Case Study: The Effect of a Class IV Multiwave Locked System Laser on Plantar Fasciitis

By J. Geldwert DPM and R. Minara DPM, The Center for Podiatric Care and Sports Medicine, New York, NY

Abstract:

Plantar fasciitis is the most common cause of heel pain and is responsible for up to 15% of all foot symptoms requiring medical care in the adult population. The MLS® Therapy Laser has been shown to be safe and effective in treatment of painful orthopedic conditions, although no randomized controlled studies have evaluated its efficacy for the treatment of chronic plantar fasciitis. The MLS Laser is a class IV laser composed of a synchronized continuous emission (808 nm) and pulsed emission (905 nm). This synchronization with a higher energy laser has been shown to have analgesic, anti-inflammatory and anti-edema effects. The purpose of this study was to determine the effects of MLS Laser Therapy on patients suffering from plantar fasciitis. Twenty subjects with at least a one-month history of plantar fasciitis were enrolled in a randomized, non-placebo controlled study. The patients' pain level on VAS and fascial thickness (as measured by sonography) were measured prior to treatment. Each patient was treated at the same location using the multi-diode handpiece at 700Hz, 218.4J three times a week for two weeks (6 treatment sessions total). Each treatment session lasted 7 minutes. Patients were then evaluated at 4, 8, and 12 weeks post-treatment. At 4 weeks, post-laser therapy, patient pain level decreased from an average of 6.2 on VAS (range from 3-10) to 2.6 (range of 0-6). Sixteen of twenty patients reported decrease in pain levels. Fascial thickness decreased from .48 to .43 cm as measured via ultrasound. While fascial thickness did not decrease significantly, 80% of patients reported improvement in symptoms with an average decrease in VAS of 3.6.

Chart 1:
Decrease in Average VAS

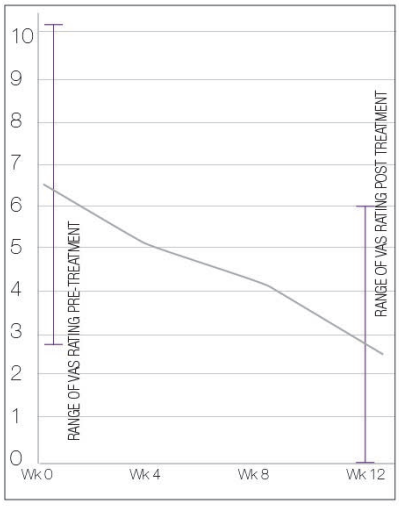
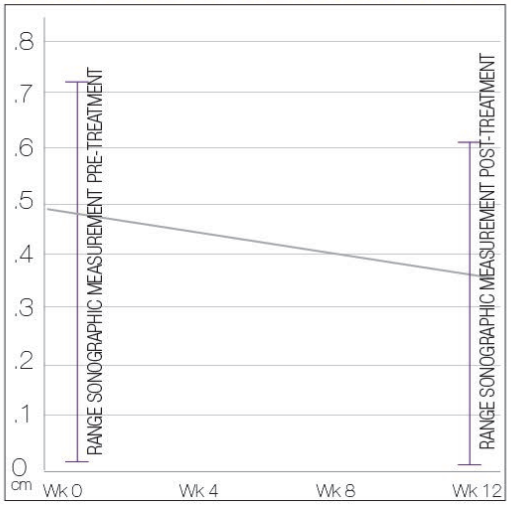


Chart 2:
Fascial Sonographic Measurements



Results:

Upon completion of treatment protocols, patients were evaluated at 4, 8, and 12 weeks post-treatment. All patients were evaluated at four weeks post-treatment, while only eight were evaluated at eight weeks, and only six at twelve weeks. At each post-treatment visit, patient pain level was determined via VAS, and new ultrasound measurements of the fascia were taken. Average post-treatment VAS was 2.6 (ranging from 0-6) with a significant average decrease of 3.6 (Chart 1). Eighty percent of subjects (16/20) reported a decrease in symptoms. Average fascial sonographic measurements minimally decreased from an average of 0.48 mm to an average of 0.43 mm (Chart 2).

Conclusion:

MLS Therapy is an exciting treatment option for musculoskeletal inflammatory conditions. It is a medicine and pain-free way of treating chronic issues. This study has shown the MLS Laser to reduce the symptoms in 80% of patients suffering from plantar fasciitis. While these results are quite promising, a blinded, placebo-controlled study needs to be performed, ideally with MLS Laser Therapy being the first treatment initiated, and patients need to be followed for a longer period of time.

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