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Magnet therapy

Extraordinary claims, but no proved benefits

Magnetic devices that are claimed to be therapeutic include magnetic bracelets, insoles, wrist and knee bands, back and neck braces, and even pillows and mattresses. Their annual sales are estimated at \$300m¹ (£171m; €252m) in the United States and more than a billion dollars globally.² They have been advertised to cure a vast array of ills, particularly pain. A Google search for the terms “magnetic + healing” omitting “MRI resonance” yielded well over 20 000 pages, most of which tout healing by magnets. The reader is invited to insert “magnetic healing” into a web browser, and evaluate these spectacular claims.³

Many “controlled” experiments are suspect because it is difficult to blind subjects to the presence of a magnet. An example is a randomised trial of powerful magnetic bracelets for the relief of hip and knee osteoarthritis, which reports a significant decrease in pain because of the bracelets.⁴ The patients given real magnets could detect them because the magnets often stuck to keys in pockets. Perhaps subjects with magnetic bracelets subconsciously detected a tiny drag when the bracelets were near ferromagnetic surfaces (which are ubiquitous in modern life), and this distracted or otherwise influenced the perceived pain. Patients with fibromyalgia detected which sleeping pads were magnetic by their mechanical properties, by “comfort with the firmness”⁵ and thus unblinded the study.⁶ In a sophisticated postural assay, where magnetic soles were found to decrease swaying,⁷ the authors admit that the magnetic soles could have differed in stiffness from the controls. One of us suggested to a believer in magnetic healing that inexpensive refrigerator magnets were thin enough to be worn in dress shoes and would be equally “effective”: she was delighted to find this was so (E Alvarez, private communication). We wonder if a cheap shoe insert would have had the same effect. In chronic pelvic pain a double blind study reported improvement owing to the continuous wearing of magnets, but admitted that blinding efficacy was compromised.⁸

For carpal tunnel syndrome pain, a double blind randomised study using magnet therapy⁹ ensured that magnets and shams were boxed individually so the treatments shouldn't be identified.¹⁰ There was no statistical difference between the magnet and sham, yet both showed an improvement. Hence future studies should include holders and bracelets that do not contain magnets. One of the commonly touted benefits of magnet therapy is relief of low back pain. However, despite a natural tendency to report positive results, a study of the effects of magnets found no effect.¹¹

It is relevant to cost benefit ratios in clinical practice that magnets, which are claimed to be therapeutic, have caused financial harm.¹² Money spent on expensive and unproved magnet therapy might be better spent on evidence based medicine.

More importantly, self treatment with magnets may result in an underlying medical condition being left untreated.¹² Sadly, some advertisers even claim that magnets are effective for cancer treatment and for increasing longevity; not surprisingly, these claims are unsupported by data.

Magnets are touted by successful athletes, allowed to be widely advertised, and sold without restrictions, so it is not surprising that lay people think that claims of therapeutic efficacy are reasonable. However—even theoretically—magnet therapy seems unrealistic.^{9 13} If human tissue were affected by magnets, one would expect the massive fields generated by magnetic resonance imaging (MRI) to have profound effects. Yet the much higher magnetic fields of MRI show neither ill¹³ nor healing¹⁰ effects.

Extraordinary claims demand extraordinary evidence. If there is any healing effect of magnets, it is apparently small since published research, both theoretical and experimental, is weighted heavily against any therapeutic benefit. Patients should be advised that magnet therapy has no proved benefits. If they insist on using a magnetic device they could be advised to buy the cheapest—this will at least alleviate the pain in their wallet.

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