

Compression for preventing recurrence of venous ulcers

Updated: 01/01/2002

from Cochrane Review Abstracts

Nelson EA, Bell-Syer SEM, Cullum NA

A substantive amendment to this systematic review was last made on 23 August 2000. Cochrane reviews are regularly checked and updated if necessary.

Background: Up to 1% of adults will suffer from leg ulceration at some time. The majority of leg ulcers are venous in origin and are caused by high pressure in the veins due to blockage or weakness of the valves in the veins of the leg. Prevention and treatment of venous ulcers is aimed at reducing the pressure either by removing / repairing the veins, or by applying compression bandages / stockings to reduce the pressure in the veins.

The vast majority of venous ulcers are healed using compression bandages. Once healed they often recur and so it is customary to continue applying compression in the form of bandages, tights, stockings or socks in order to prevent recurrence. Compression bandages or hosiery (tights, stockings, socks) are often applied for ulcer prevention.

Objectives: To assess the effects of compression hosiery (socks, stockings, tights) or bandages in preventing the recurrence of venous ulcers.
To determine whether there is an optimum pressure/type of compression to prevent recurrence of venous ulcers.

Search strategy: Searches of 19 databases including the Cochrane Wounds Group trials register and the Cochrane Controlled Trials Register, handsearching of journals, conference proceedings, and bibliographies up to June 2000.

Selection criteria: Randomised controlled trials evaluating compression bandages or hosiery for prevention of venous leg ulcers.

Data collection and analysis: Data extraction and assessment of study quality were undertaken by two reviewers independently.

Main results: No trials compared recurrence rates with and without compression.

One trial (300 patients) compared high (UK Class 3) compression hosiery with moderate (UK Class 2) compression hosiery. A intention to treat analysis found no significant reduction in recurrence at five years follow up associated with high compression hosiery compared with moderate compression hosiery (relative risk of recurrence 0.82, 95% confidence interval 0.61 to 1.12). This analysis would tend to underestimate the effectiveness of the high compression hosiery because a significant proportion of people changed from high compression to medium compression hosiery. Compliance rates were significantly higher with medium compression than with high compression hosiery.

One trial (166 patients) found no difference in recurrence between two types of medium (UK Class 2) compression hosiery (relative risk of recurrence with Medi was 0.74, 95% confidence interval 0.45 to 1.2).

Both trials reported that not wearing compression hosiery was strongly associated with ulcer recurrence and this is circumstantial evidence that compression reduces ulcer recurrence.

No trials were found which evaluated compression bandages for preventing ulcer recurrence.

Reviewers' conclusions: No trials compared compression with vs no compression for prevention of ulcer recurrence. Not wearing compression was associated with recurrence in both studies identified in this review. This is circumstantial evidence of the benefit of compression in reducing recurrence.

Recurrence rates may be lower in high compression hosiery than in medium compression hosiery and therefore patients should be offered the strongest compression with which they can comply.

Further trials are needed to determine the effectiveness of hosiery prescribed in other settings, i.e. in the UK community, in countries other than the UK.

Citation: Nelson EA, Bell-Syer SEM, Cullum NA. Compression for preventing recurrence of venous ulcers (Cochrane Review). In: *The Cochrane Library*, 1, 2002. Oxford: Update Software.