Effects of Low-Level Laser Therapy and Eccentric Exercises in the Treatment of Recreational Athletes With Chronic Achilles Tendinopathy.

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Am J Sports Med 2008 Feb 13

Abstract

BACKGROUND: Eccentric exercises (EEs) are recommended for the treatment of Achilles tendinopathy, but the clinical effect from EE has a slow onset.
HYPOTHESIS: The addition of lowlevel laser therapy (LLLT) to EE may cause more rapid clinical improvement.
STUDY DESIGN: Randomized controlled trial; Level of evidence.
METHODS: A total of 52 recreational athletes with chronic Achilles tendinopathy symptoms were randomized to groups receiving either EE + LLLT or EE + placebo LLLT over 8 weeks in a blinded manner. Low-level laser therapy (lambda = 820 nm) was administered in 12 sessions by irradiating 6 points along the Achilles tendon with a power density of 60 mW/cm and a total dose of 5.4 J per session.
RESULTS: The results of the intention-to-treat analysis for the primary outcome, pain intensity during physical activity on the 100-mm visual analog scale, were significantly lower in the LLLT group than in the placebo LLLT group, with 53.6 mm versus 71.5 mm (P = .0003) at 4 weeks, 37.3 mm versus 62.8 mm (P = .0002) at 8 weeks, and 33.0 mm versus 53.0 mm (P = .007) at 12 weeks after randomization. Secondary outcomes of morning stiffness, active dorsiflexion, palpation tenderness, and crepitation showed the same pattern in favor of the LLLT group.
CONCLUSION: Low-level laser therapy, with the parameters used in this study, accelerates clinical recovery from chronic Achilles tendinopathy when added to an EE regimen. For the LLLT group, the results at 4 weeks were similar to the placebo LLLT group results after 12 weeks.