



## Pulsed electromagnetic fields can reduce pain in the short term in patients with knee osteoarthritis [commentary]

### Commentary

Despite substantial research on first-line treatment modalities for mild-to-moderate knee osteoarthritis, there are few alternatives that relieve pain and improve function besides drugs and exercise; both show, at best, moderate effects.<sup>1</sup> Due to the side effects of conventional pain-relieving drugs, physical activity and exercise are currently the preferred approaches to improving pain and function. Bagnato and colleagues reported reduced pain with pulsed electromagnetic fields in elderly men and women with symptomatic knee osteoarthritis. The trial had a low risk of bias and the average benefit in pain reduction was probably clinically significant. However, the mechanism behind the effect is not fully understood; it is thought that the treatment gives a beneficial cartilage homeostasis that consequently reduces disease symptoms.

Despite these promising results, there are several considerations that need to be met before this intervention could be recommended for clinical practice. The study had short-term follow-up; therefore, it is unknown if pulsed electromagnetic fields lead to sustained reduction in pain. In addition, the intervention involved using the device for more than 11 hours/day, which raises issues of feasibility. Current pulsed electromagnetic fields studies

have used different intervention protocols, thus, it is hard to compare and synthesise the evidence. Clinical practice guidelines have not recommended electromagnetic therapy, despite controversy in the literature during the last decade.<sup>1</sup> However, based on the results of this trial, pulsed electromagnetic fields therapy is worth considering for patients with mild-to-moderate symptomatic knee osteoarthritis who do not respond to daily physical activity and personalised exercises. A large randomised, controlled trial with a longer follow-up is warranted to confirm the positive effects of pulsed electromagnetic fields reported in this trial.

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### Reference

1. Zhang W, et al. *Osteoarthritis Cartilage*. 2010;18:476-499.