

# Novel Hydrophilic Gel (Wound-Be-Gone®) Enhances Healing Via Oxygen Free Radical Binding Technology

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All wounds were treated with Wound-Be-Gone®.

## Introduction:

Wound healing is a complex process that depends on precise cellular interaction, coordinated chemical signaling and predicted protein synthesis. The inflammatory phase of this algorithm is characterized by the action of polymorphonuclear cells resulting in a respiratory burst and bacterial killing. This oxidative process is largely due to the production of reactive oxygen species that inactivate critical metabolic enzymes and initiate lipid peroxidation. However, oxygen free radicals can impede healing when found to be in excess. We discuss a novel hydrophilic gel that can enhance wound healing via oxygen free radical binding technology.

## Case Study 1:

WM, a 35 year old male with a past medical history of DM, HTN, and morbid obesity, had been followed for multiple foot related complaints since 2005 including diabetic ulcerations, right hallux amputation, and Charcot foot. The patient presented with RLE abscess and necrotizing infection on 1-28-09 and underwent surgical debridement. Postoperatively he was treated with antibiotics and NPWT. On 2-19-09 (wound size 24cm L x 11cm W x 1.4cm D) NPWT was discontinued and the patient started application of Wound-Be-Gone to the wound with dressing changes. Subsequent follow-ups demonstrated excellent healing. 3-17-09 (wound size 18cm L x 5cm W x 0.8cm D) 4-20-09 (wound size 11cm L x 4cm W x 0cm D). Patient healed (5-26-09).



## Case Study 2:

MK, a 64 year old patient with DM and PAD was admitted for an infected diabetic foot ulcer. She underwent surgical debridement and was started on parenteral antibiotics. Postoperatively the patient was started on HBOT and NPWT (9-5-08). Patient was started on WBG after NPWT was D/C'd (9-26-08). The appearance of the wound after 3 weeks of topical WBG use showed decreased inflammatory change and evidence of neoeithelium (10-13-08). The patient progressed to complete healing (11-04-08).



## Results:

A series of patients with a variety of wound types were treated with a novel hydrophilic gel (Wound-Be-Gone®). All patients treated with WBG showed positive wound healing trajectories as evidenced by robust granulation tissue development and rapid epithelialization. Pain scores suggest that the dressing is well tolerated and may actually reduce overall pain. The appearance of healed tissue suggests less scar formation. Patients reported additional benefits such as ease of use and no adverse effects.

## Conclusions:

A novel hydrophilic gel (Wound-Be-Gone®) is shown to demonstrate enhanced wound healing. The mechanism of action appears to be related to decreased inflammatory mediators via oxygen free radical binding technology. While initial clinical results include improved healing trajectories, decreased pain, less scarring, enhanced granulation and epithelialization are promising, additional clinical investigation is warranted.

## Methods:

A series of patients with compromised lower extremity wounds were managed with a hydrophilic gel (Wound-Be-Gone®) which binds oxygen free radicals while providing a moist wound environment with a normal pH. The gel was used as the primary topical treatment modality in all patients. The gel was applied on a daily basis in combination with standard wound bed preparation and debridement. Wound healing was monitored and progress documented with digital photography.

## Case Study 3:

HH, a 36 year old female with an unremarkable PMH but positive SH for smoking one-half pack of cigarettes per day, sustained an acute open fracture of her right 5th digit with disarticulation of the distal interphalangeal joint (11-08), which was initially managed with lavage and delayed primary closure. The patient developed post-operative complications and osteomyelitis of the RDS, which eventually required digit amputation (3-13-09). Recurrent post operative infection caused incisional dehiscence which was initially treated with local wound care effort. The patient was placed on Wound-Be-Gone (3-27-09) due to sluggish healing progress. She healed rapidly with an excellent result after 2 weeks.



## Case Study 4:

TZ, a 73 year old patient presented to wound care consultation in early 2008. The patient was diagnosed with venous insufficiency and after vascular evaluation was started on compression therapy and topical silver. The wound showed slow progress after 6 months of standard care (9-15-08). WBG was initiated along with continued compression therapy (11-17-08). Patient healed (12-22-08).



Wound-Be-Gone



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