Evaluation of the XLTA® Dressing Through a Retrospective Clinical Case Study

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XLTA® CURE WOUND CARE RANGE
SUPER ABSORBENT • HYDROCAPILLARY • NON-ADHERENT WOUND DRESSING

INTRODUCTION

Wounds represent a **disruption of the normal anatomic and physiologic integrity of the skin** and underlying soft tissue. The body's usual progression of wound healing follows the phases of hemostasis/coagulation, inflammation, proliferation (granulation tissue formation, neovascularization, epithelialization), and finally remodeling/maturation [1]. In most cases, wounds heal quickly and predictably; these wounds are classified as **"acute wounds"** [2]. However, in certain cases such as trauma, disrupted blood flow, hematoma formation, repeat injury, or poor wound care, the healing process can deviate from its usual pattern. When this occurs, wound progression may slow or stall altogether. These wounds then become what is known as **"non-healing," or more commonly, "chronic" wounds** [3].

In this case study, a wound **characterized as chronic, non-healing, and traumatic will be assessed**. Such wounds are complex and difficult to treat, often requiring specialized medical management with the use of advanced dressing options. These wounds frequently involve partial tissue loss, compromised perfusion, and disrupted tissue architecture. Advanced dressings like the XLTA® hydrocapillary dressing aim to address these challenges by promoting healthy granulation and epithelialization through the support of an optimal wound-healing environment.

The XLTA® dressing aims to provide an alternative option within the advanced wound dressing space. This dressing is an **innovative and novel hydroconductive, hydrocapillary wound dressing with promising clinical results**. It is specifically designed for high exudate management and enhanced wound bed preparation. The XLTA® dressing is composed of **three layers**:

- **Two outer non-adherent layers**, engineered to maximize patient comfort and allow for easy placement and removal.
- **A medial hydrocapillary, super absorbent layer**, responsible for rapid exudate uptake

The XLTA® dressing works through a few proposed mechanisms of action

- **Capillary Action**: Draws in excessive exudate, providing optimal moisture levels for epithelialization
- **Horizontal Dispersion**: Evenly distributed fluid matrix across dressing surface, prevents pooling of fluid and traps bacteria and necrotic tissue away from the wound bed
- **Positively Charged Fibers**: Attract negatively charged bacteria, cytokines, and matrix metalloproteinases (MMPs), which aid in debridement and help to reduce bioburden

Figure 1. Proposed mechanisms of action for the XLTA® dressing

CASE STUDY BACKGROUND & METHODS

This case study was conducted on a single patient (GC). **The patient's demographics include**:

- **Age**: 81
- **Sex**: Female
- **Medical History**: Congestive heart failure, type II diabetes mellitus, obesity, and edema

GC presented for treatment of a **ruptured hematoma secondary to a traumatic injury to the medial aspect of the right lower extremity**. Clinicians were attempting to prepare the wound bed for placement of a dermal skin graft substitute, a process requiring adequate epithelialization and granulation tissue formation. **At the time of admission, the wound was classified as non-healing and non-progressing**.

Given the nature of the wound, clinicians determined that a hydrocapillary, hydroconductive dressing would be the most appropriate treatment approach. **The XLTA® dressing was selected for its super absorbent capacity and its effectiveness in managing high levels of exudate**. Additionally, the XLTA® dressing was chosen for its **ability to support autolytic debridement** and to capture, sequester, and retain necrotic tissue away from the wound bed, promoting an optimal healing environment.

The **application of the dressing was as follows**:

- XLTA® dressing directly on wound surface followed by
- Non-stretch Kerlix, then
- Ace bandage wrapped toe to knee
- Applied once a day as needed if compromised

The patient returned for weekly follow-up visits over a three-week period following the initial assessment.

RESULTS

Initial Presentation
- Wound classified as non-healing and non-progressing
- Presence of non-viable slough and devitalized tissue
- Preparing for eventual dermal skin graft substitute

Wound Measurements
- 17.5 × 23.5 × 0.3 cm, Area: 411.25 cm², Volume: 123.38 cm³

Major Improvement Phase
- Significant removal of non-viable tissue
- Depth reduced from 0.3 to 0.1 cm
- Wound bed now predominantly red, beefy granulation tissue

Healing Statistics
- Area reduction: 18.30%, Volume reduction: 72.77%
- Depth normalization strongly accelerates volume improvement, dressing demonstrating effective autolytic debridement

28 October, 2025 → 06 November, 2025 → 13 November, 2025 → 20 November, 2025 → 29 November, 2025

Early Response
- First evidence of early granulation tissue
- Sharp debridement performed
- Hydrocapillary dressing supporting autolysis of slough

Healing Statistics
- Area reduction: 2.86% from baseline
- Volume reduction: 2.86% from baseline
- Improving tissue quality,transition from "non- progressing" to "responding"

Graft Ready Status
- 100% slough removal achieved
- Wound bed fully granulating
- Clinically ready for dermal skin graft substitute, which is applied on this date

Healing Statistics
- Area reduction: 37.99%, Volume reduction: 79.33%
- Rapid improvement in last 2 weeks due to optimized moisture balance and dressing performance

Figure 2. Timeline of healing outcomes

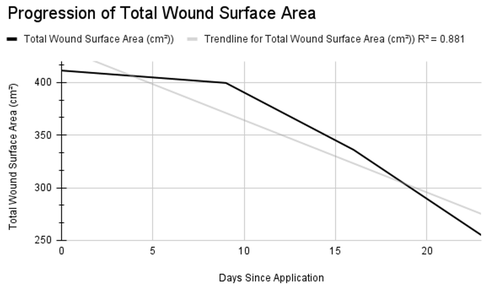

Chart 1. Total Wound Surface Area in cm² with trendline

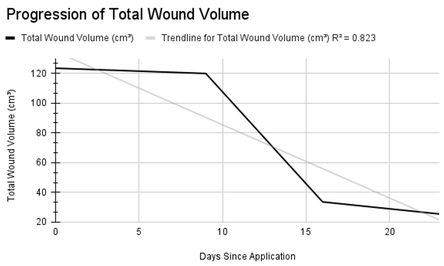

Chart 2. Total Wound Volume in cm³ with trendline

GC's wound initially presented as non-healing with a surface area of **411.25 cm² and a volume of 123.38 cm³**, containing significant non-viable slough. After 9 days of treatment with weekly debridement and a hydrocapillary dressing, the wound showed early signs of improvement, with wound volume decreasing by 2.86%, indicating the beginning of granulation and slough reduction.

By day 16, the **wound's progression accelerated noticeably**. The surface area decreased to 336 cm² (83% of the original size), while the wound volume dropped sharply to 33.6 cm³, only 29% of the initial volume. This substantial volumetric improvement corresponded with a reduction in depth and the appearance of healthy granulation tissue.

By day 23, the **wound had transitioned to a graft-ready state, with a surface area of 255 cm² and a volume of 25.5 cm³**. Overall, this reflects a **37.99% reduction in surface area and a 79.33%** reduction in volume from baseline. Across the three-week period, the wound demonstrated a **mean closure rate of approximately 6.8% per week**, highlighting consistent and meaningful healing progression.

DISCUSSION AND IMAGE ANALYSIS

Image 1 – 28 October 2025:
- Initial visit
- 15.5 × 23.5 × 0.3 cm

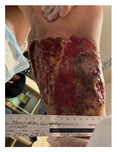

Image 2 – 06 November 2025:
- 17.0 × 23.5 × 0.3 cm

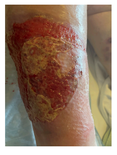

Image 3 – 13 November 2025:
- 16.0 × 21.0 × 0.1 cm

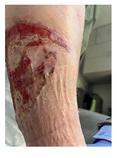

Image 4 – 20 November 2025:
- 15.0 × 17.0 × 0.1 cm
- Note 100% reduction in non-viable autolyzing achieved
- Dermal skin graft substitute applied on this date

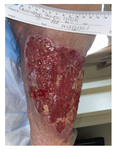

Image 5 – 29 November 2025:
- 15.0 × 17.0 × 0.1 cm

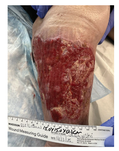

Image 6 – 12 December 2025:
- 15.0 × 15.0 × 0.1 cm
- Note 100% increase in size is visually noted due to fragile epithelial tissue along the edges in photo dated 11/29/2025 being mechanically debrided during the cleansing and wound prepping process

The XLTA® dressing provided remarkably important results for GC. A traumatic non-healing wound of this nature is both dangerous and deeply demoralizing for patients, often carrying a high risk of infection, prolonged disability, and delayed return to normal function. To observe improvement of this magnitude in such a short time frame is not only clinically significant but also highly encouraging for the performance of the XLTA® technology. Most importantly, these results were meaningful and life-altering for GC, who transitioned from a stalled, non-progressing wound to a clear path toward definitive closure.
In just 23 days, GC's wound progressed from a stagnant, non-healing state to demonstrating strong epithelialization and robust granulation tissue suitable for the application of a dermal skin graft substitute. This represents a substantial acceleration in healing that would not typically be expected in a wound of this size, depth, and complexity. The XLTA® dressing once again showed itself to be a reliable and powerful advanced dressing, particularly well-suited for wounds with medium to high exudate levels where moisture balance and controlled autolysis are critical.

Additionally, XLTA® demonstrated its consistent ability to promote a healthy wound environment by supporting slough removal, maintaining optimal moisture levels, and fostering the conditions necessary for orderly epithelialization and granulation. These findings further reinforce the potential of XLTA® as a valuable tool in managing challenging wounds, especially those at risk of becoming chronic or failing to progress through the expected phases of healing.

CONCLUSION

In this poster, a case study of patient GC was presented for treatment of a ruptured hematoma secondary to a traumatic injury on her right lower extremity that had been classified as non-healing. The XLTA® dressing was selected for its ability to absorb excess exudate, provide an optimal healing environment, and support autolytic debridement. Over a three-week period with weekly evaluations, GC's wound decreased in volume by 79.3% and in surface area by 38%. This level of improvement was sufficient for GC to receive a dermal skin graft substitute. Analysis of wound images supports these findings. Overall, XLTA® continues to demonstrate strong potential in traumatic wound care, using a simple yet advanced design focused on patient comfort and effective treatment.

REFERENCES

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3. Williams-Reid, H., Johannesson, A., & Buis, A. (2024). Wound management, healing, and early prosthetic rehabilitation: Part 1 – A scoping review of healing and non-healing definitions. Canadian Prosthetics & Orthotics Journal, 7(2), 43715.

DISCLOSURE STATEMENT

This study represents a retrospective, single wound care case analysis. Patient information has been de-identified, informed consent has been obtained and informed image/photographic release is on file.

ACKNOWLEDGEMENTS

The authorship group would like to acknowledge and thank the patient, GC, for their contributions to furthering clinical education of clinicians and researchers