Introducing a new double-sided mechanical debridement pad to achieve effective wound bed preparation and promote wound closure.

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Introduction

This is a 74 year old male with a significant cardiovascular history, including ischaemic heart disease (IHD), multiple myocardial infarctions, peripheral vascular disease (PVD), coronary artery bypass grafting (CABG), popliteal aneurysm, abdominal aortic aneurysm (AAA), and a prior femoral arterial bypass (2019). In December 2024, he underwent femoral arterial bypass with C vein graft and bilateral fasciotomies. He is also a heavy smoker.

In May 2025, both fasciotomy wounds dehisced, requiring district nursing input for management. Due to his complex vascular history and a Toe Brachial Pressure Index (TBPI) of 0.2, compression therapy was contraindicated. This case study describes the wound care journey following the introduction of a double sided mechanical debridement pad as part of his standard wound care regimen.

Method

Initial assessment revealed wounds covered by 100% devitalised tissue, causing severe pain, for which he was prescribed Oramorph (Image 1). Despite the use of multiple previous debridement dressings and tools, the wounds showed minimal progress.

The district nurse introduced a new double sided debridement pad into daily wound care to remove slough and promote healing. Initial application was gentle, focusing on patient comfort, pain tolerance, and early tissue disruption. As he became more tolerant and engaged with the healing process, the textured side of the pad was employed for more adherent slough removal. Wounds were subsequently dressed to support autolytic debridement between sessions.

Results

Over the course of treatment, the wounds demonstrated significant clinical improvement:

- Slough reduction: The wound bed progressively improved allowing granulation tissue formation.
- Size reduction: Wounds became smaller and more uniform.
- Pain reduction: A report of markedly less pain, enabling engagement in basic mobility and daily activities.
- Treatment tolerance: Adapted to mechanical debridement, initially anxious but later confident with the procedure.
- Dressing frequency: As wound progress continued, dressing changes could be safely reduced.

Overall, the introduction of the double sided mechanical debridement pad accelerated wound bed preparation and supported a patient centred approach to care.

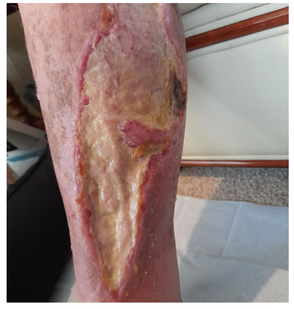

Image 1: Outer May 2025

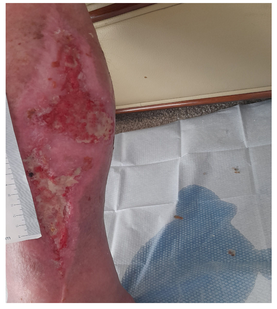

Image 2: Outer July 2025

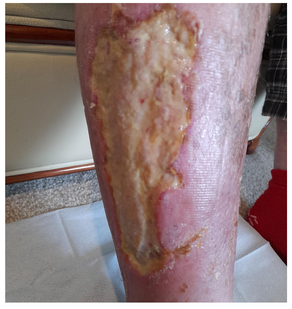

Image 3: Inner May 2025

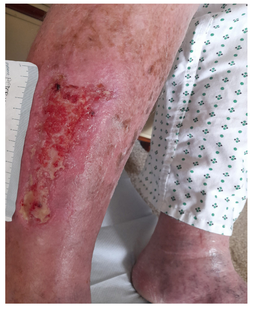

Image 4: Inner July 2025

Discussion

Mechanical debridement is sometimes avoided due to perceived patient discomfort, but evidence indicates that all chronic or necrotic wounds benefit from some form of debridement to optimise healing.[1,2]

In this case, the soft white side of the debridement pad was initially used to gently disrupt slough and biofilm while maintaining patient comfort. Once tolerance improved, the textured side effectively removed more adherent devitalised tissue, promoting wound progression. This stepwise, patient centred approach allowed for gradual pain management, improved confidence, and adherence to therapy, aligning with best practice guidance for biofilm-based wound bed preparation.[3]

The positive clinical outcomes observed, including reduced wound size, decreased slough, and improved patient comfort, illustrate that mechanical debridement, when carefully applied, is both feasible and effective, even in high risk patients with severe pain and complex comorbidities. Reduced dressing frequency further minimised healthcare resource use and improved patient quality of life.

Conclusion

The introduction of a double sided mechanical debridement pad was well tolerated and effective in this high risk patient. Regular use of the pad, in combination with advanced wound care, supported wound bed preparation, facilitated granulation and epithelialisation, and improved patient comfort. This case demonstrates that structured, stepwise mechanical debridement can play a critical role in the management of complex wounds in complex patients.

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References: 1. European Wound Management Association (EWMA) (2023) Debridement: An Updated Overview. Copenhagen: EWMA Publications. 2. Schultz, G.S., Barillo, D.J., Mozingo, D.W. (2022) TIME framework revisited: Current principles in wound bed preparation. Wound Repair and Regeneration, 30(1), pp.20–30. 3. Cutting, K.F., Harding, K.G. & White, R.J. (2022) Antimicrobial dressings and biofilm management in chronic wounds. International Wound Journal, 19(6), pp.1430–1442.

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