Pulsed signal therapy and the treatment of osteoarthritis
Agence d'Evaluation des Technologies et des Modes d'Intervention en Sante

Record Status
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Citation

Authors' objectives
The purpose of this report is to assess the efficacy of pulsed signal therapy (PST) in relieving pain and improving joint function in osteoarthritis.

Authors' conclusions
Osteoarthritis is a disease with a high prevalence, especially among the elderly. Having a noninvasive and nonpharmacologic treatment that is effective in relieving pain and improving joint function is desirable. Several studies have suggested using pulsed electromagnetic fields as a therapeutic option, one of the applications being pulsed signal therapy, whose efficacy had previously been demonstrated for other indications, such as the treatment of nonhealing fractures.

In light of its assessment, AETMIS believes that pulsed signal therapy has almost achieved the status of innovative technology. Although no firm conclusions can be drawn from the available scientific data, the latter strongly point to an analgesic effect and improved joint function in osteoarthritis. Furthermore, this technology cannot be considered purely experimental, since it is already being used by physiotherapy clinics, physicians in private practice and private individuals in Quebec and elsewhere in the world and since the user professionals consulted believe that pulsed electromagnetic field therapy may have a role to play in the therapeutic arsenal for osteoarthritis.

However, the use of pulsed signal therapy cannot be generalized until larger, methodologically well-designed studies have confirmed its efficacy and until its mechanism of action is understood. Research should therefore continue in the appropriate areas.

Lastly, it would be advisable for research to be conducted as soon as possible to compare pulsed electromagnetic field therapy with the alternatives, both in terms of efficacy (including the speed of onset of action and untoward or adverse effects) and costeffectiveness. It will then be possible to situate this therapy among all the other therapeutic approaches to osteoarthritis.

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