The Bridle Procedure in the Treatment of Foot Dorsiflexion Paralysis

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**Summary:**

Sufficient strength of the posterior tibial muscle is critical for a successful outcome using the Bridle procedure.

**Abstract:**

**Introduction**

This procedure is used to restore foot dorsiflexion as long as there is sufficient strength of the posterior tibial muscle. The posterior tibial muscle should be at a functional grade 4 or 5 in order for the procedure to be successful.

**Materials and Methods**

Retrospective review of 37 patients, (14 males, 23 females) one lost to follow-up, with 42 procedures, five of which were bilateral. Follow-up of 2-360 months, ages were 12-72 years. There were 20 right foot and 22 left foot procedures. Additional procedures performed were triple arthrodesis.

We now recommend a triple arthrodesis before the Bridle procedure if the posterior tibial is at a functional grade 3 before surgery.

**Results**

Of the 37 patients in this study, one was lost to follow-up and two are too recent post-surgery. Recovery of dorsiflexion function of the foot depends on the grading of the posterior tibial muscle function before surgery. Of the remaining 34 patients with 37 procedures (3 bilaterals), 29 patients had a grade 4 or 5 functional grade before surgery and all are brace free with satisfactory dorsiflexion of the foot. Of the 5 patients with functional grade 3, the Bridle procedure had a tenodesis effect only.

**Conclusions**

The modified Bridle procedure has been successful in restoring foot dorsiflexion in most patients in this study. The pre-operative functional muscular grading of the posterior tibial muscle is the determining factor in the success of this procedure.
**Tendon Lengthening Treatment of Neuropathic Foot Ulcers**  
**Presenting:** James Monroe Laborde, MD  
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**Summary:**

Based on results of 75 patients with 100 ulcers with average 3 year follow-up, tendon lengthening appears to be an effective treatment for neuropathic foot ulcers.

**Abstract:**

**Introduction:**

This study evaluates the results of treating neuropathic foot ulcers with tendon lengthening.

**Methods:**

Between 1995 and 2006, 130 ulcers in 105 patients were treated with tendon lengthening. Toe ulcers were treated with percutaneous toe flexor tenotomy. Ulcers plantar to metatarsal heads had lengthening of the Achilles tendon plus peroneus longus tendon for first metatarsal ulcers or posterior tibial tendon for fifth metatarsal ulcers. Midfoot ulcers had Achilles lengthening plus a custom molded insert.

**Results:**

Thirty patients were lost to follow-up, leaving 100 ulcers in 75 patients with follow-up. There were 46 toe ulcers, 44 metatarsal ulcers and 10 midfoot ulcers. Six patients had more than 1 type of ulcer. The average follow-up for 46 toe ulcers in 31 patients was 39 months. All ulcers healed. Three (3/46=7%) ulcers recurred but healed again after repeat tenotomy. The average follow-up for 44 ulcers plantar to metatarsal heads in 40 patients was 38 months. All ulcers healed but 1 (43/44=98%). Seven (7/44=16%) ulcers recurred, but healed again in patients having repeat tendon lengthening. There were 8 (8/40=20%) transfer ulcers, 4 toe and 4 metatarsal head ulcers, which all healed after tendon lengthening. Three (3/40=8%) developed heel ulcers, 2 posterior and 1 plantar. The average follow-up for 10 midfoot ulcers in 10 patients was 31 months. Nine (90%) healed and none recurred.

**Conclusion:**

Healing and recurrence rates compare favorably with other published treatment results for foot ulcers. Tendon lengthening appears to be an effective treatment for neuropathic foot ulcers.