A critical review of the evidence to support the use of foot orthosis to improve foot pain in patients with rheumatoid arthritis

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CRD summary
The authors concluded that there was little quality research evidence to support the use of foot orthosis in the management of rheumatoid arthritis foot pain, but that other research evidence supported its use. This was a poorly reported review. It is not possible to determine whether the authors' conclusion reflects the evidence. The overall reliability of the review is uncertain.

Authors' objectives
To evaluate the effectiveness of foot orthosis in the management of rheumatoid arthritis.

Searching
PubMed, CINAHL and Cochrane databases were searched from 1999 to 2011. Handsearches were carried out and sources of primary references were contacted to locate unpublished material.

Study selection
Eligible studies were of orthotic interventions to treat patients with rheumatoid foot pain.

The included orthosis interventions were custom-made or available over-the-counter. Specific interventions included: orthosis made of carbon graphite with a deep heel cup and a contoured medial arch; insoles combined with specialised shoes; orthosis made from a semi-flexible 10mm-thick podofoam; and other types of pre-fabricated or customised device. Control interventions (where reported) were: shoe only; different types of orthotic device; or no initial intervention. Although sparsely reported, mean ages of participants ranged from 51.8 to 54 years. Just over half of the participants were female. Outcome measures included: the Foot Function Index pain scale, activity limitation scale and disability scale; electromagnetic tracking system to record 3D joint motion; visual analogue scale for foot pain; and digital analysis to assess plantar pressure.

The authors did not state how many reviewers selected the studies for inclusion.

Assessment of study quality
It appeared that there was quality assessment of the included studies but there were no details of which criteria were used.

Data extraction
The authors did not state how many reviewers carried out data extraction.

Methods of synthesis
A narrative synthesis was presented.

Results of the review
Three randomised controlled trials, one crossover study and one randomised crossover study were included. Sample size (sparsely reported) ranged from 42 to 98 participants. The authors stated that there were methodological limitations across the studies, largely a lack of intervention provider blinding (results were not reported). Follow-up ranged from 12 to 30 months.

Study results were not reported.

The authors stated: "All the included studies reported some degree of success. There is some evidence to suggest that custom-made devices may help in reducing rear foot pain in patients diagnosed with rheumatoid arthritis. Custom-prescriptions and over-the-counter devices appear to be equally effective. Custom prescription devices with a met dome
are considered to be safe, and this may also apply to over-the-counter devices.”

**Authors' conclusions**
There was little quality research evidence (from randomised controlled trials and controlled clinical trials) to support the use of foot orthosis in the management of rheumatoid arthritis foot pain, but there was a wealth of other research evidence to support its use.

**CRD commentary**
The review question was clear but inclusion criteria were vague. Relevant sources were searched to locate the included studies. The review process was not reported so it was not possible to assess potential for reviewer error and bias. Reference was made to the overall quality of the included studies, but criteria were not specified and results were not reported. The authors provided a short summary of the evidence, but this could not be verified as study characteristics and results were not reported and not signposted elsewhere.

This was a poorly reported review. It is not possible to determine whether the authors' conclusion reflects the evidence. The overall reliability of the review is uncertain.

**Implications of the review for practice and research**
The authors did not state any specific recommendations for research and practice.

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