

Advanced Human Cellular and Tissue Product (HCT/P) Therapy for Chronic Pressure Ulcer Treatment in a Patient with Diabetes and Paralysis*

Indy Wound Center for Limb Preservation and Reconstruction,
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PATIENT OVERVIEW

A 65-year-old male with diabetes mellitus (DM) and a cerebrovascular accident (CVA) resulting in paralysis presented with a sacral pressure ulcer lasting over 3 months. Prior treatments, including Dakins solution packing, wound vac therapy, and calcium alginate, alongside offloading techniques (pillow wedges, frequent turning), failed to show adequate improvement.

Before applying an HCT/P, the patient was managed with:

- NPWT (Negative Pressure Wound Therapy)
- Nutritional supplementation (L-Arginine, vitamins)
- Urine and fecal management
- Skilled home health wound care

CLINICAL APPROACH

- MRI excluded osseous pathology.
- A1c: 5.7% (good glycemic control).
- **Nutrition:** Supplemented with Juven and Ensure to optimize protein intake.
- **Offloading:** Prescribed a low air loss mattress and a ROHO cushion. Given the lack of progress with conservative therapies, the patient was deemed a candidate for an HCT/P.

* The photographs included in this case study were obtained with the necessary permission.

MEMBRANE TREATMENT



BEFORE
12/27/2023



AFTER
03/01/2024

Date	Wound Size (cm)
12/27	3.2 x 2.5 x 1.0
1/12	2.2 x 2.5 x 0.6
1/19	6.0 x 2.0 x 0.4
2/20	9.0 x 1.3 x 0.2
2/12	0.9 x 1.3 x 0.2
2/23	1.1 x 0.8 x 0.2
3/10	0.8 x 0.8 x 0.2

CONCLUSION

This case highlights the use of an HCT/P managing a chronic sacral pressure ulcer in a patient with diabetes mellitus and recent stroke. The patient received negative pressure wound therapy, nutritional supplementation, urine and fecal management, and skilled home health wound care. The patient progressed with the use of HCT/P treatments, with regular follow-up ensuring continued wound management and improvement.

ABOUT MEMBRANE WRAP™

BioLab Membrane Wrap™ is a dual-layer amnion-amnion human tissue allograft derived from the amniotic membrane that serves as a barrier and provides protective covering for the wound. It is minimally manipulated, preserving the properties exhibited in its natural state** while remaining compliant with FDA Regulations.

** All BioLab Holdings Membrane Wrap™ allograft tissue products have been tested for potentially infectious diseases and terminally sterilized to ensure the safety of each membrane.

Optimized Management of Chronic Diabetic Foot Ulcer with SkinSubstitute Therapy and Multidisciplinary Care*

Thomas Zumbaugh, DPM, Indianapolis, IN

PATIENT OVERVIEW

A 65-year-old male with diabetes mellitus and a chronic, non-healing diabetic foot ulcer (DFU) was admitted to the hospital with altered mental status during treatment at an outside wound facility. MRI showed potential osteomyelitis.

On 05/17/2024, the patient underwent excisional debridement and biopsy, followed by IV antibiotics based on culture results. He also started wound VAC therapy. Vascular surgery evaluated the patient, and non-invasive arterial testing confirmed adequate perfusion for healing. After discharge, his blood glucose was optimized under endocrinology and osteomyelitis managed with infectious disease care. Offloading was achieved with a Prevalon boot and post-op shoe, along with multilayer dressings. On 06/17/2024, the patient was deemed optimized for Human Cellular and Tissue HCT/P application, with stable glucose and osteomyelitis management, allowing progression to advanced wound care therapies. This multidisciplinary approach was key in promoting healing and managing the complex ulcer and osteomyelitis.

CLINICAL APPROACH

- **Initial Management:** Perform surgical debridement and biopsy, initiate IV antibiotics based on culture data, and start wound VAC therapy for enhanced healing.
- **Vascular Assessment:** Conduct non-invasive arterial testing to confirm adequate perfusion and ensure healing potential.
- **Post-Discharge Care:** Optimize blood glucose control, continue antibiotics for osteomyelitis, and use offloading devices (e.g., Prevalon boot, post-op shoe) with multilayer dressing.
- **Advanced Wound Care:** Once optimized, initiate HCT/P application and ensure regular follow-up for ongoing wound assessment and infection management.

MEMBRANE TREATMENT



Date	Wound Size (cm)
6/7	4.3 x 3.8 x 0.2
6/24	4.7 x 3.4 x 0.2
7/1	4.7 x 3.2 x 0.2
7/8	4.1 x 2.9 x 0.2
7/15	3.8 x 2.6 x 0.2
7/22	3.1 x 1.7 x 0.2
7/29	2.4 x 1.3 x 0.2

BEFORE
6/10/2024

AFTER
8/26/2024

CONCLUSION

This case highlights a multidisciplinary approach to managing a chronic diabetic foot ulcer with osteomyelitis. The patient received surgical debridement, IV antibiotics, and wound VAC therapy for infection control and healing. Vascular assessment and blood glucose optimization were key in ensuring healing potential. The patient progressed to an HCT/P treatment, with regular follow-up ensuring continued wound management and improvement.

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