Compression for venous leg ulcers

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from Cochrane Review Abstracts

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A substantive amendment to this systematic review was last made on 05 February 2001. Cochrane reviews are regularly checked and updated if necessary.

Background: Around one percent of people in industrialised countries will suffer from a leg ulcer at some time. The majority of these leg ulcers are due to problems in the veins, resulting in an accumulation of blood in the legs. Leg ulcers arising from venous problems are called venous (varicose or stasis) ulcers. Surgical repair of the veins is not commonly undertaken and the main treatment, used for thousands of years, has been to apply a firm compression garment (bandage or stocking) to the lower leg in order to help the blood return back up the leg. There is a large number of compression garments available and it is unclear whether they are effective in treating venous ulcers and which compression garment is the most effective.

Objectives: To assess the effectiveness and cost-effectiveness of compression bandaging and stockings in the treatment of venous leg ulcers.

Search strategy: Searches of 19 databases, hand searching of journals, conference proceedings and bibliographies. Manufacturers of compression bandages and stockings and an Advisory Panel were contacted for unpublished studies.

Selection criteria: Trials that evaluated compression bandaging or stockings, as a treatment for venous leg ulcers. There was no restriction on date or language. Ulcer healing was the primary endpoint.

Data collection and analysis: Details of eligible studies were extracted and summarised using a data extraction sheet. Data extraction was verified by two reviewers independently.

Main results: Twenty two trials reporting 24 comparisons were identified. Compression was more effective than no compression (4/6 trials). When multi-layered systems were compared, elastic compression was more effective than non-elastic compression (5 trials). There was no difference in healing rates between 4-layer bandaging and other high compression multi-layered systems (3 trials). There was no difference in healing rates between elastomeric multi-layered systems (4 trials). Multi-layered high compression was more effective than single layer compression (4 trials). Compression stockings were evaluated in two trials. One found a high compression stocking plus a thrombo stocking to be more effective than a short stretch bandage. The second small trial reported no difference between the compression stockings and Unna's boot.

There were insufficient data to draw conclusions about the relative cost-effectiveness of different regimens.

Reviewers' conclusions: Compression increases ulcer healing rates compared with no compression. Multi-layered systems are more effective than single-layered systems. High compression is more effective than low compression but there are no clear differences in the effectiveness of different types of high compression.

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