



# **Bacteriostatic Dressing Use in Conjunction with an Enzymatic Debriding Agent to Facilitate Improved Wound Outcomes in a Geriatric Population**

Loren Hayes, DNP, MS, GNP-BC, GCNS-BC, CWCN-AP, CWS, FACCWS,  
Wound Technology Network,  
Hollywood, Florida

## **OBJECTIVE:**

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To discuss the clinical benefits of a highly absorbent, broad spectrum bacteriostatic foam in conjunction with an enzymatic debriding agent for use with the aging population who present with multiple co-morbidities and complicated chronic wounds.

## **THE CHALLENGE:**

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The aging population and prevalence of multiple co-morbidities complicate the care of patients with chronic wounds of varying etiologies including DFU, PU, and wounds related to trauma in need of grafting. This scenario is further complicated by the microenvironment of the chronic wound. Choosing to treat critical colonization in a wound bed complicated by excessive necrotic tissue has been a challenge, as most antimicrobial or bacteriostatic products cannot be combined with an enzymatic debriding agent. The influx of multiple wound products currently on the market can be difficult for wound care clinicians to decipher which is best for this population of patients.

## **CURRENT CLINICAL APPROACH:**

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A dressing comprised of highly absorbent polyvinyl foam impregnated with Methylene Blue and Gentian Violet\* which provides broad spectrum bacteriostatic activity while being compatible with chemical debriding agents and growth factors, was utilized in a series of three elderly patients with chronic wounds where conventional therapies had not proven effective. All wounds were highly colonized, presented with necrotic tissue, and were assumed at risk of progressing to infection.

## **RESULTS:**

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The use of this dressing has demonstrated effectiveness in this difficult population and demonstrated efficacy on a variety of chronic wound etiologies in combination with an enzymatic debriding agent. Outcomes included established granulation, reduced wound volume and area, decreased epibole, no incidence of infection, improved integrity of periwound tissue, and self report of diminished pain, thereby establishing indication for use of this product with an aging population.

## CASE STUDY #1

70 year old patient with IDDM (Insulin Dependent Diabetes Mellitus) who is bed-to-chair assist only, non ambulatory. Presented with a non healing DFU (Diabetic Foot Ulcer). Wagner grade score was a 3. IV antibiotics were initiated for 6 weeks.



### Day 0:

#### Wound Dimensions:

4.0 x 2.9 x 2.5 cm

**Undermining:** 2.4 cm

Location of undermining area:

9 to 11 o'clock

#### Areas of concern:

**Epibole:** Present

**Maceration:** Present

**Pain Level:** 5 of 10

#### Treatment plan of action:

PVA Foam + enzymatic debrider daily dressing change

### Week 16:

99.4 % Healed

#### Wound Dimensions:

0.5 x 0.9 x 0.2 cm

**Undermining:** None

#### Areas of concern:

**Epibole:** None

**Maceration:** None

**Pain Level:** 0 of 10

#### Treatment plan of action:

PVA Foam only

## SUMMARY:

This patient was assessed and placed on the PVA foam with enzymatic debrider for daily dressing changes for two weeks only. The wound improved markedly. With the improvement, enzymatic debrider was discontinued and PVA foam was placed for a weekly dressing change until discharge Week 16, which resulted in a significant cost reduction. The patient seemed to benefit greatly from the bacteriostatic properties of the PVA foam product. A reduction in healing time and patient-reported pain were realized in this case, as well as the cost reduction from changing from a daily to a weekly dressing change.

## CASE STUDY #2

77 year old patient with Parkinson's disease, Lewy body dementia, smoker, Braden score of 15, and severe cachexia. Patient resides in LTC with a wound which resulted from a hematoma following a recent fall. The hematoma was needle aspirated for a volume result of 240 cc serosanguineous fluid and evident clots removed.



### Day 0:

#### Wound Dimensions:

8.2 x 4.2 x 0.3 cm

**Undermining:** Circumferential around wound margins to 4.7 cm

#### Areas of concern:

**Epibole:** Present

**Maceration:** Present

**Undermining:** Present

**Slough/Necrotic Tissue in wound bed:** Present

**Necrotic Tissue Presence:**

95% of wound bed

**Pain Level:** 7 of 10

#### Treatment plan of action:

PVA Foam + enzymatic debrider daily dressing change

### Week 6:

Wound bed cleaned and ready for cadaveric graft placement

#### Wound Dimensions:

7 x 4 x 0.4 cm

**Undermining:** Resolved

#### Areas of concern:

**Epibole:** Resolved

**Maceration:** Resolved

**Undermining:** Resolved

**Slough/Necrotic Tissue in wound bed:** Resolved

**Necrotic Tissue Presence:**

Resolved

**Pain Level:** 2 of 10

#### Treatment plan of action:

PVA Foam + enzymatic debrider daily dressing change



### Week 7:

With Graft Placement

#### Wound Dimensions:

6.5 x 4 x 0.2 cm

#### Areas of concern:

**Pain Level:** 0 of 10

#### Treatment plan of action:

PVA Foam with non-adherent dressing weekly

### Week 13:

49.4 % Improved

#### Wound Dimensions:

4.8 x 2.3 x 0.05 cm

**Undermining:** None

#### Areas of concern:

**Epibole:** None

**Maceration:** None

**Pain Level:** 0 of 10

#### Treatment plan of action:

PVA Foam only

### SUMMARY:

Throughout treatment, PVA foam and enzymatic debridement brought the necrotic wound bed to a point which would allow a cadaveric graft placement. The patient's wound continued to progress and the graft sloughed appropriately. The patient was then placed on the PVA foam for progression to total healing. Due to other co-morbidities and deteriorating condition, the patient was placed on Palliative Care with PVA foam as the wound dressing of choice.

### CASE STUDY #3

92 year old patient who developed a pressure ulcer to medial back during hospitalization for UTI (Urinary Tract Infection). History of mild dementia, bed-to-chair maximum assists only. Current Braden Score 14.

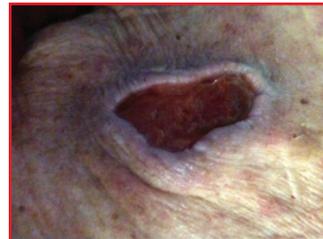


**Day 0:**  
**Wound Dimensions:**  
5.7 x 3.5 cm  
**Undermining:** Measured: 0.5  
from 10:00 to 2:00 on admission  
**Areas of concern:**  
**Epibole:** Present  
**Maceration:** Present  
**Pain Level:** 0 of 10  
**Treatment plan of action:**  
PVA Foam + enzymatic debrider  
daily dressing change



**Day 15:**  
17.3% improved  
**Wound Dimensions:**  
5 x 3 x 0.8 cm  
**Undermining:** 0.2 cm  
from 11:00 to 1:00  
**Areas of concern:**  
**Epibole:** Resolving  
**Maceration:** Resolved  
**Pain Level:** 0 of 10  
**MRI:** Negative for osteomyelitis  
**Treatment plan of action:**  
PVA Foam + enzymatic debrider  
daily dressing change

### CASE STUDY #3 (continued)



**Day 25:**  
24.8% Improved  
**Wound Dimensions:**  
5 x 3 x 0.8 cm  
**Undermining:** None  
**Areas of concern:**  
**Epibole:** Nearly resolved  
**Maceration:** None  
**Pain Level:** 0 of 10  
**Treatment plan of action:**  
PVA Foam only

### SUMMARY:

The patient had improvement within 4 weeks in slough removal, undermining and evident wound closure using the PVA foam first with an enzymatic debrider and then the PVA foam alone until patient transitioned to Hospice care on Day 25.

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