Electromagnetic therapy for treating pressure ulcers (Review)

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**Electromagnetic therapy for treating pressure ulcers**

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**ABSTRACT**

**Background**

Pressure ulcers are defined as areas “of localized damage to the skin and underlying tissue caused by pressure, shear, friction and/or the combination of these”. Electromagnetic therapy (EMT), in which electrodes produce an electromagnetic field across the wound, may improve healing of chronic wounds such as pressure ulcers.

**Objectives**

To assess the effects of EMT on the healing of pressure ulcers.

**Search methods**

For this update we searched the Cochrane Wounds Group Specialised Register (searched 12 July 2012); The Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library* 2012, Issue 7); Ovid MEDLINE (2010 to July Week 1 2012); Ovid MEDLINE (In-Process & Other Non-Indexed Citations, July 11, 2012); Ovid EMBASE (2010 to 2012 Week 27); and EBSCO CINAHL (2010 to 6 July 2012).

**Selection criteria**

Randomised controlled trials comparing EMT with sham EMT or other (standard) treatment.

**Data collection and analysis**

For this update two review authors independently scrutinised the results of the search to identify relevant RCTs and obtained full reports of potentially eligible studies. In previous versions of the review we made attempts to obtain missing data by contacting study authors. A second review author checked data extraction and disagreements were resolved after discussion between review authors.

**Main results**

We identified no new trials for this update. Two randomised controlled trials (RCTs), involving 60 participants, at unclear risk of bias were included in the original review. Both trials compared the use of EMT with sham EMT, although one of the trials included a third arm in which only standard therapy was applied. Neither study found a statistically significant difference in complete healing in people treated with EMT compared with those in the control group. In one trial that assessed percentage reduction in wound surface area, the difference between the two groups was reported to be statistically significant in favour of EMT. However, this result should be interpreted with caution as this is a small study and this finding may be due to chance. Additionally, the outcome, percentage reduction in wound area, is less clinically meaningful than complete healing.
Authors’ conclusions

The results provide no strong evidence of benefit in using EMT to treat pressure ulcers. However, the possibility of a beneficial or harmful effect cannot be ruled out because there were only two included trials, both with methodological limitations and small numbers of participants. Further research is recommended.

PLAIN LANGUAGE SUMMARY

Electromagnetic therapy for treating pressure ulcers

Pressure ulcers (also called bed sores, decubitus ulcers or pressure sores) are sores on the skin caused by pressure or rubbing. They usually affect immobile people on the bony parts of their bodies such as hips, heels and elbows, and take a long time to heal. Electromagnetic therapy is not a form of radiation or heating, but uses an electromagnetic field with the aim of stimulating healing. However, the review of trials concluded that there is no strong evidence that electromagnetic therapy helps or hinders healing of pressure ulcers.