The Influence of Early Weight-Bearing Compared with Non-Weight-Bearing After Surgical Repair of the Achilles Tendon

Reference:

Scientific Literature Review

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Podiatric Relevance:
This randomized study provides valuable information regarding the effects on quality of life, functional recovery return to usual activities and work, and complications of early weight-bearing in comparison with non-weight bearing during the postoperative course after surgical repair of an acute Achilles tendon rupture.

Methods:
110 patients ages ranging from 17-65 in this randomized prospective study with a functionally complete acute Achilles tendon rupture underwent surgical repair within 14 days after injury. Postoperatively, all patients were non-weight bearing for two weeks in a posterior splint positioned in a relaxed ankle equinus position. After this first post-operative visit, patients were next placed in a fixed hinged ankle foot orthosis with dorsiflexion range of motion exercises twice daily. Also, these patients were randomly assigned in to the weight bearing as tolerated group (55 patients) or the non-weight-bearing with crutch assistance group (55 patients) for the next four weeks. Additionally, a pressure sensor was incorporated into each patient’s AFO to monitor compliance. Then all patients were reassessed at six weeks, three months, and six month. Utilizing the RAND-36, a health related questionnaire, the study focused on the primary outcome on health related quality of life, which include physical functioning, role-physical, bodily pain, general health, vitality, social functioning, emotional role, and mental health. Conjunctly, secondary outcomes were recorded and assessed, which include activity level, ankle range of motion, calf strength, return-to-work date and duties, and complications.

Results:
For this study, 98 of 110 patients had completed the six month follow-up. At the six week follow-up, the RAND-36 scores revealed the weight-bearing group had better outcomes in physical, social functioning, vitality, role-emotional in comparison with the non-weight-bearing patient population. Primarily, the weight-bearing patientsfaired better in social functioning (p=0.04) and had few to no limitations in daily activities (p<0.001). At the six month follow-up, there was no significant difference in other outcomes and complications between the two groups. However, both groups surprisingly exhibited about 50% impairment of heel-raise endurance at six months.

Conclusions:
From this study, an early postoperative weight-bearing course status-post surgical repair of an acute Achilles tendon rupture provides patients enhanced quality of life and minimal limitations in daily activities without increasing postoperative complications.