

Arthroscopic Treatment of Flexor Hallucis Longus Tenosynovitis: Classification and Functional Outcomes

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Introduction/Purpose: Flexor Hallucis Longus (FHL) tenosynovitis is a common cause of posterior ankle pain, typically associated with repetitive plantar flexion activities. The purpose of this study was to report the results of patients with FHL tenosynovitis treated with posterior ankle arthroscopy using validated outcome measures and develop a zone-based classification of FHL tenosynovitis that demonstrates well correlated preoperative imaging and intraoperative findings.

Methods: Posterior ankle arthroscopy was performed in 11 patients (12 ankles) with a diagnosis of FHL tenosynovitis, with patients followed for a minimum of two years (mean 44 months). Outcomes were evaluated using validated scoring measures, including visual analog scales (VAS) for pain, 12-Item Short Form Health Survey (SF-12), and the Foot and Ankle Ability Measure (FAAM).

Results: A zonal classification scheme based on anatomic location was developed, divided into three zones: proximal to the ankle joint, posterior to the ankle joint, and from the fibro-osseous tunnel underneath the sustentaculum tali to the FHL insertion. Agreement between preoperative MRI and arthroscopic zonal involvement at time of surgery was present in ten feet (83%), and differed in two feet (17%). VAS scores improved significantly from 7.1 ± 1.4 preoperatively to 1.3 ± 1.3 postoperatively ($p < 0.001$). Mean values for ADL and sports subscales of the FAAM at time of follow up were 87.1 ± 16.2 and 76.5 ± 28.8 , respectively. Physical component summary (PCS) and mental component summary (MCS) of the SF-12 yielded means of 51.3 ± 12.8 and 52.7 ± 5.0 , respectively.

Conclusion: FHL pathology can be classified using a zone-based classification scheme, which is highly correlative between preoperative MRI and intraoperative findings. Posterior ankle arthroscopy is an effective treatment option for FHL tenosynovitis, as evaluated using validated outcome measures.

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