

Silver dressings – do they work?

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ABSTRACT

Despite a limited number of controversial studies suggesting that silver-dressings are not cost-effective, such antimicrobial dressings continue to be used widely in clinical practice, indicating that they are generally accepted as efficacious. The present study aims to provide clinical evidence to support the appropriate use of silver-dressings.

Clinical studies included: a post-marketing surveillance study involving patients with pressure sores/venous leg ulcers/diabetic foot ulcers/traumatic wounds (n=12 444) treated with ACTISORB® Silver 220; a randomised control trial (RCT) involving patients with diabetic foot ulcers (n=40) treated with PROMOGRAN PRISMA® or the standard of care; a RCT involving patients with venous leg ulcers/pressure ulcers (n=99) treated with SILVERCEL® or a calcium-alginate dressing; and a clinical study involving 20 patients with chronic wounds treated with SILVERCEL® NON-ADHERENT.

Results from the post-marketing surveillance study showed that the overall healing rate was 35.5% and 49.3% for 6 and 12 weeks treatment with ACTISORB® Silver 220, respectively. In the RCT with PROMOGRAN PRISMA®, all patients were protected from infection compared with the control group, where 33% patients were withdrawn due to infection (p=0.012). Of the patients in the RCT receiving SILVERCEL®, the 4-week closure rate was greater than for the control group (0.32 +/- 0.57 cm² vs 0.16 +/- 0.40 cm²; p=0.024). Patients receiving SILVERCEL® NON-ADHERENT experienced less pain at dressing change than those receiving the control (0/10 vs 9/10).

There is a wealth of clinical evidence to support the efficacy of silver-dressings in wound management. Silver-dressings can assist wound healing and enhance patient quality of life by controlling infection, odour and pain.

ACTISORB® SILVER 220 CLINICAL DATA

Study Design

- In a post-marketing surveillance study, data from five clinical studies were pooled and analysed; this was justified as a single protocol used throughout.
- In total, 12 444 patients with a range of non-healing chronic wounds were treated with ACTISORB® Silver 220 for up to 6 or 12 weeks, or until healed.
- Chronic wounds treated included: pressure sores, venous leg ulcers, diabetic foot ulcers and traumatic wounds.

Results

- Approximately 60% of patients were female. The overall study population had a mean age of 67 years. Approximately 32% were diabetic and the median wound duration at enrolment was three months.

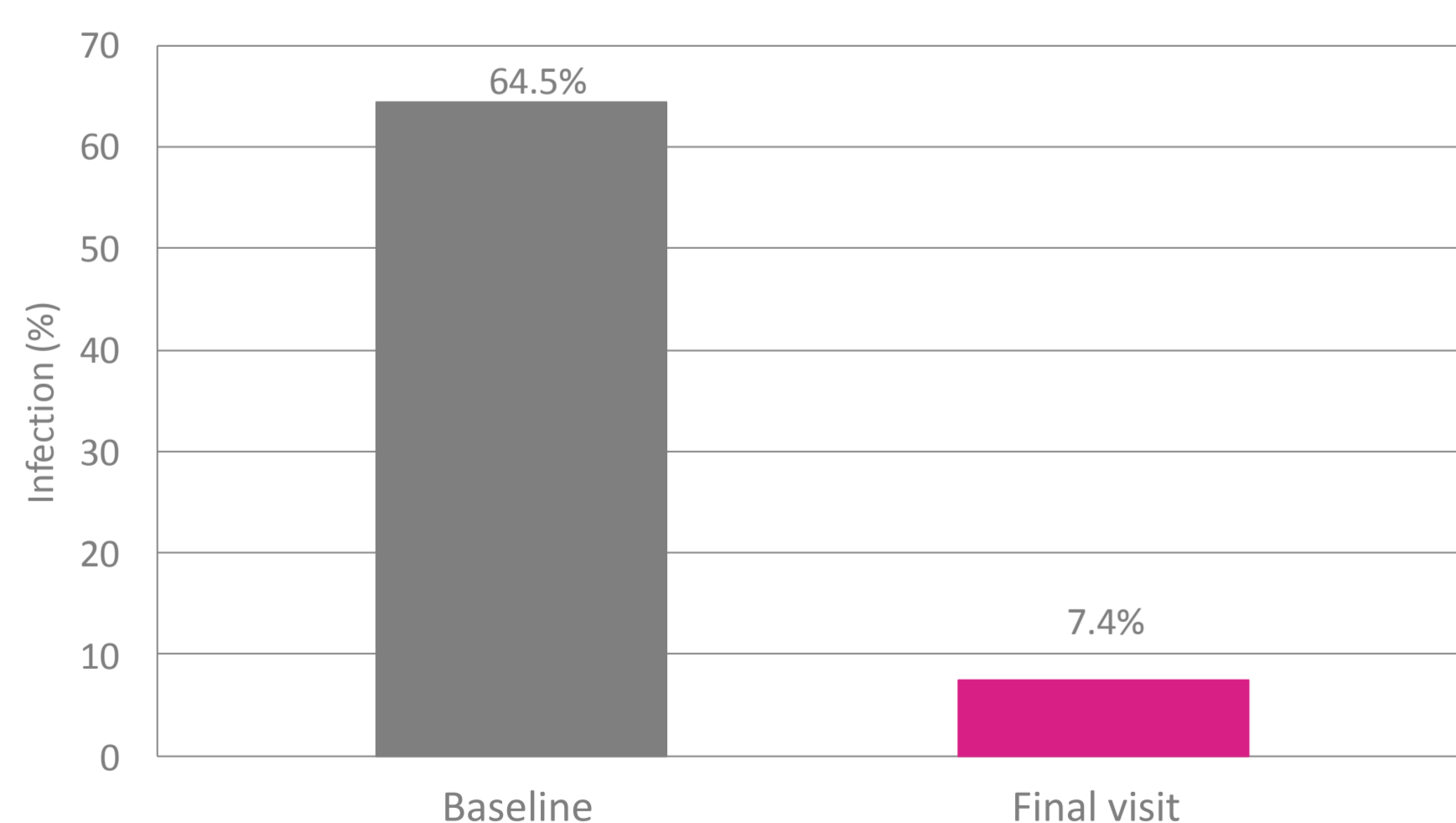


Figure 1. Signs of infection at baseline and at final visit in patients with chronic wounds treated with ACTISORB® Silver 220.

- Overall, signs of infection reduced from 64.5% at baseline to 7.4% at final visit (Figure 1).
- The overall healing rate was 35.5% and 49.3% for 6 and 12 weeks treatment with ACTISORB® Silver 220, respectively.

Conclusions

- Clinical trials involving over 12 000 patients suggest that ACTISORB® Silver 220 is effective at promoting wound healing, reducing wound malodour and safe.

Reference

- White. A charcoal dressing with silver in wound infection: clinical evidence. Br J Community Nurs. 2001; 6(12 (Silver Suppl 2): 4-11.

SILVERCEL® and SILVERCEL® NON-ADHERENT CLINICAL DATA

- SILVERCEL® and SILVERCEL® NON-ADHERENT are both antimicrobial alginate dressings, with SILVERCEL® NON-ADHERENT containing a non-adherent ethylene methyl acrylate wound contact layer. Clinical evidence for these products are presented below.

SILVERCEL®

Study Design

- Patients with either a venous leg ulcer or a pressure ulcer (n=99) were randomised to receive SILVERCEL® (n=51) or a control calcium-alginate dressing (n=48) for up to four weeks. Assessments included completion of a modified ASEPSIS index to evaluate risk of infection.

Results

- In total, 40/51 patients receiving SILVERCEL® and 38/48 patients receiving the control dressing completed the four-week study.
- Overall, 4/38 (10.5%) patients in the control group were treated with systemic antibiotics at the final visit compared with 0/40 patients receiving SILVERCEL (p=0.053).
- Fewer wounds developed a clinical infection over the four-week follow-up in the treatment group (33% versus 46%; p=0.223).
- The 4-week closure rate was greater for patients receiving SILVERCEL® than the control treatment (0.32 +/- 0.57 cm² vs 0.16 +/- 0.40 cm²; p=0.024).

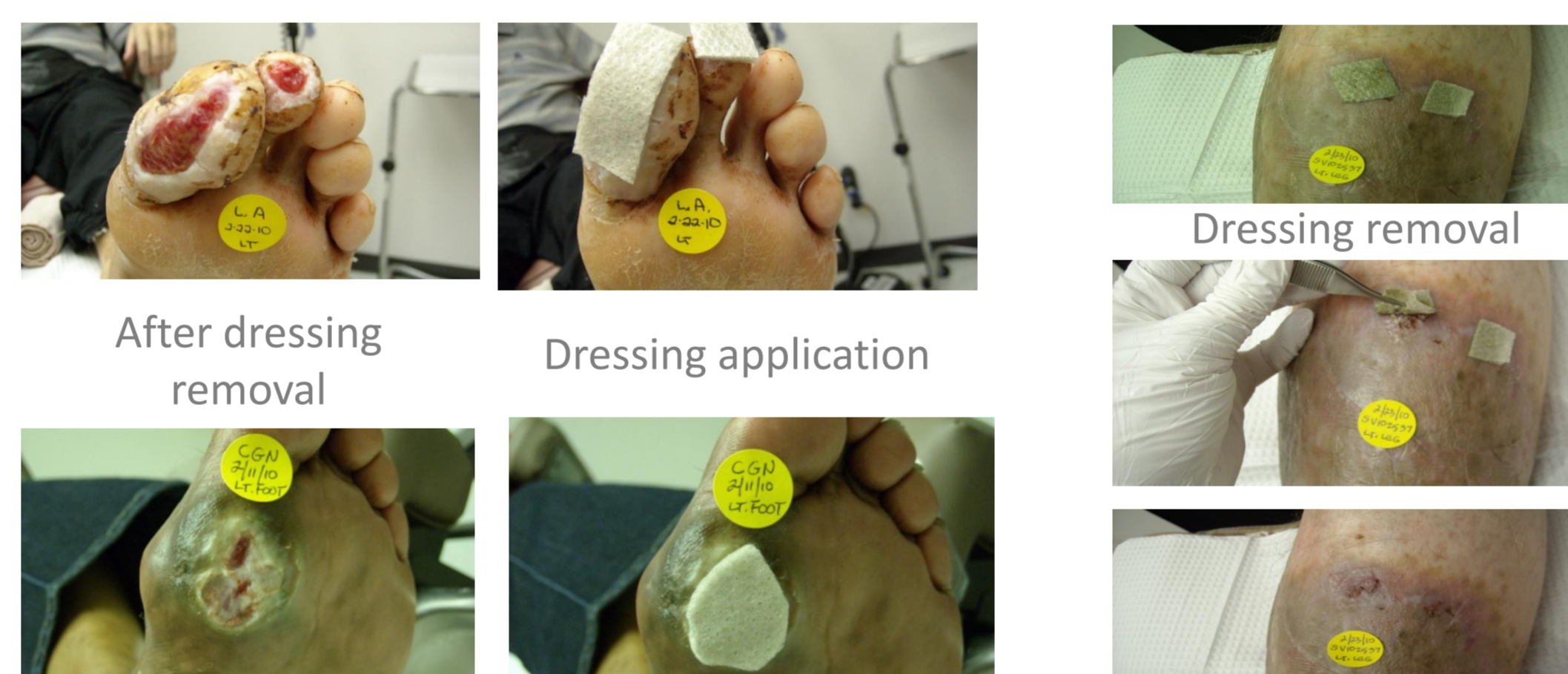
Conclusions

- Patients receiving SILVERCEL® were less likely to develop a clinical infection or require systemic antibiotics than those receiving a calcium alginate dressing.

Reference

- Meaume et al. Evaluation of a silver-releasing hydroalginate dressing in chronic wounds with signs of local infection. J Wound Care. 2005; 14:479.

Examples of wounds treated with SILVERCEL® NON-ADHERENT



PROMOGRAN PRISMA® CLINICAL DATA

Study Design

- Patients with diabetic foot ulcers (n=40) were randomised to receive either PROMOGRAN PRISMA® (n=25) or the standard of care (SOC) (n=15) for 14 weeks. The percentage reduction in wound area from baseline determined.

Results

- In total, 24/25 patients treated with PROMOGRAN PRISMA® and 15/15 patients treated with SOC completed the study.
- No wounds treated with PROMOGRAN PRISMA® were infected, compared with the control group where 33% patients were withdrawn due to infection (p=0.012).
- Significantly more patients had a >50% reduction in wound area (Margolis Index) at Week 4 with PROMOGRAN PRISMA® compared with the SOC (70% vs 43%; p=0.035).

Conclusions

- Clinical data suggests that PROMOGRAN PRISMA® stimulated healing while protecting the wound from infection.

Reference

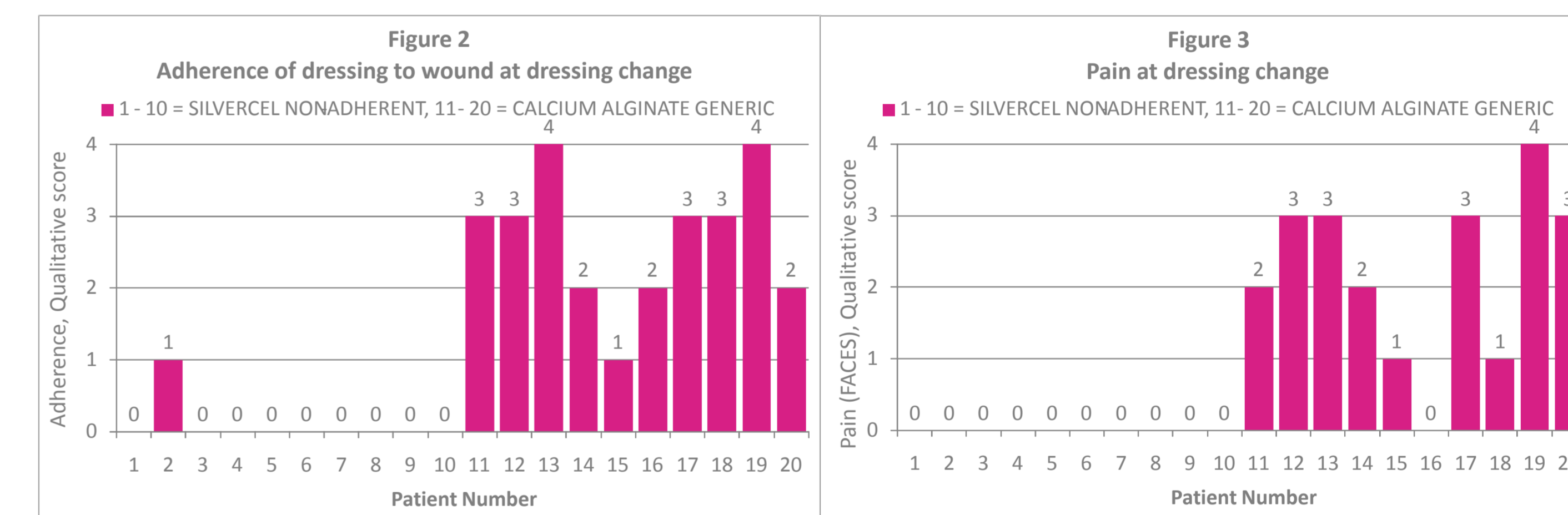
- Gottrup et al. Comparative clinical study to determine the effects of collagen/ORC + silver therapy on wound healing of diabetic foot ulcers. Presented at EWMA 2010.

Study Design

- SILVERCEL® NON-ADHERENT was assessed in a clinical study involving 20 patients with chronic wounds. Ten patients received SILVERCEL® NON-ADHERENT and 10 patients received a control calcium alginate dressing.
- Qualitative assessments included: dressing adherence to the wound bed, pain at dressing change using the Wong-Baker pain FACES rating scale, requirement for saline soak prior to removal, and macroscopic fibres visible on wound bed.

Results

- Lower levels of adherence of the dressing to the wound bed were observed for patients in the SILVERCEL® NON-ADHERENT group compared with the control group (1/10 patients vs 10/10 patients) (Figure 2).
- No pain at dressing change was recorded for patients receiving SILVERCEL® NON-ADHERENT, whereas 9/10 patients in the control group experienced pain upon dressing change (Figure 3).
- In addition, no macroscopic fibres were observed in the wound bed with patients treated with SILVERCEL® NON-ADHERENT; fibre shed was observed in 9/10 patients in the control group.



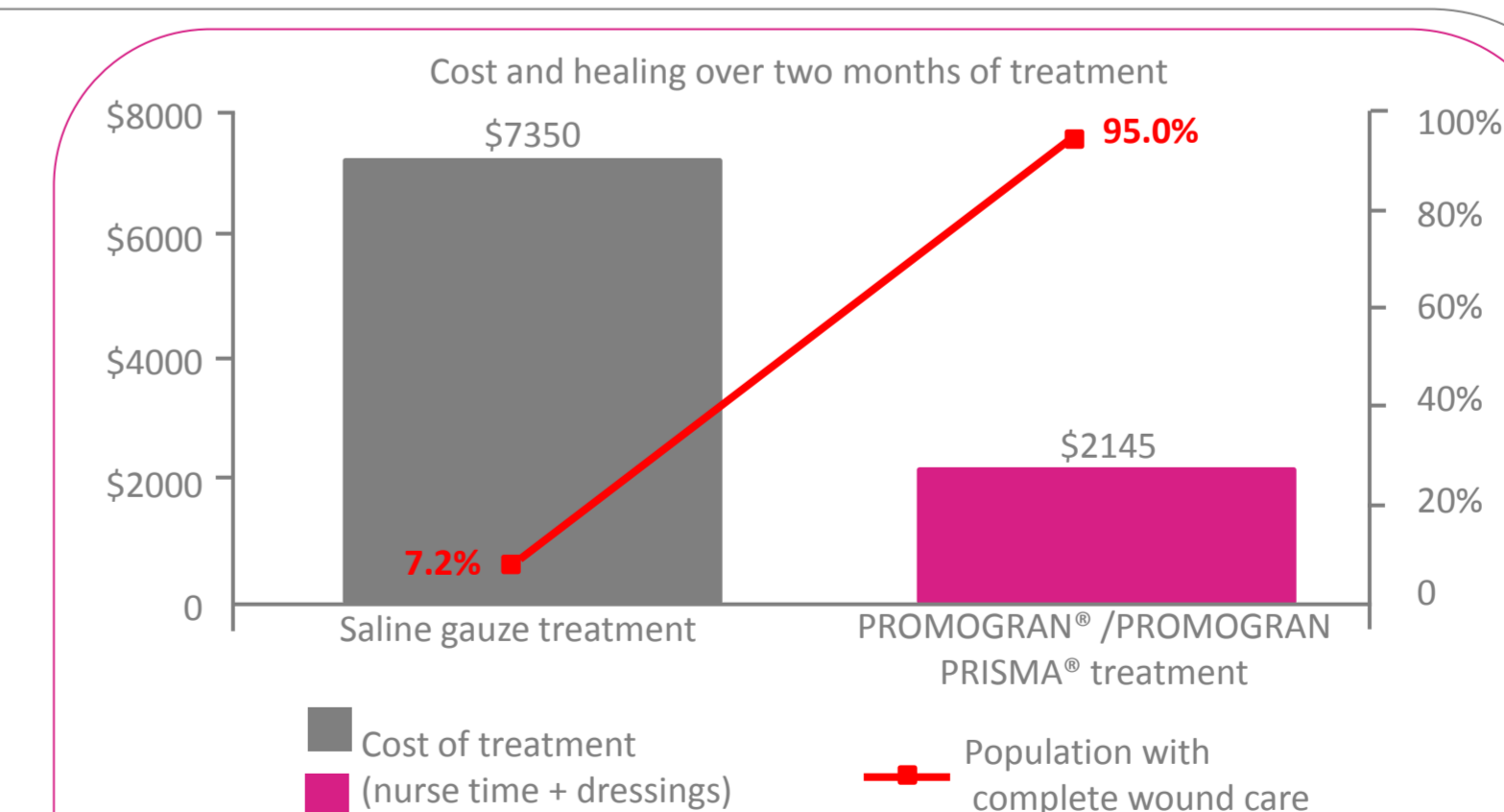
(Qualitative scoring system: 0 = none, 1 = mild, 2 = moderate, 3 = severe, 4 = very severe.)

Conclusions

- SILVERCEL® NON-ADHERENT demonstrates lower levels of adherence and an absence of pain compared with the control treatment.

Reference

- Clark and Bradbury. SILVERCEL® NON-ADHERENT made easy. Wounds International 2010; 1 (5).



- In a retrospective study, 873 and 101 patients with chronic wounds received PROMOGRAN®/PROMOGRAN PRISMA® or gauze dressing, respectively.
- After two months of treatment, 95.0% of the PROMOGRAN®/PROMOGRAN PRISMA® wounds closed at a total cost of \$2145, compared with 7.2% of the saline gauze-treated wounds at a total cost of \$7350; 43% of saline-treated wounds healed by six months at a total cost of \$22 050 (Snyder. OWM 2010; 56 [11A]: 9-15).

SUMMARY

- Data presented in the current collation of selected clinical studies provides clinical evidence to support the appropriate use of silver-dressings.
- Data presented here is consistent with other clinical studies and *in vitro/vivo* work. Further clinical and *in vitro/vivo* evidence to support the use of silver in wound care can be found at <http://www.systagenix.com>
- Silver-dressings are cost effective, can assist wound healing and enhance patient quality of life by controlling infection, odour and pain.