

## Acute Achilles Tendon Rupture: The impact of calf muscle performance on function and recovery

Achilles tendon rupture is a common injury among physically active middle-aged men and women and the incidence is rising. Rehabilitation takes a long time, often 6-12 months, and permanent deficits in strength, endurance and tendon length in the injured calf muscle are frequent, regardless of whether the patients are treated with surgery or non-surgery. In recent years, there has been an increase in evidence suggesting that early weight-bearing and early ankle mobilization are beneficial for superior calf muscle recovery and less tendon elongation during the rehabilitation after an Achilles tendon rupture, but there is a lack of knowledge about the optimal rehabilitation protocol. In order to design new, improved and optimized rehabilitation protocols, there is a need for a deeper understanding of the way an Achilles tendon rupture affects the muscles, the tendon and the biomechanics in the foot and leg in patients with this injury. The aim of this thesis was to acquire a greater knowledge of the way patients with an Achilles tendon rupture recover at different time points after the injury when treated with the currently recommended treatment protocols. This knowledge will then form the basis of the further development of treatment strategies with the objective of reducing the risk of suffering permanent disability after an Achilles tendon rupture.



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