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# Case Review of the Clinical Use of an Antimicrobial PVA Foam Dressing\*

Dot Weir, RN, CWON, CWS  
Melodie Blakely, PT, MS, CWS  
The Wound Healing Center of Osceola Regional Medical Center,  
Kissimmee, Florida



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**Hollister Wound Care**  
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## INTRODUCTION:

The goal of a multi-specialty outpatient wound clinic is to help ensure excellent patient outcomes and to minimize the risk for complications. A critical part of this care is to assure adequate wound bed preparation including improvement of the tissue (debridement), management of bioburden, provision of a moist wound healing environment, and attention to the wound edges to maximize cell migration.<sup>1</sup> Additionally, it is important to address patient-centered concerns such as pain, interference with activities of daily living, financial concerns such as reimbursement, and ease of use.

Our goal is to demonstrate one approach to meeting these needs through the presentation of cases in which we utilized a polyvinyl alcohol (PVA) foam dressing impregnated with the organic pigments Methylene Blue and Gentian Violet.\* The dressing can be used on different wound types and provides broad spectrum bacteriostatic protection effective for certain Gm+ and Gm- microorganisms and yeast. Additionally, it is compatible with other interventions including growth factors, enzymatic debriding agents, and it can be used under multilayer wraps and casts.

<sup>1</sup>Sibbald RG, Orsted HL, Coutts PM, Keast DL. Best practice recommendations for preparing the wound bed: update 2006. *Adv Skin Wound Care* 2007;20: 390-405.

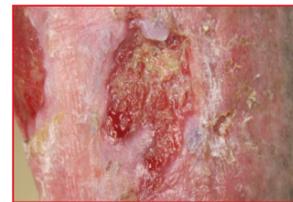
\*Hydrofera Blue® Foam dressing

### CASE STUDY #1

46 year old patient, morbidly obese, has long standing chronic venous insufficiency and is compliant wearing compression stockings. Patient has no other significant health problems. Patient presented to the center with a 3 month history of two ulcers to the right lower extremity in areas of previous ulceration. A multi-layer compression wrap was utilized during the entire treatment time and ultrasonic debridement was performed the first two visits. The ulcers were cleansed with a hypochlorous acid solution and the PVA foam dressing was used with each dressing change until the wound closed on Day 33.



Visit #1: Distal wound, measures 4.8 x 2.7 x 0.2 cm.  
Day 0



Visit #3: Wound measures 4.2 x 2.3 x 0.2 cm, edges are flattening out.  
Day 11



Visit #4: Significant improvement in epibole, epithelialization evident, wound measures 2.1 x 2.1 x 0.2 cm.  
Day 18



Visit #6: Wound closed.  
Day 33

### CASE STUDY #2

20 year old patient seen in clinic after having a fasciotomy of the right forearm due to abscess and compartment syndrome. Patient had been treated with negative pressure wound therapy (NPWT) in the hospital prior to discharge. In the clinic, goals of care were:

### CASE STUDY #2 CONTINUED

promotion of granulation tissue, prevention of pain, and protection of the exposed tendon. At the initial visit, the PVA foam dressing, covered with an oil emulsion dressing to maintain hydration, gauze and wrap were initiated. At the subsequent visit on Day 3, the wound was improving. A PDGF gel and collagen matrix were applied under the PVA foam dressing. The patient was unable to come to the clinic regularly, so on the next visit (Day 7), treatment was changed to a silver hydrogel for ease of use. At this visit, the patient was seen by a plastic surgeon who advised that surgery might be required once the tendon was covered. One week later, the patient returned and stated the PVA foam dressing was more comfortable, so reinstated the PVA foam dressing protocol. On Day 22, the patient returned for follow up, and due to the significant healing since the last visit the patient was advised they would not require surgery. The patient was instructed to continue using the PVA foam dressing, and return to the center only if necessary.



Visit #1: Wound large, edges well attached to wound base, noting exposed tendon. Wound measures 14.5 x 3.0 x 0.3 cm.  
Day 0



Visit #2: 3 day recheck, wound improving; PDGF gel and a collagen matrix were applied under the PVA foam dressing.  
Day 3



Visit #3: Photo shows evidence of the residual collagen matrix.  
Day 7



Visit #5: 1 month of treatment, significant healing since last visit. Wound measures 6.2 x 0.4 x 0.1 cm. Patient told to return to clinic only if necessary.  
Day 22

### CASE STUDY #3

41 year old patient was admitted to the hospital with an abdominal abscess. Patient was treated with culture based IV antibiotics and underwent I&D on Day 2. Past medical history included Type 2 Diabetes and hypertension. On Day 5, the patient was released from the hospital, and was seen in the wound clinic. The patient was first treated with negative pressure wound therapy (NPWT). Starting Day 11, began weekly applications of PDGF gel, collagen matrix and the PVA foam dressings. Achieved complete wound closure on Day 52.



Visit #1: The patient presented for follow up at our outpatient wound clinic.  
Day 0



Visit #4: The wound measured 2.4 x 5.7 x 0.2 cm.  
Day 11



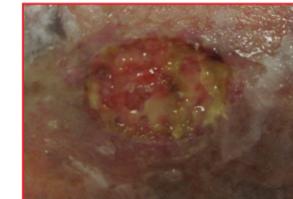
Visit #6: The wound size decreased to 1.5 x 3.7 x 0.1 cm. The wound base was clean and granular and significant epithelial migration from the wound edges was noted.  
Day 24



Visit #8: Complete wound closure.  
Day 52

### CASE STUDY #4

77 year old patient presented to our clinic with a 3 week history of an ulcer on the medial ankle. Patient reported a longstanding history of varicosities in the area. Past history included hypertension, dyslipidemia and Type 2 Diabetes. After debridement, the PVA foam covered with a bordered foam dressing was initiated. Multi-layer compression wraps were used for edema management. Dressings were changed weekly. Achieved complete wound closure in 3 weeks. The PVA foam dressing was able to maintain needed moisture balance throughout epithelialization process.



Visit #1: Initial presentation prior to debridement.  
Day 0



Visit #1: Post debridement. Pigmented  
Day 0: Post Debridement



Visit #3: Significant decrease in wound size and clear epithelial migration from wound edges.  
Day 13



Visit #4: Complete wound closure.  
Day 21