

# Optimizing the wound bed by removing devitalized tissue and using methylene blue and gentian violet (MBGV) antibacterial foam dressings: A Case Series

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## INTRODUCTION

Removing necrotic tissue is essential for proper wound bed preparation, making debridement a priority intervention in the management of acute and chronic wounds.<sup>1</sup> Maintaining moisture balance and healthy peri-wound skin is also necessary for wound healing.<sup>2</sup> Selecting a dressing that mitigates patient-centered concerns such as pain and exudate, may further optimize the patient-clinician collaboration.<sup>3</sup> The purpose of this case series is to evaluate the impact of a methylene blue and gentian violet (MBGV) antibacterial foam dressing\* on the devitalized tissue and moisture balance on three chronic and three acute wounds.

## METHOD

All wounds – surgical excisions, a neuropathic foot ulcer, abdominal and two pressure injuries – were managed with the MBGV dressing\*. The dressing was changed every 2-3 days initially, and reduced to bi-weekly dressing change as exudate became more moderate. For the abdominal wound, the dressing was used to remove devitalized tissue prior to negative pressure wound therapy (NPWT). Additional therapies (e.g. pressure redistribution, compression) were used when indicated to address the underlying cause.

## FINDINGS

- Five of the six wounds were reduced in size.
- Photographic evidence showed the removal of devitalized tissue in the wound beds within days after treatment with MBGV\*.
- All six cases showed an increase of granulation tissue.
- Peri-wound maceration was resolved in the 2 cases where it was initially present (cases 1 & 6).
- In case #1, the 92-yr-old with squamous cell carcinoma was unable to tolerate NPWT. Switching to MBGV\* not only efficiently removed the devitalized tissue but also improved pain management and the quality of her life.
- The dressing was able to manage high and moderate levels of exudate and reduce number of dressing changes as wound progressed.
- Noteworthy is the considerable wound bed improvement seen in patients despite their advanced age (in at least four of the six cases).

## CONCLUSION

- Results from this case series – debridement and optimizing the moisture balance – indicate that the MBGV dressing\* is a suitable choice for acute and chronic wounds in this case series.

## REFERENCES

1. Stroh R, Apelqvist J, Dissemond J, et al. (2013) EWMA document: Debridement: An updated overview and clarification of the principle role of debridement. *J Wound Care* 22: S1–S52.
2. Sibbald RG, Elliott JA, Ayello EA, Somayaji R (2015) Optimizing the moisture management tightrope with wound bed preparation. *Adv Wound Care* 28: 466–76.
3. Corbett LQ, Ennis WJ (2014) What do patients want? Patient preferences in wound care. *Adv Wound Care* 8:537–543.

### CASE 1. Wide excision of squamous cell carcinoma with a soft tissue defect

**History:** 92-yr-old female with squamous cell carcinoma. Past history includes hypertension.  
**Wound characteristics and prior treatment:** Patient had an initial wide excision and deep resection to her right lower leg; Negative Pressure Wound Therapy (NPWT) applied; significant pain reported and no longer able to tolerate that modality. Thus MBGV\* was initiated.



**Day 1.** Wound bed is almost 100% covered in slough and peri-wound maceration present.



**Day 5.** In the 1st week, MBGV\* initiated and early results were seen.



**Day 15.** Size (cm): 2.5 x 2.0 x 0.7. Wound is 70% epithelialized with remaining yellow slough. Sutures no longer visible at center.



**1 month.** Wound bed filled and 100% granulation tissue — closed within the next 2 months; still closed 2 years later.

### CASE 2. Subtotal colectomy with end ileostomy

**History:** 23-yr-old male presented to the emergency room with fulminant ulcerative colitis. His post-operative recovery was complicated by pneumonia and by a midline wound infection.



Wound bed is almost 100% covered with slough.



**24 hours.** Lifting of the slough began.



**48 hours.** Considerable reduction in devitalized tissue is evident.

### CASE 3. Neuropathic wound on the left foot with partial amputation (Limb salvage results)

**History:** 52-yr-old female, smoker, with Type-II diabetes, medications include metformin (1000 mg), insulin glargine (18 units), and pantoprazol.

**Wound characteristics and prior treatment:** Individual had been warned that her foot would likely require an amputation, but this option was declined by the patient. She returned home for “supportive dressing care”.



Patient open and willing to try “anything” to save her foot — MBGV\* began.



**Two weeks later.** Considerable removal of devitalized tissue, increasing granulation tissue, and filling-in of the wound bed.



**Several months later.** Complete closure several months later, and remains closed to present.



### CASE 4. Pressure injuries in a paraplegic

**History:** 92-yr-old male, paraplegic for 11 years — secondary to meningitis, with pressure injuries present in both heels: the left considerably larger and deeper than the right.

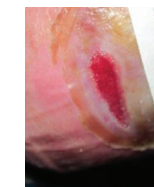
**Wound characteristics and prior treatment:** Full thickness and probing to the bone, povidone iodine-impregnated gauze, and absorptive dressing previous to the wound protocol.



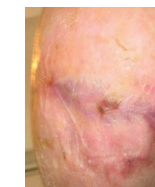
Presented to the emergency room with signs and symptoms of infection. MBGV\* started with systemic antimicrobials and offloading.



**Seven weeks.** At home continuing with offloading and MBGV\* treatments on Monday, Wednesday, and Friday.



**2 months**



**3 months.** Wound closed and continued closure.



Right heel was more superficial and did not probe to bone. The wound granulated very quickly after the initial debridement and suitable offloading. At present, both heels remain intact.



### CASE 5. Pressure injury - heel

**History:** female with a left hip arthroplasty, and past medical history of peripheral vascular disease, congestive heart failure, hypertension, dyslipidemia, hypothyroidism, and chronic back pain secondary to spinal stenosis. During her recovery she sustained a severe pressure ulcer to her right heel.

**Wound characteristics and prior treatment:** Cadexemor iodine every 2 days.

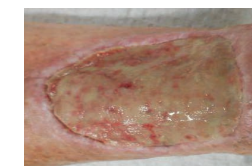


Original wound appearance (1st photo). Start of MBGV treatment (2nd photo). 17 days later, considerable removal of devitalized tissue and increased granulation tissue (3rd photo). Wound is near closure (4th photo)

### CASE 6. Excision of squamous cell carcinoma

**History:** 92-yr-old with squamous cell carcinoma, past history of transient ischemic attack and hypertension. Currently taking aspirin, atorvastatin, and perindopril.

**Wound characteristics and prior treatment:** Wound initially treated with negative pressure wound therapy which was discontinued due to pain. A nanocrystalline silver dressing covered with an absorbent pad was used.



Received a conservative sharp wound debridement, followed by MBGV\* application.



**48 hours later.** Considerable reduction in devitalized tissue.



**16 days later.** 100% granulation tissue.