Novel Physical Therapy Protocol Targeting Insertional Achilles Tendinopathy Improves Patient Reported Outcomes that Persist For 1 Year

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Introduction/Purpose: Insertional Achilles Tendinopathy (IAT) affects 5% of the general population and up to 20% of the athletic population. Despite trials of non-surgical management such as physical therapy and heels lifts, more than 50% of patients ultimately pursue surgery. One hypothesis regarding the development of IAT pain and stiffness is that ankle dorsiflexion and associated calcaneal impingement causes transverse compression of the tendon insertion, inducing metaplastic changes within the Achilles tendon, and bursa, contributing to inflammation. Thus the aim of the current study is to examine the effect of a home exercise program designed to minimize compression of insertional tissues for patients with IAT on patient reported outcomes (PRO) measures at 3 months and one year.

Methods: Thirty-five patients with IAT were enrolled in the study from May 2014 until June 2015 as two separate cohorts (21 and 14 patients, respectively) of whom 26 completed the study (mean age: 56.7 + 10.1 years, BMI: 29.5 + 6.0 kg/m2, 58% women). One patient elected for surgery prior to completing the physical therapy protocol. Physical therapy exercises were progressive eccentric loading of the Achilles tendon and seated isometric plantar flexion that were performed 4 times a week for 3 months. The Victorian Institute of Sport Assessment – Achilles (VISA-A), the Foot and Ankle Ability Measure (FAAM) and the SF-36 questionnaires were completed at baseline and at the completion of the 3-month physical therapy protocol. Six of the 14 patients in the second cohort returned for a 1 year follow up visit; four patients were lost to follow up and 4 had undergone surgical intervention prior to 1-year follow up.

Results: Completion of the 3 month protocol resulted in statistically significant improvements in VISA-A, FAAM ADL and sports scores as well as multiple subcategories of the SF-36 (physical function, role limiting physical function, energy/vitality, social functioning and general pain). Twenty-two of the 26 patients (~85%) that completed the study had clinically significant, greater than MCID, improvements in their VISA-A and/or FAAM scores. In the second cohort, all six patients that returned for a one year follow up assessment maintained their improved VISA-A and FAAM scores observed at the end of the initial physical therapy protocol. Of the four patients that underwent surgical intervention prior to follow up, two did not demonstrate improvement in any of their outcomes following the initial study period.

Conclusion: The results of the present study suggest that a physical therapy home exercise program utilizing eccentric and isometric Achilles exercises may result in a greater improvement in functional outcomes compared to other exercise programs that do not progressively increase both ankle dorsiflexion and Achilles tendon loading. Furthermore, improvements in pain and function result in increased energy and social wellbeing. Finally, symptomatic improvement that occurs after 3 months is likely to persist for at least one year following initial treatment.

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