



Original Research

Assessment of Evertor Strength Following Inferior Extensor Retinaculum Flap Ligamentoplasty in Patients With Chronic Lateral Ankle Instability

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Abstract

The primary aim of our study was to evaluate the strength of ankle evertor muscles in patients who have undergone a lateral ankle ligamentoplasty (which combined tensioning of the primary ligament group and reinforcing it with a pediculated extensor retinaculum flap), using 2 measurement systems (isokinetic and the functional weightbearing test [MyoLux]). Our hypothesis was the strength of evertor muscles on the treated side was comparable to that of the contralateral healthy side. This prospective study included 23 patients who had chronic ankle instability and underwent an inferior extensor retinaculum flap ligamentoplasty. Clinical and functional results were assessed using the American Orthopaedic Foot & Ankle Society and Karlsson scores. The evertor muscle strength was analyzed, in both treated and healthy contralateral ankles, using isokinetic testing (gold standard) – an open kinetic chain test and a functional closed kinetic chain test (MyoLux). Data were interpreted using the Stata 14.0 software. The American Orthopaedic Foot & Ankle Society score was 88.1 ± 4.5 , and the Karlsson score was 89.6 ± 4.0 . Isokinetic tests did not show any significant difference between the treated ankles and the healthy one. Functional tests measuring inversion control at the ankle did not demonstrate any functional differences between the 2 ankles. As confirmed by good functional scores and the lack of difference in evertor muscle strength, this study reports that the inferior extensor retinaculum flap ligamentoplasty is a satisfactory treatment of chronic ankle instability. In addition, the MyoLux is a reliable and effective test to properly assess proprioception at the ankle.