DELAYED LOADING FOLLOWING REPAIR OF RUPTURED ACHILLES TENDON – A RANDOMIZED CONTROLLED TRIAL

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Introduction The optimal rehabilitation following Achilles tendon rupture is still missing. It has been suggested that preventing tendon elongation during rehabilitation improves the clinical outcome, which leads to the purpose of this study; investigating if delayed loading following surgical treated Achilles tendon rupture influences the clinical outcome, muscle and tendon structure at one year.

Material and Methods Single-blinded prospective randomized controlled trial.

Group A (n=24); standard treatment with partial weight-bearing from week 3, full weight-bearing from week 7, and a bracing time of 6 weeks. Group B (n=24) with no partial weight-bearing until week 7, full weight-bearing from week 13, and a bracing time of 12 weeks. Tendon and muscle morphology were investigated with MRI and ultrasound at 1 week, 3, 6 and 12 months.

Results Primary outcome was heel-rise height deficit on the injured side relative to the uninjured side at one-year follow-up. Mean diff. A = 2.2 cm, B= 2.1 cm, p= 0.72. No difference was found between the two groups regarding the primary and the following secondary outcomes. An elongation of the free tendon was already seen at 1 week (17.8 mm. p< 0.0001) and remained at 12 months (21.3 mm). Fascicle length of the gastrocnemius medialis muscle was reduced by 4.0 mm p<0.001 after 1 year. The mean Achilles Tendon Total Rupture Score was 65.9 at 1 year. The remaining secondary outcomes are being processed.

Conclusion Delaying the loading did not improve the heel-rise performance one year after Achilles tendon repair compared to standard treatment.