

# **The Use of Antimicrobial Gauze in a Home Care Setting: A Cost Effective, Proactive Wound Management Plan**

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# The Use of Antimicrobial Gauze in a Home Care Setting: A Cost Effective, Proactive Wound Management Plan

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## ABSTRACT

Wound care in home health settings can be expensive and time-consuming. Co-morbidities and variable home environments can lead to challenges associated with wound healing and infection prevention. Current knowledge of wound bed preparation indicates a strong competition between proliferating cells and bacteria. "The goals of wound bed preparation include removing necrotic or fibrinous tissue, reducing the total number of senescent or abnormal cells, decreasing exudate, decreasing the bacterial load, and increasing granulation tissue"<sup>1</sup>.

Managing bacteria in the wound bed can have a significant impact on healing times, cost of treatment and patient safety.

Infected wounds are estimated to cost \$15,646<sup>2</sup> and have major economic and social implications that include delayed healing, hospitalization and potentially death.

## INTRODUCTION

In an effort to minimize cost, improve outcomes and simplify treatment regimen for patients and caregivers, the Wound Care Team trialed Antimicrobial Dressings impregnated with Polyhexamethylene biguanide (PHMB)\* and amorphous hydrogel, in place of costly silver products, Negative Pressure Wound Therapy (NPWT), and prescription silver sulfadiazine on a variety of patients. In chronic wounds the Wound Care Team chose to take a proactive approach by utilizing the PHMB-impregnated dressings initially prior to instituting the use of enzymatic debriding ointments, collagens, or growth factors.

It was expected that the use of the PHMB-impregnated gauze in combination with an amorphous hydrogel would prevent bacterial migration, enhance barrier protection, and decrease bacterial bioburden, while maintaining a moist wound healing environment. Acceptable healing times without complications due to bacterial bioburden, ease of use, and cost containment were the goals of this dressing selection per the wound care team.

## METHODOLOGY

The wound care team chose a wide variety of wound types for the trial. Those represented in this abstract include the following:

### Stage IV Sacral Pressure Ulcer:

- Treatment with a palliative goal

### Surgical Incisions:

- Cardiac harvest sites due to a recent rash of complicated healing rates
- Wide excision sebaceous cysts (scalp)
- Dehisced midline incision

During the study all wounds were chronicled via digital photography for progress. The wounds were closely monitored for bacterial bioburden, signs and symptoms of infection, individual nutritional needs, and support surfaces as needed.

All patients and caregivers were easily trained on dressing change protocol.

## RESULTS

Wounds showed significant signs of increased granulation tissue and epithelialization, decrease in wound size and decrease in slough. In addition some patients relayed an improvement in pain symptoms to the clinicians. Based on these patient outcomes and the ease of use, the home care agency was able to decrease nursing visits. Due to the significant patient outcomes, ease of use, decrease in nursing visits, and lower acquisition cost for the dressings, the home care agency was able to realize significant savings.

## CONCLUSION

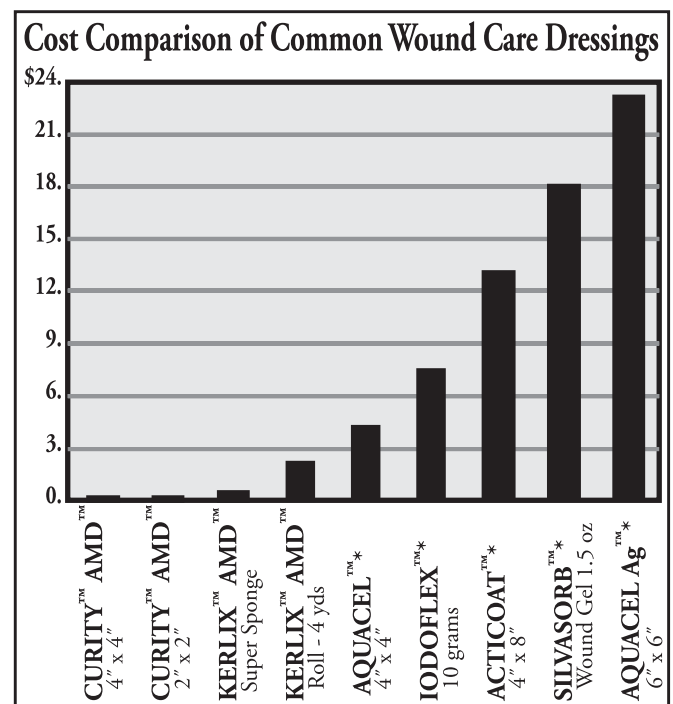
The proactive selection of antimicrobial dressings helped to achieve the goal of the trial. All wounds showed significant overall improvement. No wound infections were noted during the trial. Ease of use was confirmed by patients and caregivers. Patient comfort was an unexpected benefit of utilizing the PHMB-impregnated dressing with an amorphous hydrogel.

## \* PRODUCT NOTATIONS:

Kendall AMD™ Products, Tyco Healthcare Group LP  
Acticoat™\* and Iodoflex™\*, Smith & Nephew  
Aquacel Ag™\*, E.R. Squibb & Sons  
Silvasorb™\*, Medline

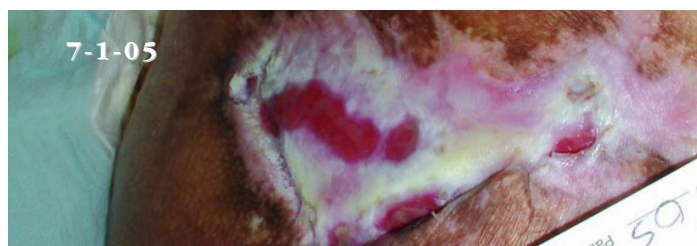
## REFERENCES

1. Falanga, V.; Classifications for Wound Bed Preparation and Stimulation of Chronic Wounds. *Wound Repair Regen* 2000; 8: 347-52.
2. Stone PW, Larsen E, Kawar LN. A Systematic Audit of Economic Evidence Linking Nosocomial Infections and Infection Control Interventions: 1999-2000. *American Journal of Infection Control* 2002; 30: 145-152.



## Case Studies

### Patient #1 — Stage IV Sacral Pressure Ulcer



**64 year old female**

**Diagnoses:** cerebral artery occlusion with CVA; tracheotomy; convulsions; incontinent; decreased

muscle strength, G-tube feedings; pressure ulcer

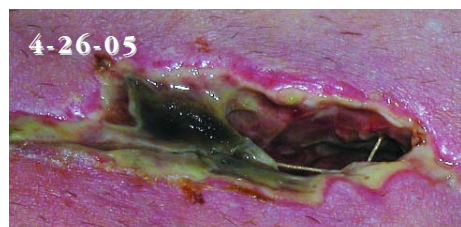
**Previous treatment:** Dakin's solution soaked gauze

**Start of AMD:** 9/24/04

**Goals for wound:** strictly palliative

**Results:** no recurrence of infection, odor controlled, easier for family to perform, and eventual wound closure.

### Patient #2 — Surgical Wound (Cardiac Harvest Site)



**73 year old male**

**Diagnoses:** coronary artery disease; lymphedema; non-healing surgical wound

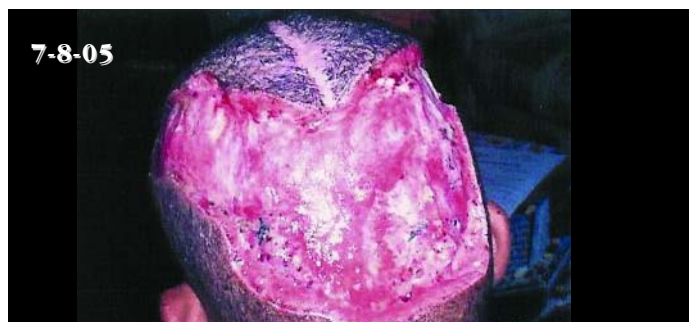
**Previous treatment:** Aquacel Ag x 1 in MD office (patient removed dressing from wound within 6 hours due to pain associated with dressing)

**Start of AMD:** 4/23/05 with amorphous hydrogel

**Goal:** debridement, decrease in pain, control bacterial load, and wound healing

**Results:** complete closure in 3 months (significantly sooner than expected), less painful dressing changes and establishment of status post-open heart protocol

### Patient #3 — Wide Excision Sebaceous Cysts (Scalp)



**47 year old male**

**Diagnoses:** hypertension, recurrent scalp infection x 20 years, topical silver sensitivity

**Previous treatments:** NPWT discontinued secondary to arterial bleed, XEROFORM™ dressing covered with silver sulfadiazine

**Start of AMD:** 7/8/05 with amorphous hydrogel

**Goals for wound:** remain infection-free and decrease pain associated with dressing changes

**Results:** no recurrence of infection, decrease in slough, decrease in drainage, increase in granulation tissue, dramatic decrease in pain

### Patient #4 — Dehisced Midline Abdominal Incision



**78 year old female**

**Diagnoses:** intestinal obstruction, colon cancer with colostomy, muscle weakness, deep vein thrombosis

**Previous treatment:** Aquacel Ag started 3/30/05 with no change in wound measurements

**Start of AMD:** 4/20/05 with amorphous hydrogel

**Goal:** Wound healing via secondary intention

**Results:** Healed 4/25/05

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<sup>TM</sup> Acticoat and Iodoflex are trademarks of Smith & Nephew, Inc.

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