

THE EFFECTS OF LASER TREATMENT IN TENDINOPATHY: A SYSTEMATIC REVIEW

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ABSTRACT

Tendons have as main function transmit forces from the muscle to the bones. Tendinopathy is an inflammatory process that occurs in and around the tendon, when these are affected by some injury. Low level laser therapy consists in a local application of a monochromatic, coherent and short wavelength light. Its use began in 60's and since then several benefits for tendon injuries have been reported. The objective of this study is to collect the most recent studies about the use of laser on the tendinopathy

treatment. We performed searches on the following electronic databases PubMed, Medline, CAPES journals portal and LILACS. After the analysis, we selected three articles that showed that the use of low-level laser therapy, compared to placebo, is effective in treatment of tendinopathy. Despite the need for more studies about this theme, the low-level laser therapy demonstrates consistent results in the treatment of tendinopathy.

Keywords: Laser therapy. Tendinopathy. Review.

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INTRODUÇÃO

Tendons have as primary function transmit tensile strength from muscles to the bone region¹ and when affected by some injury, they develop an inflammatory process called tendinopathy, which takes place in and around the tendon.² It is generally characterized by an old and localized pain related to professional or sports activities.³ The normal tendon is shiny and white, while the inflamed tendon is gray or brown, soft, thin and fragile.⁴ The incidence of tendinopathy is responsible for about 30% of the number of musculoskeletal⁵ diseases and sedentary lifestyles, coupled with the specific requirements of physical and sports activities contributed to its increase.⁶ Its etiology is unknown, however, extrinsic factors such as the environment, inadequate stretching and warming up and asynchronous muscle action seem to affect its prevalence and recently intrinsic factors such as age and gender have contributed to their appearance.⁷

Achilles tendinopathy is often found in athletes, whose sport involves running and excessive training contributing to its appearance, leading to an increase in the production of fibroblasts and collagen degeneration which can be evidenced by imaging examination.⁸

The clinical prognosis associated with tendon injury and the limited capacity of its regeneration results in an increased in-

terest in the use of approaches to the treatment of tendon.⁵ The physical therapy has been widely used in these cases and consists of exercises and muscle stretching programs, and also other methods such as ultrasound, iontophoresis, deep massage, and low intensity laser therapy.² Low intensity laser therapy consists of a local application of a monochromatic light, coherent and of short wavelengths.⁹ Since 1960 it is used in the treatment of tendinopathy and studies from the 80's, report benefits in a variety of tendon injuries.¹⁰ It is a generally recommended therapy as a complement to an exercise program in the treatment of tendinopathy, however, when used in isolation, laser does not show to be as effective.¹¹ Therefore, this research aims at a systematic review, with the purpose to collect what is latest in low-intensity laser therapy in the treatment of tendinopathy.

METHODS

A search was performed in the electronic databases PubMed, Medline, Capes Journals Database and Latin American and Caribbean Health Sciences Literature (LILACS), without restrictions regarding the period of publication. We used the following keywords identified in consultation with the DeCS (Descriptors in Health Sciences), "Laser therapy" and "Tendinopathy" combined.

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