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# Evaluation of low-level laser therapy effectiveness on the pain and masticatory performance of patients with myofascial pain

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## Abstract

This study investigated the effect of low-level laser therapy (LLLT) on the masticatory performance (MP), pressure pain threshold (PPT), and pain intensity in patients with myofascial pain. Twenty-one subjects, with myofascial pain according to Research Diagnostic Criteria/temporomandibular dysfunction, were divided into laser group (n = 12) and placebo group (n = 9) to receive laser therapy (active or placebo) two times per week for 4 weeks. The measured variables were: (1) MP by analysis of the geometric mean diameter (GMD) of the chewed particles using Optocal test material, (2) PPT by a pressure algometer, and (3) pain intensity by the visual analog scale (VAS). Measurements of MP and PPT were obtained at three time points: baseline, at the end of treatment with low-level laser and 30 days after (follow-up). VAS was measured at the same times as above and weekly throughout the laser therapy. The Friedman test was used at a significance level of 5% for data analysis. The study was approved by the Ethics Committee of the Federal University of Sergipe (CAAE: 0025.0.107.000-10). A reduction in the GMD of crushed particles ( $p < 0.01$ ) and an increase in PPT ( $p < 0.05$ ) were seen only in the laser group when comparing the baseline and end-of-treatment values. Both groups showed a decrease in pain intensity at the end of treatment. LLLT promoted an improvement in MP and PPT of the masticatory muscles.