Non-operative Treatment of Acute Rupture of the Achilles Tendon

**Foot & Ankle Category:** Sports

**Author(s):**
Fabian G. Krause, MD  
Timo Ecker, MD  
Thorsten Mueller  
Martin Weber, MD

**Introduction**
Treatment of acute rupture of the Achilles tendon is categorized into operative and non-operative treatment. Surgery is associated with a significantly lower number of re-ruptures but also an increased complication rate, whilst not leading to accelerated rehabilitation or improved functional outcome. We developed and evaluated a customized non-operative treatment algorithm.

**Methods**
Ninety-one patients were prospectively followed up for a mean of 30.6 ± 20.1 (9.38 - 88.1) months. A short ankle cast in 20° equinus position was worn in a special rehabilitation boot equipped with 2 removable heel inlays for 6 weeks. Full weight-bearing was allowed immediately. After 6 weeks, the cast was removed and patients wore the boot for another 6 weeks, removing one heel inlay every two weeks with a final 2 week period of ambulation in the boot without inlay. A special physical therapy program was absolvd.

**Results**
The mean Thermann score was 82.2 ± 13.4 (35-100) points. Subjective satisfaction was rated „very good“ and „good“ in 92.3% of patients. There were 5 re-ruptures, three with an adequate trauma and two without, the latter undergoing surgical repair subsequently. The complication rate was 6.6%, including each one plantar fasciitis, intratendinous seroma, pressure ulcer, transient hypaesthesia, development of CRPS syndrome, and 2 deep venous thrombosis.

**Conclusion**
Our treatment algorithm promotes fast rehabilitation through immediate full weight-bearing and physical therapy. The re-rupture rate is lower, while the complication rate matches results after non-operative treatment reported in other studies. Concluding, non-operative treatment is a valuable option for acute rupture of the Achilles tendon.