

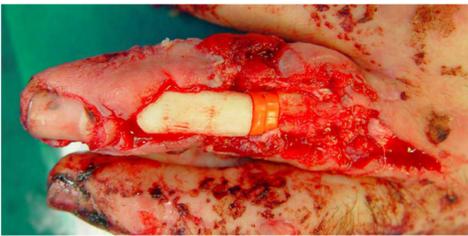
Injured Finger Salvaged Using PolyMem® Silver Dressings to Keep the Wound Bed Clean and Warm

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Ten Months of Treatment, Multiple Failed Grafts – Can This Finger Be Salvaged?



13 Jan: A 30-year-old carpenter cut his middle finger while working, damaging all but the fingertip.



23 Feb: An operation was performed to give him a donor bone graft and a silicone joint.



23 Feb: These were covered with a skin graft. A hydrogel under paraffin gauze was used to keep the graft moist.



18 June: The first two skin grafts failed and this third one, a flap from the back of the hand, was put into place.



16 Oct: The third skin graft became necrotic, allowing the bone graft to shift. The joint was also destroyed.

OBJECTIVES

1. Discuss the advantages of PolyMem having a built-in wound cleanser, which minimizes disruption to the wound bed tissue and temperature.
2. Note the quick healing with PolyMem, which dramatically decreases costs and inconvenience to the patient.
3. Consider the role that PolyMem's support of autolytic debridement played in healing this wound.

BACKGROUND

A carpenter accidentally destroyed the first two phalanges of his finger. The third phalange with the fingertip tissue was mostly intact. An artificial joint was inserted and a bone graft from a donor and a skin grafts were performed. The skin grafts failed three times, threatening the viability of the bone graft. The artificial joint was destroyed by necrosis.

AIM

We believed the skin grafts were failing partly because the hydrogels covered with paraffin gauze we were using as dressings consistently cooled the wounds to below normal body temperature (the wound temperature was only 35.6° C when checked by inserting a probe under the hydrogel dressing). Also, changing the dressings and cleansing the wound with saline disrupted the wound bed. So, we decided to use PolyMem dressings, which insulate the wound bed and contain a built-in cleanser, usually eliminating the need for disruptive wound cleansing. These unique dressings donate moisture to dry wounds while absorbing excess exudate, so they are especially appropriate for use on grafts.

Infection was a serious concern. PolyMem Silver dressings have been tested and found to be effective against representative wound pathogens. Recently several other modern silver dressings were shown to be severely cytotoxic in vivo, but cells in contact with PolyMem Silver dressings proliferated. This further affirms the author's decision to use PolyMem Silver dressings.

METHODS

A PolyMem Silver dressing was applied immediately after surgery for the fourth skin graft. The PolyMem dressing was replaced daily, and then every two days, without manual wound cleansing during dressing changes.

RESULTS

The temperature under the dressing, which was checked with a probe before each dressing change, remained 37° C when PolyMem Silver was used. Pain and edema decreased rapidly. The PolyMem Silver dressings absorbed all the exudate and debris from autolytic debridement, keeping the wound bed clean. The wound fully closed 2½ months after initiation of treatment with PolyMem Silver Quadrafoam dressings. The patient retained finger function and flexibility after closure.

DISCUSSION

Changing to PolyMem Silver dressings instead of hydrogels and paraffin gauze resulted in the salvage of this patient's finger. We believe that the combination of the built-in wound cleanser, which eliminated the need for potentially damaging manual wound cleansing on this patient, and the insulation provided by the dressing were directly responsible for the positive outcome after so many setbacks on this wound.

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Using PolyMem Silver, the Fourth Graft Was Successful. Functional Results!



23 Oct: The fourth skin graft was positioned over a new auto-bone graft and was covered with PolyMem Silver.



19 Nov: The wound did not cool during the quick dressing changes with PolyMem Silver, and it began healing.



1 Dec: No manual wound cleansing was done during dressing changes. The PolyMem absorbed the slough.



19 Dec: The finger seemed to elongate and re-form into finger shape as it healed. The edema is gone now.



2 Jan: Only 10 weeks after switching to PolyMem Silver, the wound is fully closed. The patient's finger is functional!