

Influence of various laser therapy methods on knee joint pain and function in patients with knee osteoarthritis.

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[Gworys K¹](#), [Gasztych J](#), [Puzder A](#), [Gworys P](#), [Kujawa J](#).

Author information

- ¹Clinical Department of Rehabilitation for Adults, Medical University of Łódź.
kamila.gworys@umed.lodz.pl

Abstract

BACKGROUND:

The aim of the study was to estimate the influence of various laser therapy methods on knee joint pain and function in patients with knee osteoarthritis.

MATERIAL AND METHODS:

125 patients were randomly assigned to 4 groups: • group I received one-wave laser irradiation (wave length 810 nm, dose 8 J/point) • group II received two-wave MLS laser irradiation (power 1100 mW, frequency 2000 Hz, dose 12.4 J/point) • group III received a similar regimen of two-wave MLS laser irradiation, but at a dose of 6.6 J per point • group IV was a placebo group where laser therapy procedures were simulated without actual irradiation. The effectiveness of the therapy was evaluated by means of Lequesne's scale, a modified Laitinen questionnaire and a visual analogue scale (VAS). Statistical analysis utilised non-parametric Wilcoxon's and Mann-Whitney's tests. Calculations were carried out with MedCalc v. 11.6.1.0.

RESULTS:

Statistically significant improvements in knee joint function and pain relief were seen in all groups (I, II and III). When groups I, II and III were compared, the largest improvement was found in group II (MLS laser, dose 12.4 J/point). The degrees of improvement in groups I and III were similar.

CONCLUSIONS:

One-wave laser irradiation at a dose of 8 J per point and two-wave laser irradiation with doses of 12.4 J and 6.6 J per point significantly improved knee joint function and relieved knee pain in patients with osteoarthritis.

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