

Managing Complex Post-Surgical Abdominal Wound Dehiscence in a Young Patient: A Case Study

Author: Jansy Williams, Lead Tissue Viability Specialist, Alder Hey Children's NHS Foundation Trust

Introduction

Post-surgical wound complications such as dehiscence and infection represent a major clinical challenge, especially in abdominal surgery where stomas, drains, and medical devices complicate management.

Traditional strategies, including negative pressure wound therapy (NPWT), often face technical challenges. This case study reports on the use of [MaxioCel in an 18-year-old female with a complex post-surgical abdominal wound](#).

Method

Sophie (pseudonym) was admitted in February 2025 with a history of intractable constipation, for which she underwent a colostomy and antegrade colonic enema (ACE) procedures. Due to ongoing issues with constipation, a decision was made to proceed with a [subtotal colectomy and end ileostomy](#). Post-operatively, Sophie developed [wound dehiscence and infection](#), requiring further medical intervention.

Initial wound management had included antibiotics and NPWT, but NPWT failed due to difficulty in achieving a good seal due to the presence of other tubes, lines, and stoma bags. [Conventional dressings were tried but progress was slow](#), and Sophie reported severe procedural pain, requiring dressing changes under general anaesthesia in theatre.

The wound presented with signs of infection and was not on a positive healing trajectory. The tissue type included areas of devitalised tissue and granulation, and there was excessive exudate. Candida was identified, contributing to the delayed healing process.

In March 2025, [MaxioCel was introduced as the primary dressing](#), with daily applications due to stoma leakage. The aims of treatment were to promote wound closure, manage exudate, reduce bioburden, and manage infection. In April, adjunctive silver or hydrocortisone dressings were added to address over-granulation.

Results

MaxioCel demonstrated efficacy in this challenging clinical scenario. The wound, initially exuding, painful, and slow healing, [showed marked improvement within days](#) following treatment initiation. Exudate was effectively controlled, the wound bed developed healthy granulation tissue, and infection subsided with concurrent antifungal therapy. Importantly, dressing changes were tolerated on the ward, eliminating the need for theatre-based interventions, [improving the patient's comfort and quality of life](#).

By May 14, 2025, [the wound was fully healed](#). The patient and her caregivers reported high satisfaction with the dressing in [reducing pain, ease of use, and increased confidence in the recovery process](#).

The clinical team highlighted [MaxioCel's adaptability to complex wound environments](#), offering enhanced outcomes compared with NPWT and other dressings. MaxioCel also [proved more cost-effective and less resource intensive](#).

"The clinical team highlighted MaxioCel's adaptability to complex wound environments, offering enhanced outcomes compared with NPWT and other dressings. MaxioCel also proved more cost-effective and less resource intensive."



Discussion

MaxioCel® is an absorbent 100% chitosan gelling fibre dressing, powered by unique Bioactive Microfibre Gelling™ (BMG) technology. MaxioCel's positively charged chitosan fibres attract, disrupt, and kill bacteria within the dressing, reducing bacterial load. MaxioCel aids autolytic debridement, helping to remove slough and necrotic tissue and accelerates granulation and re-epithelialisation.

The primary aim in this case was to promote wound closure, manage exudate, reduce bioburden, and manage infection. The goal was to find a dressing solution that would promote healing while accommodating the complex nature of the wound, including the presence of tubes, stoma bags, and other factors.



"The patient and her caregivers reported high satisfaction with the dressing in reducing pain, ease of use, and increased confidence in the recovery process."

Conclusion

This case illustrates the successful application of MaxioCel in the management of a complicated post-surgical abdominal wound in a young patient. The dressing [promoted wound closure](#), effectively [managed exudate and infection](#), and [significantly improved patient comfort](#) while reducing healthcare resource demands.

[Complete healing was achieved within seven weeks](#) of initiation, underscoring MaxioCel's potential as a practical and effective alternative to conventional therapies such as NPWT.

Who is Sophie?

- Sophie is an 18-year-old female with a history of intractable constipation.
- Following a subtotal colectomy and end ileostomy, Sophie developed wound dehiscence and infection.
- Initial wound management – antibiotics and NPWT – proved unsuccessful.

The Wound and its Impact

- The wound showed signs of infection and was not on a healing trajectory.
- Tissue type included devitalised tissue and granulation, with excessive exudate. Candida was present.
- Sophie reported severe pain during conventional dressing changes, which then had to be performed under general anaesthesia in theatre.

Treatment and Results

- ✓ MaxioCel was introduced as a primary dressing.
- ✓ Improvement to the wound was seen within days.
- ✓ MaxioCel controlled exudate and the wound bed developed healthy granulation tissue.
- ✓ Sophie no longer needed theatre-based dressing changes and was able to tolerate dressing changes on the ward.
- ✓ Full healing was achieved in 7 weeks.

