

Low-level laser therapy for acute neck pain with radiculopathy: a double-blind placebo-controlled randomized study

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Objective. The objective of the study was to investigate clinical effects of low-level laser therapy (LLLT) in patients with acute neck pain with radiculopathy. **Design.** Double-blind, randomized, placebo-controlled study. **Setting.** The study was carried out between January 2005 and September 2007 at the Clinic for Rehabilitation at the Medical School, University of Belgrade, Serbia. **Patients and Intervention.** Sixty subjects received a course of 15 treatments over 3 weeks with active or an inactivated laser as a placebo procedure. LLLT was applied to the skin projection at the anatomical site of the spinal segment involved with the following parameters: wavelength 905 nm, frequency 5,000 Hz, power density of 12 mW/cm², and dose of 2 J/cm², treatment time 120 seconds, at whole doses 12 J/cm². **Outcome measures.** The primary outcome measure was pain intensity as measured by a visual analog scale. Secondary outcome measures were neck movement, neck disability index, and quality of life. Measurements were taken before treatment and at the end of the 3-week treatment period. **Results.** Statistically significant differences between groups were found for intensity of arm pain ($P = 0.003$, with high effect size $d = 0.92$) and for neck extension ($P = 0.003$ with high effect size $d = 0.94$). **Conclusion.** LLLT gave more effective short-term relief of arm pain and increased range of neck extension in patients with acute neck pain with radiculopathy in comparison to the placebo procedure.

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