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**Cochrane Clinical Answers****Question:****For adults with venous leg ulcers, how do different dressings and topical agents compare?**

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Answer

Results from a network meta-analysis that compares treatments directly (from head-to-head RCTs) and indirectly (via common comparators, including placebo) show that sucralfate was ranked the best treatment for adults with venous leg ulcers (93% probability of being first). One small comparison between sucralfate and hydrogel showed that 43/50 ulcers healed with sucralfate versus 5/50 with hydrogel, so all indirect comparisons with sucralfate have large but imprecise effects. Consequently, the apparent benefit of sucralfate should be regarded with caution. Silver had a 50% probability of being the second-best treatment, hyaluronic acid plus povidone iodine a 21% probability of being ranked third, and paste bandage a 22% probability of being ranked fourth. Saline gauze was most likely to be the worst treatment (33% probability of being ranked 24th). Other apparently poorly performing interventions included gentian violet, hyaluronic acid, silver sulfadiazine (SSD), and zinc oxide. Although the certainty of evidence for the comparison between silver and non-adherent dressings was rated as moderate, overall evidence was of very low to low certainty, so no firm conclusions can be drawn.

Comparisons

1. Different dressings or topical agents

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› **OUTCOME 1.1 Complete wound healing**

Narrative result

The network meta-analysis (NMA) included 40 direct comparisons, of which 32 were informed by single studies. Reviewers stated that most comparisons made by the NMA had imprecise estimates (wide CIs); most did not have CIs fully above or below the value considered indicative of the minimal clinically important difference (0.75 and/or 1.25). Reviewers classified 89% of results as imprecise. Comparisons with precise results were: silver vs nonadherent, alginate, foam, hydrocolloid, hydrogel, povidone iodine, saline gauze, silver sulphadiazine (SSD); hydrocolloid vs foam; and saline gauze vs alginate, foam, hydrofiber, hyaluronic acid plus povidone iodine, paste bandage, PMM and PMM silver. Reviewers considered rankings for many treatments to be broad and uninformative; of eligible interventions, only five had a maximum probability of being placed at their predicted rank of > 20% (sucralfate, silver, hyaluronic acid plus povidone iodine, paste bandage, saline gauze).[1]

When the dressings and topical agents were ranked in order most likely to promote healing, sucralfate was ranked first with a 93% probability of being the best treatment. However, this ranking may be artificially high as sucralfate is connected to the network by one small comparison with hydrogel, where 43/50 ulcers healed with sucralfate vs 5/50 with hydrogel. Consequently, all comparisons with sucralfate have large point estimates and very wide CIs and the high rating should be treated with caution. Silver had a probability of 50% of being the second-best treatment, whilst hyaluronic acid plus povidone iodine had a 21% probability of being ranked third and paste bandage a 22% probability of being ranked fourth. Saline gauze was most likely to be the worst treatment (33% probability of being ranked 24th). Other apparently poorly performing interventions included gentian violet, hyaluronic acid, SSD, and zinc oxide.

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that overall the evidence from the NMA was very low to low certainty; the result for the comparison between silver and nonadherent dressings was rated as moderate certainty. [See Summary of findings from Cochrane Review](#)

Relative effect or mean difference

Comparisons with statistically significant differences between groups in the NMA (RR, 95% CI; in favor of the first intervention):

Alginate vs blood product: 3.02, 1.28 to 7.10

Alginate vs emollient cream: 3.83, 1.56 to 9.42

Alginate vs saline gauze: 3.38, 1.42 to 8.05

Cadexomer iodine vs emollient cream: 3.66, 1.08 to 12.40

Film vs saline gauze: 0.27, 0.08 to 0.85

Foam vs blood product: 2.85, 1.22 to 6.65

Foam vs emollient cream: 3.62, 1.48 to 8.84

Foam vs saline gauze: 3.19, 1.36 to 7.50

Growth factor vs saline gauze: 0.38, 0.16 to 0.89

Hyaluronic acid vs saline gauze: 0.19, 0.06 to 0.56

Hyaluronic acid plus povidone iodine vs SSD: 0.42, 0.19 to 0.93

Hydrocolloid vs blood product: 2.60, 1.13 to 5.98

Hydrocolloid vs emollient cream: 3.30, 1.37 to 7.96

Hydrocolloid vs saline gauze: 2.91, 1.25 to 6.77

Hydrofiber vs blood product: 3.46, 1.39 to 8.61

Hydrofiber vs emollient cream: 4.39, 1.69 to 11.43

Hydrofiber vs saline gauze: 3.87, 1.55 to 9.69

Hydrofiber vs SSD: 1.71, 1.01 to 2.89

Nonadherent dressing vs saline gauze: 0.36, 0.15 to 0.84

Nonadherent dressing vs blood product: 2.49, 1.06 to 5.84

Nonadherent dressing vs emollient cream: 3.16, 1.28 to 7.80

Octenidine vs saline gauze: 0.30, 0.11 to 0.88

Paste bandage vs blood product: 4.18, 1.70 to 10.26

Paste bandage vs emollient cream: 5.31, 2.08 to 13.54

Paste bandage vs hydrocolloid: 0.62, 0.43 to 0.91

Paste bandage vs growth factor: 1.77, 1.18 to 2.66

Paste bandage vs nonadherent: 1.68, 1.06 to 2.65

Paste bandage vs povidone iodine: 1.75, 1.07 to 2.85

Paste bandage vs saline gauze: 4.68, 1.85 to 11.84

Paste bandage vs SSD: 2.07, 1.20 to 3.57

Povidone iodine vs saline gauze: 0.37, 0.15 to 0.92

PMM vs saline gauze: 3.65, 1.49 to 8.92

PMM vs blood product: 3.26, 1.35 to 7.88

PMM vs emollient cream: 4.14, 1.64 to 10.43

PMM vs SSD: 1.61, 1.01 to 2.58

PMM silver vs blood product: 3.29, 1.32 to 8.19

PMM silver vs emollient cream: 4.17, 1.61 to 10.84

PMM silver vs saline gauze: 3.68, 1.46 to 9.30

Silver vs alginate: 0.50, 0.32 to 0.78

Silver vs blood product: 6.04, 2.42 to 15.09

Silver vs emollient cream: 7.67, 2.94 to 19.99

Silver vs foam: 0.47, 0.33 to 0.68

Silver vs gentian violet: 3.59, 1.06 to 12.16

Silver vs growth factor: 2.56, 1.63 to 4.01

Silver vs hyaluronic acid: 3.85, 1.22 to 12.14

Silver vs ibuprofen: 2.41, 1.18 to 4.91

Silver vs nonadherent: 2.43, 1.58 to 3.74 (moderate-certainty evidence)

Silver vs povidone iodine: 2.52, 1.54 to 4.13

Silver vs SSD: 2.99, 1.74 to 5.12

Silver vs hydrocolloid: 0.43, 0.29 to 0.63

Silver vs hydrogel: 0.33, 0.15 to 0.72

Silver vs PMM: 0.54, 0.33 to 0.88

Silver vs PMM silver: 0.54, 0.32 to 0.92

Silver vs saline gauze: 0.15, 0.06 to 0.37

SSD vs emollient cream: 2.57, 1.01 to 6.53

Sulcrafate vs alginate: 0.18, 0.06 to 0.54

Sulcrafate vs cadexomer iodine: 0.17, 0.04 to 0.68

Sulcrafate vs foam: 0.17, 0.05 to 0.46

Sulcrafate vs hydrocolloid: 0.15, 0.06 to 0.51

Sulcrafate vs hydrofiber: 0.20, 0.06 to 0.65

Sulcrafate vs hydrogel: 0.12, 0.05 to 0.27

Sulcrafate vs paste bandage: 0.25, 0.08 to 0.78

Sulcrafate vs PPM: 0.19, 0.06 to 0.60

Sulcrafate vs PPM silver: 0.19, 0.06 to 0.62

Sulcralfate vs saline gauze: 0.05, 0.02 to 0.18

Sulcralfate vs SSD: 0.12, 0.04 to 0.38

Sulcralfate vs nonadherent: 0.15, 0.05 to 0.45

Reference

Norman G, Westby MJ, Rithalia AD, Stubbs N, Soares MO, Dumville JC. [Dressings and topical agents for treating venous leg ulcers](#). *Cochrane Database of Systematic Reviews* 2018, Issue 6. Art. No.: CD012583. DOI: 10.1002/14651858.CD012583.pub2. Search date March 2017

➤ **OUTCOME 1.2 Proportion of wounds healed, Time to complete healing, Infection, Pain, Quality of life**

Narrative result

The review either did not assess infection, pain or quality of life, and identified no studies that assessed proportion of wounds healed or time to complete healing.[2]

Reference

Norman G, Westby MJ, Rithalia AD, Stubbs N, Soares MO, Dumville JC. [Dressings and topical agents for treating venous leg ulcers](#). *Cochrane Database of Systematic Reviews* 2018, Issue 6. Art. No.: CD012583. DOI: 10.1002/14651858.CD012583.pub2. Search date March 2017

✓ **Population, Intervention, Comparator**

Population

Adults (average age 46 to 81 years) with venous leg ulcers (mostly between 5 and 10 cm²; across trials mean size varied by factor of 10 at baseline) for 1 to 75 months. All studies used compression, although specific methods varied

Intervention

Dressing or topical agent: a wide variety were used across the trials. Dressings included: alginate, film, foam (ibuprofen releasing or not), hydrocolloid, hydrofiber, nonadherent, paste bandage, protease modulating matrix (PMM), saline gauze, and silver-containing dressings. Topical agents included blood product, emollient cream, gentian violet, growth factor, hyaluronic acid, hydrogel, iodine-based preparations, octenidine, silver-based preparations, tripeptide copper, and zinc oxide

Comparator

Alternative dressing or topical agent from list above

Additional Information

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