CRD summary
This review evaluated whether formalised training can improve the compression bandaging technique of nurses. The author concluded that poor compression bandaging technique is common and that whilst training leads to improvement in the short term, no long-term improvement has been demonstrated. The primary studies in this brief review were not of a high quality, rendering the findings unreliable; further good-quality primary research is required.

Authors’ objectives
The review evaluated whether formalised training can improve the compression bandaging technique of nurses and whether any improvement is sustained.

Searching
MEDLINE (from 1966), CINAHL (from 1984) and EMBASE (from 1980) were searched. The basic strategy was given in the paper. Reference lists were also checked.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) and quasi-experimental studies were eligible. The minimum standard for design of study to be included in the review was a before-and-after design; all the included studies were of this limited design.

Specific interventions included in the review
Studies of formalised bandaging training were eligible. In one of the included studies the training comprised a single training day, and in another a 4-hour workshop. Details of the training in the third study were not given.

Participants included in the review
Nurses who performed compression bandaging were eligible. In all of the included studies the nurses were self selected. In one study the level of experience in bandaging varied, in another the nurses routinely undertook compression bandaging, and in the third they had previously received specialist training in bandaging. The nurses in the included studies were district or community nurses, student nurses or dermatology nurses.

Outcomes assessed in the review
Studies that appraised nurses’ bandaging techniques were eligible; this was any objective measure of compression on a patient’s limb using a competency-based system to rate the individual’s skills. In all of the included studies the outcome measure was the pressure measured at three separate points on the lower leg. Studies using outcomes remote from the direct assessment of technique, such as those related to the healing of ulcers, were excluded.

How were decisions on the relevance of primary studies made?
The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that they assessed validity.

Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Details of the studies were tabulated and differences between them were discussed in the text.

Results of the review
Three studies (n=57) were included; all were before-and-after studies.

Methodological problems with the studies included small sample sizes, with no discussion of power calculations, and losses to follow-up of greater than 80%.

The level of bandaging skill before training was inadequate with only 30 to 52% of nurses achieving an adequate or better score for their bandaging technique. Immediately post training this proportion had increased in all studies to 78 to 91%. In two studies this improvement was maintained at 2 to 4 weeks post training. However, in the third study, which assessed the technique again after 6 to 10 weeks, most of the gain had been lost: only 44 to 56% of nurses had adequate or better technique at that assessment.

Authors' conclusions
Poor compression bandaging technique is common and whilst training leads to improvement in the short term, none has been shown to lead to long-term improvement.

CRD commentary
This was a brief review. The inclusion criteria were clear and appropriate. The literature search covered a good range of databases, but it might have been improved by a broader search strategy. Details of the conduct of the review were not reported, so any efforts made to minimise review bias cannot be appraised; as the review was conducted by a single author, such efforts can have only been minimal. Adequate details of the three included studies were presented and the author's conclusions are supported by the findings of these three studies.

Implications of the review for practice and research
Practice: The author stated that the effectiveness of short training courses in bandaging cannot be assumed. The pressure monitoring devices used in the reviewed studies can be used to assess practice.

Research: The author stated that research is required into how nurses can acquire and sustain good bandaging technique.

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**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.