patients in various care settings.

With ReadyWrap, it is easy to achieve clinically effective minimum 40mmHg graduated compression with lower resting pressures for comfort; it also has short-stretch properties that help with the effective management of chronic oedema and lymphoedema. Patients described the product as comfortable and easy to apply for self-care; they felt in control of their leg management and had the freedom to not attend clinic as routinely as they had before, when they were using bandages. Being able to remove and wash the legs was an important factor, as this prevented skin integrity breaches. ReadyWrap enables full, safe compression but evidence to support its effectiveness needs to be established through research, as has been done for VeNUS IV compression hosiery kits (Ashby et al, 2014).

Success in venous leg ulcer management encompasses not only the compression product of choice but early intervention at signs and symptoms of venous disease. Wounds that are non-healing beyond 2 weeks require a full comprehensive holistic assessment by clinicians with the appropriate skills and knowledge to do so. Skin care regimens, exercise and lifestyle must be the focus, in order to maintain skin integrity, and an effective clinician-patient relationship should be established to ensure concordance with treatment. **BJCN**

Note: All images have been supplied by the author.

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KEY POINTS

- ◆ Chronic oedema and lymphoedema are long-term conditions that can be managed using compression therapy for limb volume reduction
- ◆ Compression garments are also used in the management of venous leg ulcers and in the prevention of recurrence following healing
- ◆ ReadyWrap systems are applied in sections to the legs, with Velcro fastening to secure the garment in place. Foot, calf and knee, thigh and toes pieces are available and extender straps
- ◆ ReadyWrap compression garments are easy to apply and can aid patients, families and carers in self-care application.

CPD REFLECTIVE QUESTIONS

- ◆ Reflect on your practice in the selection of compression product choice. How could patient outcomes be enhanced by using ReadyWrap?
- ◆ How can wrap systems aid self-care among patients requiring compression garments?
- ◆ How do compression products affect a patient's quality of life and are there joint care planning and product choice available?

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