Velcro compression wraps enable supported self-care, optimal oedema reduction, and leg ulcer healing.

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Introduction:

The therapeutic use of inelastic compression, including wrap systems, has been extensively studied and documented in recent years. This approach has proven to deliver significant clinical benefits to both patients and healthcare providers. Inelastic compression systems, particularly adjustable wraps, have demonstrated superior efficacy in managing conditions such as lymphedema and chronic venous insufficiency (Williams 2016, Cox & Bousefield 2021, Ehmann et al 2016, Zahra et al 2022, Atkin 2019, Atkin et al 2018). Adjustable compression wraps (ReadyWrap) can provide consistent and customisable pressure, leading to more effective reduction of oedema and improved venous return compared to traditional elastic bandages. Patients can also experience improved comfort, easier self-application, and improved quality of life, which contributes to better treatment adherence. For healthcare providers, inelastic compression wraps such as ReadyWrap offer advantages including reduced application time, fewer clinic/nurse visits, and potential cost savings and sustainability due to the reusability of the devices. Additionally, the ability to maintain stable pressure levels over time and during patient movement results in more predictable and sustainable therapeutic outcomes. This case study showcases the successful management of a complex lower limb condition, presenting with both a leg ulcer and lymphoedema. The treatment approach centred on the implementation of an inelastic adjustable compression wrap system (ReadyWrap), which yielded multiple positive outcomes illustrated within this presentation.

Method:

This case study involves a 50-year-old man with a complex presentation of leg ulceration and lymphoedema. The patient, who maintains an active lifestyle with full-time employment and family responsibilities developed a leg ulcer following a traumatic injury in his garage. Despite 2 months of unsupported self-care attempts, the wound failed to heal, prompting him to seek professional medical attention. Upon presenting to the treatment room, a comprehensive holistic assessment was conducted, revealing the need for targeted intervention. Given the dual challenges of ulceration and lymphoedema, a robust treatment plan was implemented. The cornerstone of this approach was the application of strong compression therapy, utilising Actico bandages that provided 40mmHg of compression. This initial intervention was chosen to rapidly address the oedema while awaiting the delivery of a ReadyWrap garment for long-term management and supported self-care. This therapeutic approach demonstrated remarkable efficacy, with tangible results manifesting rapidly. Within seven days of initiating Actico bandaging, a significant reduction in oedema was observed. Specifically, measurements revealed a substantial decrease of 10cms in the circumference of the calf. This rapid improvement underscores the importance of prompt and appropriate intervention in cases of lymphovenous disease, where both venous insufficiency and lymphatic dysfunction contribute to the clinical picture.

Results:

The implementation of ReadyWrap yielded significant positive outcomes, demonstrating its effectiveness in both oedema reduction and wound healing. Within a 12-week period, the patient experienced complete wound closure, showcasing the wrap system's therapeutic efficacy. Notably, ReadyWrap empowered the patient to take an active role in their treatment, fostering independence and self-care between clinical appointments. This approach aligns with the pressing need to alleviate strain on the NHS, as highlighted by recent reports (NWCSP 2023, Guest et al 2020). By promoting patient empowerment and commitment, supported by nursing guidance and the NWCSP (2023) shared/self-care plan, ReadyWrap not only achieves the desired therapeutic effect but also enhances patient autonomy. The success of this case underscores the potential of compression wraps as an ideal solution for maximising independence while delivering effective treatment. These results demonstrate that ReadyWrap can simultaneously address the clinical needs of patients and the operational challenges faced by healthcare systems, offering a promising pathway for improved patient outcomes and resource optimisation in compression therapy management.

Discussion:

Managing a leg ulcer complicated by lymphoedema presents significant challenges for both patients and healthcare providers. The presence of lymphoedema can significantly impair wound healing by increasing the risk of recurrent infections and causing a hardening of the tissues. This complex condition, often referred to as lymphovenous disease, requires a multifaceted approach that addresses both the venous insufficiency and the lymphatic dysfunction. Traditional venous ulcer treatments may be insufficient, as the excess fluid and protein accumulation in the tissues due to lymphoedema can hinder the effectiveness of compression therapy and increase the risk of cellulitis (BLS 2015). Furthermore, the chronic nature of lymphoedema can lead to fibrosis and skin changes, making wound care more difficult. Patients often experience severe pain, restricted mobility, and a reduced quality of life, which can lead to social isolation and psychological distress. The management of these cases requires specialized knowledge and a tailored treatment plan that may include modified compression techniques, lymphatic drainage, and meticulous skin care to prevent further complications and promote healing

Conclusion:

In conclusion, this case study demonstrates the significant benefits of utilising ReadyWrap in the management of complex lower limb conditions. This 50-year-old independent man with lymphoedema and leg ulceration experienced remarkable improvement, with complete healing achieved in just 12 weeks. Its ease of use and adjustability allowed the patient to maintain consistent compression, even as swelling reduced over time. This outcome not only improved the patient's quality of life but also showcased the effectiveness of supported self-care in chronic wound management. By empowering the patient to manage his condition independently, the need for frequent clinical visits and interventions decreased dramatically. This shift towards patient centred care aligns with the growing emphasis on self-management to maintain effective healthcare delivery (Hallas-Hoyes et al 2021). The success of this case also underscores the importance of adopting innovative and evidence-based practices in treating complex lower limb conditions.

References:

1. Atkin, L. (2019). Chronic wounds: The challenges of appropriate management. British Journal of Community Nursing, 24(Sup9). https://doi.org/10.12968/bjcn.2019.24.sup9.s26
2. Atkin, l, Dhoonmoon, l, Hopkins, A., Macdonald, J., Donnelly, J., Hoyes, l, Newport, L., & Clarke, C. (2018, June 12). Holistic management of venous leg ulceration – best practice statement. Best Practice Statement Addressing complexities in the management of venous leg ulcers - Wounds UK (wounds-uk.com)
3. British Lymphology Society. (2015). Consensus Document on the Management of Cellulitis in Lymphoedema. Revised April 2015
4. Cox, A., & Bousfield, C. (2021). Velcro compression wraps as an alternative form of compression therapy for venous leg ulcers: a review. British Journal of Community Nursing, 26(Sup6), S10–S20. https://doi.org/10.12968/bjcn.2021.26.Sup6.S10
5. Ehmann, S., Whitaker, J. C., Hampton, S., & Collarte, A. (2016). Multinational, pilot audit of a Velcro adjustable compression wrap system for venous and lymphatic conditions. Journal of Wound Care, 25(9), 513–520. https://doi.org/10.12968/jowc.2016.25.9.513
6. Guest, Julian F, Fuller, G. W., & Vowden, P. (2020). Cohort study evaluating the burden of wounds to the UK's National Health Service in 2017/2018: Update from 2012/2013. BMJ Open, 10(12). https://doi.org/10.1136/bmjopen-2020-045253
7. Hallas-Hoyes, L., Williamson, S., Kerr, A., Andrews, T., Calladine, L. (2021) An advanced self-care delivery model for leg ulcer management: a service evaluation. J Wound Care. 2;30(9):751-762. Available at: doi: 10.12968/jowc.2021.30.9.751. PMID: 34554835.
8. The National Wound Care Strategy Programme)Lower Limb Recommendations (2023). https://www.nationalwoundcarestrategy.net/lower-limb/
9. Williams, A. (2016). A review of the evidence for adjustable compression wrap devices. Journal of Wound Care, 25(5), 242–247. https://doi.org/10.12968/jowc.2016.25.5.242
10. Zahra, S., Arundel, C. E., Jones, K., Davill, T., Roberts, G., & Dumville, J. (2022). VenUS 6 – A randomised controlled trial of compression therapies for the treatment o fvenous leg ulcers: Study Design and Update. https://doi.org/10.35279/jowm2022.23.01.03

Presented at Wounds UK, Harrogate, November 2024

Poster production supported by L&R Medical UK