

# Evaluation of Mepilex® Ag, a silver impregnated soft silicone absorbent dressing in patients with critically colonized venous leg ulcers – 5 case reviews

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### Background

• Studies have shown that 1% of the world- wide population will have a leg ... • The case reviews evaluate the clinical efficacy and safety of Mepilex® Ag, a ulcer, and the incidences will increase with increasing age.

(Jones 2000)

 In the United States, 80% of lower extremity ulcers are venous, with the remaining percentage having neuro ischemic or, of mixed etiology origin.

(Valencia et al 2001)

 All chronic wounds are believed to contain some level of bacteria bioburden. Depending on the number of organisms, the level of bacteria may be classified as contamination, colonization, critically colonized and infection.

(Kingsley 2003)

• Once the wound becomes critically colonized (a level which affects skin cell proliferation and tissue repair), it may delay healing and may eventually progress to a classic infection, which includes erythema, cellulities, fever, increased white blood cell count, odor, pain and exudate.

(Ovington 2003)

 To address bacteria imbalance, clinicians may attempt a combination of treatment modalities. In conjunction with systemic antibiotic, there are a number of antimicrobial dressing indicated for the use on infected wounds. The major benefits of these dressings are that they reduce the presence of pathogens and decrease the risk of infection while creating an environment that readily supports the normal sequence of wound healing.

(Mulder et al 2007)

• Silver has been used as an antimicrobial agent for thousands of years.

• The activity of silver lies in its ionic form and has the ability to bind at multiple sites at bacteria cells, exerting its bactericidal effect.

(Parsons et al 2005)

• Mepilex® Ag, a silver impregnated soft silicone absorbent dressing, is a new dressing for treatment of wounds in which there is a delay in healing due to bacteria imbalance and where risk of infection is suspected or exists.

# Aim of Study

silver impregnated soft silicone absorbent dressing in the management of venous leg ulcers with clinical signs of critical colonisation.

# Methodology

- A convenient sample was used.
- 5 patients with non healing venous leg ulcers referred to the wound clinic during 1st August to 31st August 2007, were recruited.
- Ulcer areas and healing were assessed weekly for 4 weeks. Assessment includes clinical signs of critical colonisation (spontaneous pain between dressing changes, erythema, oedema, malodour and heavy exudate), wound area tracing and photography. In addition, peri ulcer skin maceration, absorption capacity and leakage were evaluated at every

#### Results

#### Conclusion

• The case reviews suggest that Mepilex® Ag, the silver impregnated soft silicone absorbent dressing had a favourable influence on wound prognosis and was well tolerated and accepted in the treatment of venous leg ulcer with clinical signs of critical colonisation. The dressing performed well in terms of patient comfort and ease of use, while the incidence and severity of maceration and erythema decreased during the review period.



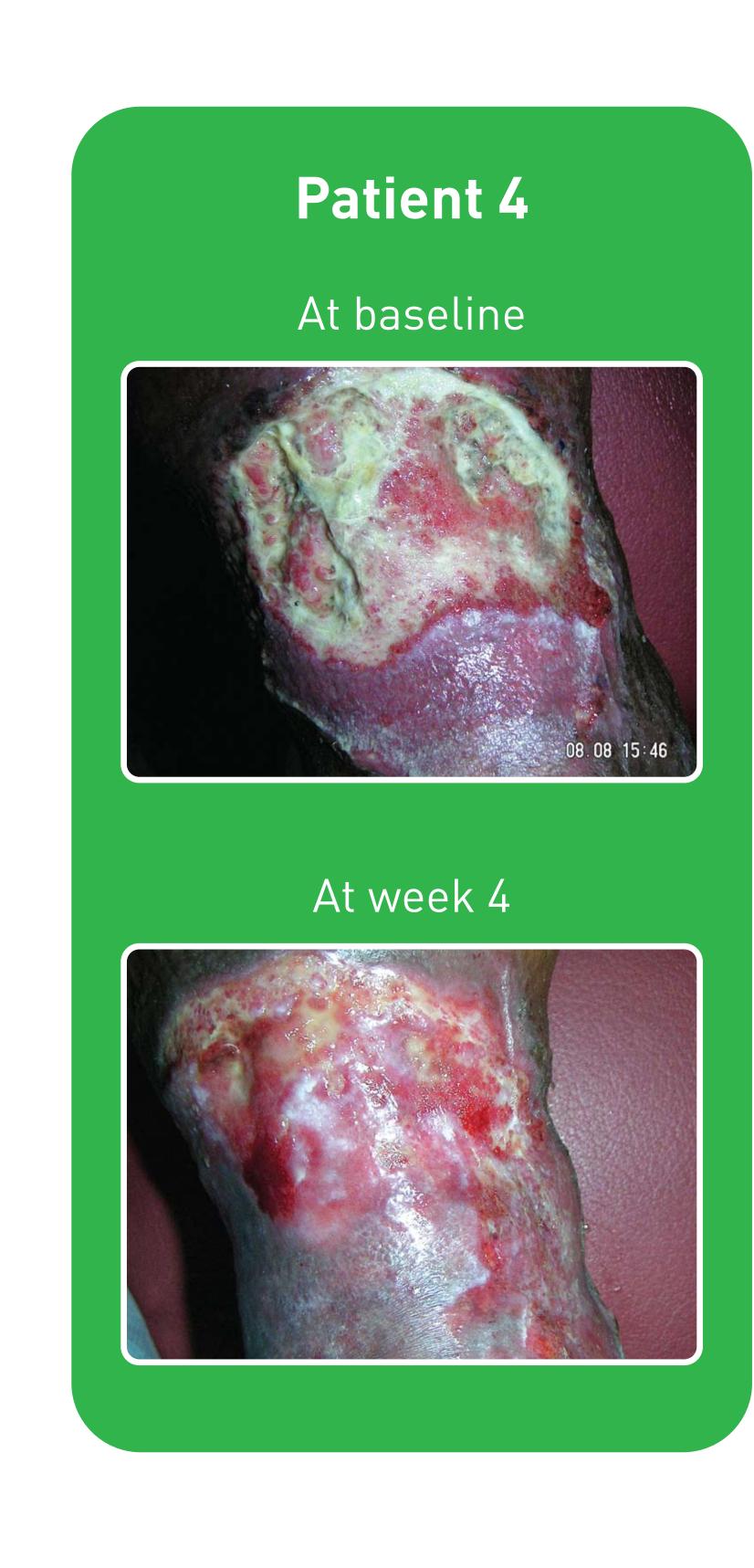
Patient 5

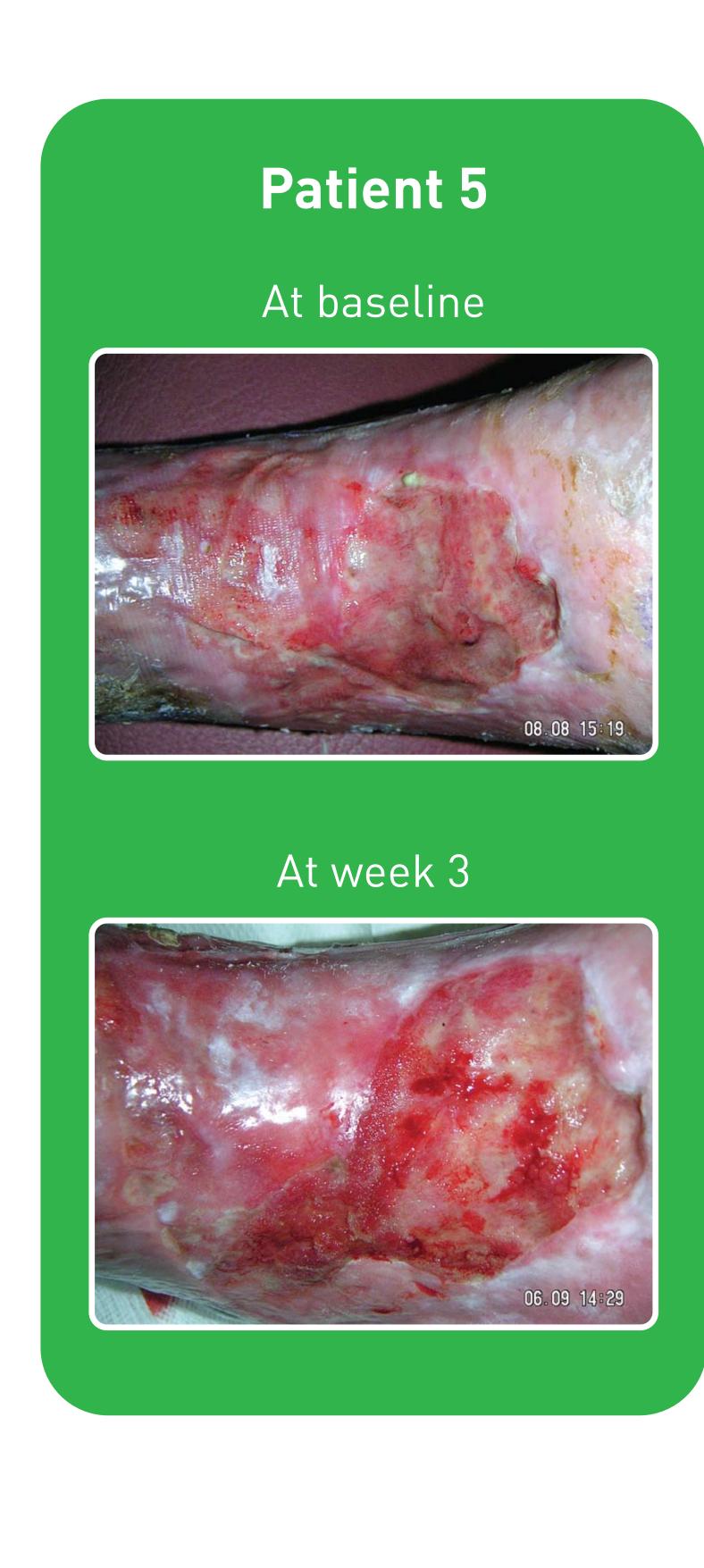
 $40 \text{ cm}^2$ 





 $33 \text{ cm}^2$ 





• At baseline the total wound surface area ranged from 2 cm² to 70 cm² which decreased to 1 cm² to 54 cm² at the end of 2nd week. Complete healing was achieved in one of the cases. At the end of 4th week, complete healing was achieved in another 2 cases and the remaining 2 cases demonstrated a total wound surface area reduction of 15.6% and 42.9 % respectively. Malodour, spontaneous pain, erythema, oedema and peri wound skin maceration disappeared at 2nd week in 80% of the cases.

#### At 2nd week At 4th week At baseline Patient 1 $3 \text{ cm}^2 / 3 \text{ cm}^2$ $1 \, \text{cm}^2 / 1 \, \text{cm}^2$ Healed at (2 ulcers) 3rd week $6 \, \text{cm}^2 / 2 \, \text{cm}^2$ Healed / 1 cm<sup>2</sup> Healed at Patient 2 (2 ulcers) 3rd week $3 \text{ cm}^2$ $1 \text{ cm}^2$ Patient 4 $70 \text{ cm}^2$ $54 \text{ cm}^2$ $40 \text{ cm}^2$

 $38 \text{ cm}^2$ 

Total Wound Surface Area

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#### Reference

- Jones JE. The use of holistic assessment in the treatment of leg ulcers. British Journal of Nursing 2000; 9: 16, 1040 – 1052.
- Valencia IC, Falabella A, Kirsner RS and Eaglstein WH. Chronic venous insufficiency and venous ulceration. Journal of Am Acad Dermatology 2001; 44: 3, 401 – 421.
- Kingsley A. The wound infection continuum and its application to clinical practice. Ostomy Wound Management 2003; 49 (7A suppl), 1 – 7.
- Ovington L. Bacterial toxins and wound healing. Ostomy Wound Management 2003; 49 (7A suppl), 8 12.
- Mulder GD, Cavorsi JP and Lee DK. Polyhexamethylene Biguanide: An addendum to current topical antimicrobials. Wounds 2007; 19: 7, 173 – 182.
- Burrell RE. A scientific perspective on the use of topical silver preparations. Ostomy Wound Management 2003; 49 (5A suppl), 19 – 24.
- Parsons D, Bowler PG, Myles V, Jones S. Silver antimicrobial dressings in wound management: A comparisons of antibacterial, physical and chemical characteristics. Wounds 2005; 17: 8, 222 – 232.