

# A Clinical Evaluation of Silverlon™ Wound Contact Layer Antimicrobial Wound Dressing

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## Introduction

Silverlon™ Wound Contact Layer (WCL) is silver containing antimicrobial wound dressing comprising a knitted fabric coated with metallic silver. Claimed benefits for the dressing are a sustained release of silver to combat infection and good conformability, due to a degree of stretch in the fabric.

Silverlon™ has been used in the United States for a number of years to treat a variety of chronic and surgical wounds. The product has recently been added to the NHS Advanced Woundcare Contract.

## Aim

The majority of clinical evaluations of Silverlon™ have taken place in the US healthcare system. The aim of this project was to perform an evaluation of Silverlon™ WCL in an NHS setting.

## Method

The evaluation was performed in the Vascular Surgery Department of Manchester Royal Infirmary. The Department sees a wide variety of wounds and those selected for the evaluation were: surgical wounds, resulting from amputation, leg ulcers and heel and foot ulcers.

The product was initially used to treat wounds which showed clinical signs of infection. As the evaluation proceeded, because of good wound healing seen with infected wounds, wounds which were at risk of infection but not yet showing clinical signs of infection were also included in the evaluation. The product was also tried with one case of cellulitis.

The dressing was applied according to the manufacturer's instructions and a variety of secondary dressings were used according to standard treatment.

At each dressing change the patient was asked for their subjective rating of pain since the last dressing change, on removal of the old dressing and on application of the new dressing.

The clinician rated the ease of removal of the (old) dressing, the ease of application of the (new) dressing and the conformability of the dressing.

The appearance of the surrounding skin; whether it was macerated, erythematous or intact and the level of exudate (low, medium or high) was recorded. A picture was taken and if the wound was not circumferential, the wound area was measured.

Where clinical infection was suspected, a wound swab was taken, and the colonising species identified. The time taken for each dressing change was recorded.

Wounds were treated with Silverlon™ WCL until the wound had healed, was granulating or the patient was discharged.

## Results

A table of the types of wounds included in the evaluation is given in table 1.

| Type       | Exudate | Clinical Infection (yes/no) | Total |
|------------|---------|-----------------------------|-------|
| Leg Ulcer  | Low     | 1/1                         | 2     |
|            | Medium  | 2/4                         | 6     |
| Heel Ulcer | Medium  | 1/0                         | 1     |
|            | High    | 1/0                         | 1     |
| Surgical   | Medium  | 2/0                         | 2     |
|            | High    | 2/0                         | 2     |
| Cellulitis | Low     | 1/0                         | 1     |
| Total      |         | 10/5                        | 15    |

### Infection

Fifteen wounds were treated in total, of which ten showed signs of clinical infection on first application of the dressing. The infected wounds were colonised by a variety of species, including *pseudomonas aeruginosa*, non-specified anaerobes, *enterobacter cloacae*, *viridians streptococcus* and *staphylococcus aureus*. In all but two cases, infection had cleared after one dressing change. Of the two remaining one cleared after two dressing changes and the remaining case, which was colonised by *pseudomonas aeruginosa*, had a noticeable reduction in smell and exudate after four dressing changes.

### Pain

- 48 out of 49 of dressing applications were rated as no or low pain (42 & 6 respectively)
- 47 out of 49 dressing removals were rated by patients as no or low pain (37 & 10 respectively)
- In 47 cases out of 49 patients reported no or low pain between dressing changes (41 & 6 respectively).

### Ease of Use

The dressings were changed on average every 5 days and a typical dressing change took around 40 minutes.

Clinicians gave the following ratings:

- In 48 out of 49 dressing changes the dressing was rated as very easy or easy to apply (44 & 4 respectively)
- In 46 out of 49 dressing changes, the dressing was rated as very easy or easy to remove (33 & 13 respectively)
- In 47 out of 49 dressing changes, the dressing was rated as highly conformable or conformable (45 & 2 respectively).

## Wound Healing

All of the wounds treated all showed an improvement when treated with Silverlon™. Seven of the leg ulcers progressed to intact skin surrounding the wound and three ulcers completely healed after three dressing changes. All of the surgical wounds improved in appearance with a reduction in exudate and production of granulating tissue. The area of the heel ulcers reduced by 11% and 50% and the case of cellulitis resolved to dry skin.



Figure 1. Leg ulcer on completion of treatment - general condition of the skin improved, less maceration and signs of healthy granulation tissue.

## Conclusions

Silverlon™ Wound Contact Layer is a suitable treatment for wounds which are at risk of infection.

The dressing was liked by patients, who found it comfortable.

The product was effective in treating or preventing infection and promoted wound healing.

## Acknowledgements

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