Magnets applied to acupuncture points as therapy: a literature review

CRD summary
The review concluded that further investigation of acu-magnet therapy was warranted, particularly for the management of diabetes and insomnia, however, the quality of the trials prevented treatment recommendations. Despite limitations in the review, the authors cautious conclusions are likely to be reliable.

Authors' objectives
To summarise the acu-magnet therapy literature and to determine whether the evidence justified further investigation of acu-magnet therapy for specific clinical indications.

Searching
PubMed, AMED, ScienceDirect College Edition, China Academic Journals (February 2006), Acubriefs (January 2008) and an in-house Journal Article Index (Oregon College of Oriental Medicine Library) were searched from inception to December 2007 (or as indicated). Search terms were not reported, but were available on request from the authors. Only full text articles published in English or Chinese were included.

Study selection
Clinical trials, case series and case reports involving the stimulation of acupuncture points by application of permanent magnets for any clinical diagnosis or medical condition were eligible for inclusion in the review. Studies reporting on electroacupuncture and transcranial magnetic stimulation were excluded. The authors defined acu-magnet therapy as stimulation of an acupuncture point with a static magnetic field generated by a permanent magnet.

The magnetic device used and method, site and duration of application and the control devices varied across studies (further details were reported in the review). Magnets appeared to have been used as an adjunct to standard care in over half of the included studies. Participants with a wide variety of conditions were enrolled. Age of participants ranged from seven years to greater than 82 years. Studies were completed in China, USA and Finland.

One reviewer selected papers for inclusion in the review.

Assessment of study quality
It appeared that the quality of controlled studies were assessed using the Jadad scale. The authors did not state how many reviewers performed the validity assessment.

Data extraction
Six reviewers extracted data from the included studies.

Methods of synthesis
Studies were combined in a narrative synthesis.

Results of the review
Forty-two studies were included in the review (6,453 participants): 21 controlled studies and 21 case series. Sample sizes ranged from one to 1,500 (most studies involved fewer than 100 participants). Jadad scores for the included controlled studies were poor overall (where reported, the only criterion met was reported randomisation).

Thirty-seven studies reported a therapeutic benefit of treatment with acu-magnet therapy. One controlled study reported a worsening of symptoms (hot flushes) in the magnet group. Three controlled studies reported no significant between-group differences. The results of one study were inconclusive due to the high drop-out rate. Hot flushes and skin irritation from adhesives were the only adverse effects reported (two studies).

Authors' conclusions
Further investigation of acu-magnet therapy was warranted, particularly for the management of diabetes and insomnia.
The quality of the trials precluded treatment recommendations at the time of the study.

**CRD commentary**
The review question was supported by clear if broad inclusion criteria. Several databases were searched. The search was restricted by language (English and Chinese) and the authors did not systematically attempt to locate unpublished papers, thus increasing the likelihood of language and publication biases. Risk of publication bias was acknowledged by the authors. Although six reviewers performed the data extraction, it was not clear whether this was conducted independently; only one reviewer selected studies for inclusion in the review; it was not reported how many reviewers performed the validity assessment: these factors raised the likelihood of error and bias at these stages. It appeared that only controlled studies were assessed for validity, although results are not reported. The decision to combine studies in a narrative synthesis was appropriate given the clear differences between these studies. The evidence synthesis was brief and lacked interpretation of the statistical and clinical significance of the results reported. However, despite limitations, the authors cautious conclusions are likely to be reliable.

**Implications of the review for practice and research**
Practice: The authors did not state any implications for practice.

Research: The authors indicated that future studies should be conducted rigorously (according to STRICTA and CONSORT guidelines) and should pay particular attention to methodological and dosimetry issues associated with static magnetic field therapy.

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