

# Quick Healing of a Deep MRSA-Infected Wound Using Silver Polymeric Membrane Dressings\*

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## CLINICAL PROBLEM

A 60 year old male presented with a spider bite to the left buttock on July 7<sup>th</sup>. The patient complained of wound pain and was treated with IV antibiotics for MRSA. Past wound care management included sharp debridement, saline wet-to-dry dressings and iodine dressings, all with no improvement. The patient was referred to the surgical clinic for a follow-up visit with a Wound Care nurse on July 27<sup>th</sup>. The wound measured 3 cm x 2 cm with a depth of 2 cm at that time.

## CURRENT APPROACH

The new wound care management included silver polymeric membrane dressings as a combined primary and secondary dressing. Rolled gauze was placed on top of the silver polymeric membrane dressing to push it gently into contact with all the wound surfaces, then tape was applied to the gauze in order to hold the dressing in place. Wound care dressing changes were performed three times per week; the dressings were 50 - 70% saturated at the time of being changed. Facility policy is to clean wounds at all dressing changes with saline in order to check the granulation tissue formation and to check for hypergranulation, so the wound was rinsed with saline during every dressing change.

## PATIENT OUTCOME

Wound healing was noted with a decrease in wound size and increase in granulation tissue in the wound bed. There was an increase in granulation tissue by the third dressing application. The polymeric membrane dressings were changed about every 3 – 4 days rather than the daily changes required with the wet-to-dry and iodine dressings.

The use of the polymeric membrane dressings dramatically reduced the amount of nursing time spent changing this patient's dressings. Additionally, the dressings reduced the patient's wound pain and increased his general comfort level.

The wound was managed with the silver polymeric membrane dressings to complete wound closure, which took less than one month of treatment with these dressings.

## CONCLUSION

Silver polymeric membrane dressings, which contain small silver particles, have been shown to be effective even against MRSA. The dressings enhance patient comfort by leveraging built-in glycerin to soothe traumatized tissues, reduce wound pain and provide wound site comfort. In addition to the action of the super-absorbent starch in the dressing, the moisturizer (glycerin) has been shown to help reduce the risk of peri-wound maceration.

Silver polymeric membrane dressings enhanced the wound healing process and were successfully used as a combined primary and secondary dressing. They provided comfort at all stages of healing for this deep MRSA-infected wound, which closed in only one month. Treatment was time efficient and cost-effective.

## OBJECTIVES

1. Describe why silver polymeric membrane dressings can be used on infected wounds to enhance healing while decreasing infection and inflammation.
2. Discuss how the moisturizer in silver polymeric membrane dressings allows them to be used to enhance wound healing until complete closure.
3. Discuss problematic issues related to dressing a painful infected wound.

## BIBLIOGRAPHY

1. Fluhr JW, Gloor M, Lehmann L, Lazzerini S, Distante F, Berardesca E. Glycerol accelerates recovery of barrier function in vivo. *Acta Derm Venereol.* 1999 79:418-421.
2. Lansdown ABG. Silver I: Its antimicrobial properties and action. *Journal of Wound Care.* 2002 April;11(4):125-130.
3. Burd A, Kwok CH, Hung SC, Chan HS, Gu H, Lam WK, Huang L. A comparative study of the cytotoxicity of silver-based dressings in monolayer cell, tissue explant, and animal models. *Wound Repair and Regeneration* 2007 15:94-104.
4. Ovington LG. The truth about silver. *Ostomy Wound Management.* 2004 Sept;50(9A Supplement):1S-10S.
5. Kim Y, Lee S, Hong S, Lee H, Kim E. The effects of polymem on the wound healing. *J Korean Soc Plast Reconstr Surg* 1999;109:1165-1172.

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July 27: Wound dimensions 3 cm x 2 cm x 2 cm deep; beefy red granulation tissue noted. Erythema noted to surrounding skin. Silver polymeric membrane dressing initiated.



August 1: Wound dimensions 2.1 cm x 4.1cm x 1.5 cm deep; wound healing noted. Continue with silver polymeric membrane dressings.



August 10: Wound dimensions 1.7 cm x 1.7 cm with minimal depth; wound healing well. Decreased inflammation and infection observed.



August 15: Wound dimensions 0.8 cm x 0.8 cm; silver polymeric membrane dressings continued until wound closure. Wound completely healed on August 25.