

# The effectiveness of silver-releasing dressings in the management of non-healing chronic wounds: a meta-analysis

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- Abstract
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## Keywords:

clinical effectiveness; meta-analysis; nurses; nursing; review; wound care

**Aim.** The purpose of this study was to examine the efficacy of silver-releasing dressings in the management of non-healing chronic wounds.

**Background.** Non-healing chronic wounds often have a negative physical impact on patients and place a financial burden on healthcare systems. Silver dressings are wound products designed to control infection and provide a wound environment conducive to healing. However, validation of the clinical efficacy of these dressings is lacking.

**Design.** Systematic review and meta-analysis.

**Methods.** A systematic search of the major electronic databases PubMed, CINAHL, Cochrane, MEDLINE, British Nursing Index, EBSCO, OCLC and Proquest between 1950–June 2007 was conducted. Hand searches of selected periodicals, textbooks and checking reference lists and contacting experts was also performed.

**Results.** Eight studies were selected from a potentially relevant 1957 references screened. Analysis incorporated data from 1399 participants in the eight randomised control trials. We found that silver dressings significantly improved wound healing (CI<sub>95</sub>: 0.16–0.39,  $p < 0.001$ ), reduced odour (CI<sub>95</sub>: 0.24–0.52,  $p < 0.001$ ) and pain-related symptoms (CI<sub>95</sub>: 0.18–0.47,  $p < 0.001$ ), decreased wound exudates (CI<sub>95</sub>: 0.17–0.44,  $p < 0.001$ ) and had a prolonged dressing wear time (CI<sub>95</sub>: 0.19–0.48,  $p = 0.028$ ) when compared with alternative wound management approaches. An analysis of sensitivity in these studies by subgroup analysis generally supported these associations. Furthermore, studies indicated an improvement in quality of life (CI<sub>95</sub>: 0.04–0.33,  $p = 0.013$ ) using silver dressings in wound management with no associated severe adverse events.

**Conclusion.** This meta-analysis confirms the effectiveness of silver dressings in wound healing and improving patients' quality of life. However, it also highlights the need for additional well-designed randomised controlled trials to evaluate the effectiveness of silver-related dressings further.

**Relevance to clinical practice.** The results of this study provide objective data on the effectiveness of silver-related dressing when applied to non-healing chronic wounds.

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