

## RANDOMISED CONTROLLED TRIAL OF MAGNETIC BRACELETS FOR RELIEVING PAIN IN OSTEOARTHRITIS OF THE HIP AND KNEE

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### Objective

To determine the effectiveness of commercially available magnetic bracelets for pain control in osteoarthritis of the hip and knee.

### Design

Randomised, placebo controlled trial with three parallel groups.

### Setting

Five rural general practices.

### Participants

194 men and women aged 45-80 years with osteoarthritis of the hip or knee.

### Intervention

Wearing a standard strength static bipolar magnetic bracelet, a weak magnetic bracelet, or a non-magnetic (dummy) bracelet for 12 weeks.

### Main outcome measures

Change in the Western Ontario and McMaster Universities osteoarthritis lower limb pain scale (WOMAC A) after 12 weeks, with the primary comparison between the standard and dummy groups. Secondary outcomes included changes in WOMAC B and C scales and a visual analogue scale for pain.

### Results

Mean pain scores were reduced more in the standard magnet group than in the dummy group (mean difference 1.3 points, 95% confidence interval 0.05 to 2.55). Self reported blinding status did not affect the results. The scores for secondary outcome measures were consistent with the WOMAC A scores.

### Conclusion

Pain from osteoarthritis of the hip and knee decreases when wearing magnetic bracelets. It is uncertain whether this response is due to specific or non-specific (placebo) effects. Manufacturers of permanent static magnet devices claim that they reduce pain in various conditions, including osteoarthritis.<sup>1</sup> Worldwide sales were estimated at \$5bn (£2.6bn, €3.8bn) in 1999.<sup>2</sup> Osteoarthritis affects around 760 000 people in the United Kingdom, producing an estimated 3.02 million general practice consultations in 2000.<sup>3</sup> If magnets were effective they would offer a cheap and probably safe treatment option. Some studies of permanent static magnets have found significant pain reduction<sup>2,4-9</sup> whereas others reported no effect.<sup>10-12</sup> Major differences exist in the type and strength of magnets used, the conditions treated, and treatment times. There are also methodological concerns about small sample size and difficulties in maintaining blinding.<sup>2</sup> We therefore aimed to conduct an adequately powered trial testing the hypothesis that magnetic bracelets, as used in the consumer market, reduce pain in osteoarthritis of the hip and knee.