

## **Calf Tendon Lengthenings, A Cure For Most Metatarsal Head Ulcers**

**Purpose:** Foot Ulcers are a common cause of hospital admission for infection and amputation in patients with neuropathy. This study evaluates the results of treating neuropathic ulcers plantar to metatarsal heads with calf tendon lengthenings.

**Methods:** Between 1995 and 2003, 21 ulcers in 18 patients were treated with tendon lengthenings. All patients had gastroc-soleus recession (Vulpus procedure). Patients with first metatarsal head ulcers also had z-type lengthening of peroneus longus. Patients with fifth metatarsal head ulcers also had intramuscular lengthening of the tibialis posterior.

**Results:** Sixteen of 18 patients had diabetic neuropathy. Average duration of ulcers before surgery was 17 months. Two patients were lost to follow-up. Average follow up for the remaining 19 ulcers was 40 months. Eighteen of 19 ulcers healed. Three ulcers recurred (16%) and 2 of those healed after repeat tendon lengthening. None of the patients whose ulcers healed had to be admitted for foot infection or amputation. The one patient whose ulcer did not heal developed progressive dry gangrene which required trans-femoral amputation 6 months after tendon lengthening.

**Conclusion:** Previously published ulcer recurrence rates were higher for non-operative treatment (60-80%) and for Achilles tendon lengthening alone (38%) in spite of shorter follow-up. Calf tendon lengthening seems to be effective in healing and preventing recurrence of neuropathic metatarsal head ulcers.