

## Does Flatfoot Deformity Develop After Transfer of Posterior Tibial Tendon for the Foot Drop Secondary to Peroneal Nerve Palsy?

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**Introduction/Purpose:** Posterior tibial tendon transfer is preferred by many colleagues for cases of drop foot caused by peroneal nerve palsy that are at least a year old with little chance of motor improvement. However, several studies have reported acquired flat foot deformity following tendon transfer, to best of our knowledge, no studies have been performed to assess whether posterior tibial tendon transfer influences occurrence of postoperative flat foot deformity quantitatively.

**Methods:** With IRB approval, a retrospective review was performed. Twenty-four patients were followed for more than 2 years after anterior transfer of TP tendon by one surgeon for the foot drop by peroneal nerve palsy from 2008 to 2013. The mean age was 35.9 years, and the mean follow-up period was 50.5 months. There were 10 female and 14 male patients. The clinical evaluation consisted of the Foot and Ankle Outcome Score (FAOS), Foot and Ankle Ability Measure (FAAM). The radiological evaluation consisted of the calcaenal pitch, Meary angle, heel alignment angle. As functional evaluation, isokinetic dynamometer muscle function analysis was performed.

**Results:** The overall FAOS demonstrated a significant improvement from preoperative (55.6 on average) to postoperative measurement (89.2 on average) ( $P < .01$ ), the ADL and sports subsection of FAAM demonstrated a improvement from preoperative to postoperative measurement (ADL: from 45.6 to 87.3; sports: from 32.8 to 81.5 on average, respectively;  $P < .01$ ). Radiology revealed that there were no changes in the foot alignment from pre- to postoperative measurement. Postoperative isokinetic strength was significantly lower as compared contralateral normal side. Two patients sustained postoperative complications in the WTHG (16.7%).

**Conclusion:** The results of our study demonstrated that there was no evidence that loss of the normal function of the tibialis posterior lead change in foot alignment such as flat foot deformity. Transfer of posterior tibial tendon offers successful result for the foot drop secondary to peroneal nerve palsy in selected cohorts, although long-term peroids follow up would be needed.

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