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## **Reconstruction of peroneus brevis tendon tears by semitendinosus tendon autograft: surgical technique and early results**

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### **ABSTRACT**

**Introduction:** Reconstruction for irreparable tears of the peroneal brevis tendon (PBT) using tendon allograft has provided satisfactory clinical results. The aim of this study is to present the surgical technique for reconstruction of PBT tears using semitendinosus tendon autograft (SA) as an alternative to allograft and its early results.

**Methods:** We describe the surgical technique for the reconstruction of irreparable tears of the PBT using SA performed in 3 patients, from December 2016 to May 2017, and early results. Two patients were male and one female, with a mean age of 46.6 years and a mean follow-up of 21 months. The indication for reconstruction was the presence of degenerative tissue that involved more than 50% of the cross-sectional area of the PBT. Preoperative planning included a clinical and imaging evaluation to search for conditions such as ankle instability, cavovarus foot, low-lying muscle belly of the PBT and peroneus quartus tendon. In the pre and postoperative period, they were prospectively assessed using visual analog scale (VAS) scores for pain and the American Orthopaedic Foot and Ankle Society (AOFAS) ankle-hindfoot score. At 6 months, they were submitted to an isokinetic evaluation of the strength of both feet.

**Results:** At the final follow-up, the mean VAS score was 8,7 preoperatively and 0 postoperatively. The mean AOFAS score was 43 preoperatively and 98,7 postoperatively. The 3 patients had different conditions associated with the lesions: a peroneus quartus tendon, a low-lying muscle belly and a cavovarus foot. They were addressed with resection of the peroneus quartus, resection of the low-lying muscle belly and with a lateral sliding calcaneal osteotomy. At 3 months, they were pain free and able to resume labor activities. At 6 months, they were able to return to sports. The isokinetic evaluation showed no eversion strength deficits compared with the contralateral side. At a mean follow-up of 21 months, they remain asymptomatic and fully active.

**Conclusion:** Reconstruction of PBT tears with SA may be an effective alternative to allograft tissues. It can decrease pain and restore PBT function.

**Keywords:** Hamstring tendons; Tendon transfer; Autograft.

