The Versatility of PVA Foam Dressing Impregnated with Methylene Blue and Genetian Violet on Acute and Chronic Wounds

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Abstract:

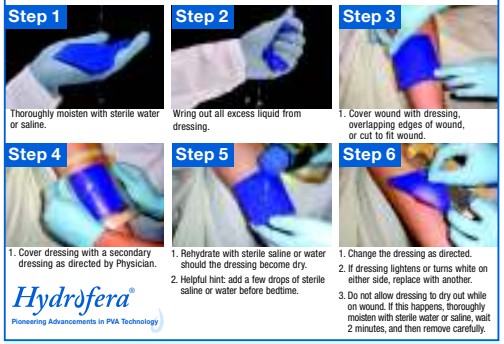
Wound care can be expensive and sometimes a frustrating experience for both the clinician and the patient. While the costs of wound care products continually rise, clinicians are challenged to provide quality, cost effective care to their patients. Multiple studies have shown that the newer, advanced wound care products are more cost effective and have better healing rates than some of the older more traditional treatments using gauze. Versatility and cost effectiveness are important features of wound care products. Finding products that will handle and heal most types of wounds is often difficult to achieve. Multiple case studies have been done using a PVA foam impregnated with Methylene Blue and Gentian Violet. These studies have been done on pressure ulcers, venous stasis ulcers, arterial ulcers, diabetic ulcers, surgical dehiscence, skin tears, brown recluse spider bite wound, chemical burns, traumatic wounds and pyoderma gangrenosum. Features of this product include: it is antimicrobial against most organisms including MRSA and VRE, inactivates some viruses, binds endotoxins within hours of its application, reduces pain, inflammation, edema, fibrin and the bioburden on the wound surface, flattens epibole, creates negative pressure, prevents maceration, is soft and comfortable and provides moist wound therapy. This product also carries a HCPCS codes of A6209, A6210 and A6215 for reimbursement with medicare patients. This product requires a secondary dressing which is dependent on the amount of wound exudate. This product has successful healing rates even on some of the most problematic wounds rendering it both versatile and cost effective.

Secondary Dressing Options Based on Exudate

The PVA, Methylene Blue and Gentian Violet dressing material has been used on many types of wounds – secondary dressing choice should be made based on exudate amounts.

Exudate Amounts	Goals of Treatment	Appropriate Secondary Dressing
No exudate Scant or Small Amounts	To donate or to maintain moisture in dressing/ wound bed	Film, Hydrocolloids, Hydrogel Sheet/gauze, Vaseline/ petroleum gauze dressing, "waterproof" gauze dressings
Moderate Amounts	To maintain moisture balance and wick away excess fluid	Bordered gauze dressing, Foam, Island Dressings, ABD pads, Gauze pads secured with rolled gauze
Large to Copious Amounts	To wick away excess fluid from wound bed to prevent macration	Composite dressings, Superabsorptive dressings, Calcium alginates, ABD pads

Hydrofera Blue™ How to Apply Dressing Material



Application Tips:

a. Cleanse wound with normal saline.
b. Cut Hydrofera Blue to cover wound bed and/or overlap wound margins.
c. Moisten with normal saline or sterile water and squeeze out excess fluid.
d. Place the dressing on the wound bed, pack wound when appropriate, and overlap the wound margins.
e. Cover with appropriate cover dressing (see "Secondary Dressing Options" as above).
f. Change dressing up to every 3 days or as needed.

Pressure Ulcers

Case 1: 48 year old female S/P surgical debridement of stage 3 buttock pressure ulcer. She is an incomplete L2 spinal cord & traumatic brain injury from a MVA. She has no feeling in her pelvis area and her ability to walk is compromised, causing her to be sitting on the ulcer most of the day. Hydrofera Blue was placed 13 days after debridement, the wound healed in 63 days despite the continued pressure on the area.


Started


Healed in 63 Days

Case 2: Paraplegic, motorcycle injury had wound 4 years before treatment. Wound 10cm x 14cm x 6-8cm deep there was tunneling. Wound VAC was started from 10/24/02. Admitted to U.C. Davis for Flap/graft surgery on 8/01/03. On 10/23/03 developed a denuded area distal to the ischial wound. Between 1/09/04 – 5/24/04 the wound healing process slowed. On 5/24/04 started the Hydrofera Blue Foam. Healed 3/03/05.


Started


Healed

Diabetic Ulcers

Case 1: 48 year old male with DM II, neuropathic ulceration of the right plantar foot, which has been present for 2 years. 14 days after starting Hydrofera Blue dressing the wound is healed.


Started


Healed in 14 Days

Case 2: 82 year old male with a diabetic foot ulcer. He has severe CAD, DM, PVD and COPD. This wound was problematic because offloading was very difficult and he needed to continue to get around and tend to his daily life needs. A custom offloading boot was made and underwent multiple revisions before it relieved the pressure. Multiple debridements of the wound were completed. Hydrofera Blue was applied and the wound epithelialized.


Started


Epithelialized in 6 Months

Venus Ulcers

Case 1: 85 year old female with a lower leg venous stasis ulcer of greater than 1 year duration. She had been seen by 6 surgeons and tried multiple treatments unsuccessfully. She was started on Hydrofera Blue and the wound was healed in 9.5 weeks.


Started


Healed in 9.5 Weeks

Case 2: 65 year old female with venous stasis ulcer of 8 months duration. Previous therapy Bactroban and Regranex without wound closure. She was started on Hydrofera Blue and the wound underwent complete closure in 50 days. She also reported a 50% reduction in pain during the 1st 24 hours of the dressing application.


Started


Healed

Pyoderma Gangrenosum

Case 1: 65 year old female with RA for 20 years. This wound was present for greater than 1 year. Patient complained of constant severe pain. Hydrofera Blue was applied on 9/25/03, she reported a decrease in pain over the first week of therapy. The wound was healed on 1/22/03, less than 4 months after starting therapy.


Started


Mid-treatment


Healed in 4 Months

Case 2: 3 year old female was bitten by an insect while in the Philippines. She developed painful wounds on all extremities. She was debrided multiple times, seen by 11 specialists and finally given a Dx of Pyoderma gangrenosum. She had been tried on multiple dressing materials including Silver dressings and these wounds continued to worsen. Hydrofera Blue started on 11/03 when she had an active pseudomonas infection. These wounds were healed in 2/04, 3 months after starting the therapy. Her parents stated the treatment reduced her pain and gave her "back her life."


Started


Healed in 3 Months


Started


Healed in 3 Months

Features of Dressing Material

Antimicrobial Against: Staphylococcus epidermidis, Staph aureus, Bacillus subtilis, Serratia marcescens, Yersinia enterocolitica, E. Coli, MRSA, VRE, Candidia albicans, Pseudomonas aeruginosa, Enterococcus faecalis, Klebsiella pneumoniae, Acinetobacter baumanie, Proteus mirabilis, Proteus vulgaris, Enterobacter aerogenes, Enterobacter cloacae

- **Binds endotoxins within 4 hours of application**
- **Reduces pain**
- **Decreases bioburden on wounds**
- **Has negative pressure value (71.2mmHg)**
- **Flattens epibole**
- **Reduces edema**
- **Comfortable when moistened**
- **Naturally hydrophilic**
- **Absorbs 25x it's weight in fluid**
- **PVA foam is strong and wicks excess fluid from wound bed**
- **Promotes moist wound therapy**

Brown Recluse Spider Bite

Patient was bitten by a brown recluse spider, developed a large wound on her calf. Wound was present for 3 months, prior to her presenting to a wound care clinic for treatment. She tried multiple treatments and surgical interventions with minimal responses to treatment. On first assessment wound measured 23cm x 12cm x 0.2cm. In 84 days, using Hydrofera Blue the wound measured 15cm x 5.5cm x 0.1cm and had split into 2 separate wounds, with new tissue present between each wound. Wound #1 measured 5.7cm x 2.3 x 0.1cm and wound #2 measured 5.0cm x 1.8cm x 0.1cm. The wound healed in 105 days after starting the Hydrofera Blue dressings.


1 Started


2


3


4 Healed

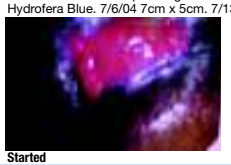
Surgical Wounds

Case 1: 58 year old male S/P surgical dehiscence from bypass surgery 7 years ago. He had multiple co-morbidities including DM II, renal failure requiring dialysis, HTN and obesity. These wounds had significant epibole and were very pruritic. Multiple dressings had been tried on this wound and all of them failed. Hydrofera Blue was applied to the wound bed and in 35 days the wound was healed. This dressing also reduced the pruritis significantly.


Started


Healed in 63 Days

Case 2: Bi-lateral amputation 40 year old African American diabetic male. Ulcers on buttocks and stumps along with burns. Amputation never healed prior to Hydrofera Blue. 7/6/04 7cm x 5cm. 7/13/04 .3cm x 3cm. 7/20/04 healed.

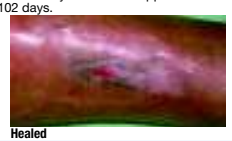

Started


Healed

Arterial Ulcers

65 year old Hispanic female. Co-morbidities include DM II, S/P bypass graft, CAD. Renal failure on dialysis. She has adequate nutrition and is well hydrated. Enzymatic debridement used on wound x2 weeks. Hydrofera Blue applied 6/29/04. Wound closed 10/20/04. Closed 102 days.


Started


Healed

Cancer

60 year old obese female infiltrating ductal tubular cancer, stage 1. Underwent quadrantectomy and radiation x29 sessions. Treated with Tamoxifen. Began Femara. Multiple problems with seroma requiring I&D. On 5/10/04 discussion about radical mastectomy. Hydrofera Blue was started on 5/10/04. Patient reported no further pain after treatment initiated. Wound healed in 20 weeks with daily dressing changes.


Started


Healed

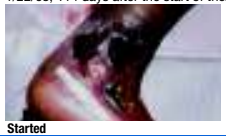
Chronic Osteomyelitis

Case 1: 65 year old female with chronic osteomyelitis of the left hip, the wound has been present for >3 years. Patient started using Hydrofera Blue packing dressing 1/20/04. Underwent 2 further debridements of the bone during course of treatment and had antibiotic beads placed and left for 6 weeks each time. During this time continued wound care with the Hydrofera Blue packing dressings. Patient healed in 529 days after the treatment started.


Started


Healed

Case 2: African-American male with a 10 year history of chronic osteomyelitis of the lateral malleolus and foot, S/P fall from a ladder. Multiple treatments had been tried and failed. Hydrofera Blue started on 9/4/02, the wound was healed on 1/22/03, 114 days after the start of therapy.


Started


Healed