

## CASE STUDY

# Chronic Wounds Close Using Various Configurations of Polymeric Membrane Dressings\* Despite Fear-Generated Non-Compliance

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### PROBLEM

A middle-aged farmer in rural northern Ghana, West Africa suffered two 13 cm<sup>2</sup> full-thickness left lower leg wounds in an accident. The patient's perceived pain (hyperalgesia) left him completely incapacitated. He had even refused to bathe since his accident for fear of increasing the pain to the wounds. After four months with no treatment, he arrived at the clinic during the arid season (the humidity never rose above 10%). Drainage from both wounds was extremely foul but scant. He had to be physically restrained for his loose bandages of rotten leaves and rags to be cut off.

### RATIONALE

The patient's dressings needed to reduce his pain and conform to the wound beds well to stay in place during farming on hands and knees using a short, locally-made hoe. The wounds also needed to be kept appropriately moist despite extremely dry surroundings. Use of conventional modern foam, hydrocolloid and hydrogel dressings led to dramatic fungal and bacterial infections in this very warm setting. But, polymeric membrane dressings demonstrated an ability to reduce infection, most likely due to their built-in wound cleanser. Silver has additional anti-infective properties. All polymeric membrane dressings contain glycerin, which contributes moisture to dry wounds and aids in non-adherence. These flexible dressings also directly help reduce wound pain by inhibiting the nociceptor response. Therefore, silver polymeric membrane dressings were initiated.

This case study was unsponsored. The clinic receives donated supplies from many sources, including Ferris Mfg. Corp., who contributed to this poster presentation.

### METHODOLOGY

Treatment included prayer, a course of oral antibiotics and direct wound care. After an initial thorough wound cleansing with saline, silver polymeric membrane cavity filler in two layers was left on for three days to clear infection. Then an extra-thick pink (without silver) polymeric membrane dressing was used instead. No manual wound cleansing or rinsing was performed at dressing changes. Dressings were changed when the patient permitted access to the wounds. Despite sporadic clinic attendance (intervals of three, five and even ten days), the wound beds remained clean and infection-free and healing progressed. Small silver polymeric membrane dressings in the form of stretchy cloth-backed adhesive dots were used when the wounds were almost healed, as a convenience to the caregiver.

### PURPOSE / OBJECTIVES

1. When decreasing wound pain is a goal, consider the benefits of using polymeric membrane dressings, which are non-adherent and can inhibit the nociceptor response.
2. Recognize that polymeric membrane dressings provide passive continuous cleansing of the wound bed, which often eliminates the need for painful and time-consuming wound cleansing or even rinsing at dressing changes.
3. Consider the advantages in terms of patient confidence and cost of using the same dressing modality from initiation of treatment to complete wound closure.
4. Review evidence for the use of polymeric membrane dressings, which are able to donate moisture, in the treatment of dry wounds.

### RESULTS

The patient remained fearful, had to be held down for every dressing change and adamantly refused even periwound skin cleansing throughout the treatment. But, his pain was sufficiently reduced that he was able to return to manual farming immediately upon initiation of treatment. He failed to attend the clinic regularly due to his fear, twice going ten days between dressing changes. When he came to the clinic, the dressings often contained very foul exudate, but the wound beds themselves were clean without infection. Granulation tissue formed quickly and wound moisture became appropriate. Wound healing was slowed due to prolonged intervals without dressing changes and farming related wound trauma. None-the-less, the wounds closed completely in ten weeks.

### CONCLUSION

Polymeric membrane dressings reduced wound pain enough to permit the farmer to work his field. The wound beds stayed clean without the need for painful manual wound cleansing at dressing changes, even when the patient went ten days between clinic visits. Polymeric membrane dressings provided effective wound management for this very fearful patient from initiation of treatment to complete wound closure.

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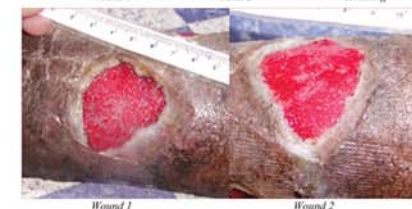
\*PolyMem Wic Silver® cavity filler, PolyMem Max® Dressings, and PolyMem Silver® Cloth Adhesive Dots are made by Ferris Mfg. Corp., Burr Ridge, IL 60527 USA  
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**5 Jan: Initial wound appearances:**  
Wound 1: 3.0 cm x 4.5 cm  
Wound 2: 3.5 cm x 4.0 cm  
The exudate was scant, but thick and extremely foul.  
The periwound area was filthy.



**6 Jan: One day later:**  
The wound beds are already clean. Despite the patient's fear of treatment, the wounds often bled from his accidental bumping of the dressed wounds during farming.



**9 Jan: In three more days:**  
Granulation was clearly occurring and the wounds were quite clean. Silver was no longer needed, so standard pink extra-thick polymeric dressings were employed.



**14 Feb: A month later:**  
Note the contrast between the clean appearance of the wounds and the exudate and rotten blood absorbed by the dressings.  
No cleansing was needed or done.



**17 Feb: Patient returned in only three days:**  
The exudate had just reached the wound margin when the dressing was changed. Such appropriate timing enhanced the healing process, but it was rare.



**15 Mar: Final leg appearance:**  
The patient remained fearful and still had not bathed since his injury, but complete closure of both wounds occurred ten weeks after initiation of treatment.