



# Low-Power Laser Treatment for Shoulder Pain



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**Objective:** The objective of this study is to investigate the effect of low-power gallium-arsenide laser treatment on the patients with shoulder pain. **Background Data:** Low-energy laser therapy has recently been popularized in the treatment of various rheumatologic, neurologic, and musculoskeletal disorders such as osteoarthritis, rheumatoid arthritis, fibromyalgia, carpal tunnel syndrome, and tennis elbow. An orthopedic clinic with shoulder pain and complied with the selection criteria were included in the study. The patients were randomly assigned to two groups: Group I (laser treatment) and Group II (placebo laser treatment). The laser treatment was applied to the acromioclavicular joint, bicipital groove, and anterior and posterior faces of the capsule, regardless of the existence of sensitivity, for 1 min at each location at each session. The laser parameters were 904 nm, frequency range of 5–7000 Hz, and maximum peak power of 27 × 50W, or 27 × 4 W. In Group II, placebo laser and the same procedure were applied to the patients. Pain, active range of motion, and algometric sensitivity were measured before and after the treatment. The measurement results within each group showed a significant posttreatment improvement for some active and passive movements. The algometric sensitivity values showed improvement in 17 patients (60%) for Group I and six patients (30%) for Group II. Comparison between two groups showed similar results ( $p > 0.05$ ) in Group I for the parameters of passive extension and palpation sensitivity. The laser treatment group have shown better results in palpation sensitivity and passive extension, but no significant improvement in pain, active range, and algometric sensitivity in laser treatment group compared to the control group in the patients with shoulder pain.

# Priority Principle™: Shoulder Pain (General)

4(b)	At site of Acute pain	1000, 3000, 5000, 1000-3000 Hz	3-5 min per location, scanning slowly no < 50 cm <sup>2</sup>
OR			
4(b)	At site of Chronic pain	1000, 3000, 5000, 1000-3000 Hz	5-10 min per location, scanning slowly no < 50 cm <sup>2</sup>

Pain Level	Laser Setting
1-3	1000 Hz
4-6	3000 Hz
7-10	5000 Hz

	Pain Level	EMS Setting
●	1-3	Minimal
●	4-6	Moderate
●	7-10	Maximal

