

DIABETES RELATED FOOT ULCERS (DRFU) MANAGED WITH POLYABSORBENT FIBRE DRESSINGS AS PART OF HOLISTIC CARE – A CASE SERIES.

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INTRODUCTION

The stalwarts of treatment regarding local DRFU wound care includes debridement, advanced dressings to promote healing, wound off-loading, and prevention of and treatment of active infection^{1,2}. The principles of wound management, wound bed preparation and newer technologies involving alternation of wound physiology to facilitate healing, are of utmost importance when attempting to heal a chronic DRFU³.

METHOD

A 3-case series involving DRFU where the patients' wounds were managed with a polyabsorbent fibre dressing range, including a neutral fibre rope, silver polyabsorbent fibre pad dressing (TLC-Ag) and polyabsorbent fibre pad dressing with TLC-Nano Oligo Saccharide Factor. The polyabsorbent fibres are used in the continuous debridement of slough^{4,5, 8-11}, while TLC-NOSF possesses matrix metalloproteinases (MMP)-reducing properties¹² and promote healing⁶.

CASE 1 POST FOREFOOT AMPUTATION (MARZENA ZARZYCKA)

44-year-old male, with a past medical history of T3D since 2014

- Presented (26/12/2024) with phlegmon, of the right foot. 3rd toe, which was amputated the following day (**Fig 1A**). Foot amputation at the level of the metatarsal bones on was done on 31/12 due to deterioration. Post operative management of the wound included cleansing with polyhexanide biguanide and dressing with sterile gauze (**Fig 1B**) (**Fig 1B**).
- Patient was referred to the wound care clinic for review of management on 21/1/2025 due to deterioration (**Fig 1C**). A further amputation was recommended but patient did not consent
- Wound was cleansed with polyhexanide biguanide, debrided with a curette and a debridement pad, and ozone therapy applied. A polyabsorbent fibre pad with TLC-Ag (UrgoClean Ag) was applied as the primary dressing for continuous debridement and antimicrobial purposes. A polyabsorbent fibre rope (UrgoClean Rope) was used to pack the deep area on the left lateral side of the wound. A superabsorbent was used as secondary dressing (Urgo Super-Superabsorber), maintained in place with a bandage. The patient was advised not to put any weight on his amputated foot and to use crutches to move around. Systematic antibiotics were also prescribed and continued for 20 days. Dressings were changed daily.
- On 30/1 (**Fig 1D**), negative pressure wound therapy (NPWT) was initiated due to a fistula at the calcaneus. Bacteriological tests revealed *Proteus mirabilis*, and a more targeted antibiotic therapy was prescribed for an additional 20 days. The NPWT was stopped 3 days later (3/2) (**Fig 1E**). Skin grafting was considered, but the patient did not consent.
- On 14/03, the patient's wife was trained on how to change the dressings at home. TLC-Ag polyabsorbent fibre pad dressing and TLC-NOSF fibre pad dressing were both used (the TLC-NOSF dressing was used on the plantar aspect). Follow-up visits took place at the clinic once a week.
- Complete closure of the fistula was achieved by 28/04. Patient was provided with a Total Contact Technology offloading shoe on 9/6. By July 14, the wound size had notably reduced (**Fig 1E**).
- This regimen was continued till 29/05, and then the dressings were used alternately. This decision was taken to allow the wound to benefit from the TLC-NOSF as well as to provide antimicrobial cover due to high possibility of infection. Management was continued at home, and it was reported that the wound had closed.



Fig 1A - post toe amputation (27/12/2024)



Fig 1B - post metatarsal amputation (31/12/2024)



Fig 1C - on presentation (20/01/2025)



Fig 1D - 10 days of treatment (30/01/2025)



Fig 1E - 14/07/2026

CASE 2

DIABETIC ISCHAEMIC LATERAL FOOT ULCER (KATARZYNA WAKULINSKA)

75-year-old male, smoker, with T2DM x15 years, and medical history of ischemic heart disease, coronary artery bypass graft, lower limb ischemia (percutaneous transluminal angioplasty in August 2025)

- Presented with a 3-week-old ischaemic right foot ulcer (**Fig 2A**, 26/8). Wound was previously managed with antibacterial cream and hydrogel. Patient was referred due to lack of progress. Systematic antibiotics were prescribed for 2 weeks.
- Wound was cleansed with a polyhexanide biguanide cleansing solution, sharp debridement was performed, and the wound was dressed with the charged polyabsorbent fibre pad dressing with a TLC-Ag matrix. A superabsorbent (Urgo Super-Superabsorber) was applied as a secondary dressing and maintain with bandage. Offloading was provided by means of a half-shoe.
- On 29/08, larval therapy was initiated, and the charged polyabsorbent fibre pad dressing with a TLC matrix was applied as a secondary dressing. The patient was instructed on how to change the secondary dressing daily at home (for 4 days).
- At the next visit, (**Fig 2B**, 2nd September), the larvae were removed. Slough was reduced but serous exudate and periwound erythema were still persistent. The charged polyabsorbent fibre pad with TLC-Ag matrix was applied as the primary dressing, with a TLC foam dressing (UrgoTul Absorb) as secondary dressing. A hyper-oxygenated oil was applied on the periwound. By 16/8 (**Fig 2C**, 14 days, 4 dressing changes), the wound size had reduced, exudate levels had decreased, and pain reduced.
- At this point the TLC-NOSF dressing was applied as there were no signs of local infection. Dressings were changed every 3 days. The wound was closed on 7th October (**Fig 2D**, another 21 days, further 6 dressing changes).



Fig 2A - on presentation (26/08/2025)



Fig 2B - post larval therapy (02/09/2025)



Fig 2C - after a further 4 dressing changes with TLC-Ag (16/09/2025)



Fig 2D - after 2 dressing changes with TLC-NOSF (07/10/2025)

CASE 3

POST METATARSAL AMPUTATION (MARTA LEŚNIK)

68-year-old male, with T2DM, hypertension, medical history of anaemia, and lower limb ischemia

- Referred on 28/8/2023 for the management of a 2-month-old post metatarsal amputation wound (**Fig 3A**). Previous management included daily foot soak in soap and water, wound cleansing with polyhexanide biguanide and traditional dressings.
- Mechanical debridement was done with a curette and debridement pads. The polyabsorbent fibre rope was used to fill in the cavity spaces, the TLC-Ag polyabsorbent fibre pad dressing was applied as primary dressing applied and held in situ with a bandage. Offloading was provided by means of a removable cast. Antibiotics were prescribed for 28 days. Dressing changes were made at the clinic on alternate days till 14/1/2024. At this point the TLC-NOSF polyabsorbent fibre pad dressing was initiated to enhance wound closure. Offloading was continued and the dressing was changed every three days at the clinic.
- Wound closure was achieved 45 days later, by 28th February (**Fig 3C**).



Fig 3A - on referral (25/08/2023)



Fig 3B - 14/01/2024



Fig 3C - 28/02/2024

CONCLUSION

Wound care clinicians often face complex challenges in their attempts to achieve healing in patients with a DRFU⁷. Wound and infection management are essential aspects of DRFU treatment. Wound care may include debridement of devitalised tissue, dressings to manage local infection and enhance wound healing, and offloading of pressure on the affected area⁸.

The management in the cases portrayed in this article have shown positive results, resonating with the published evidence and clinical studies assessing the dressings' performance, including resolution of clinical signs of local infection, reduction in slough and level of exudate and subsequent healing.

In all cases the wounds had been previously managed with other types of dressings without any real positive outcomes and the application of the TLC-Ag polyabsorbent fibre dressings and the TLC-NOSF polyabsorbent fibre dressings achieved favourable outcomes.

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