

## The efficacy of functional brace with and without patellar tendon bearing in patients with Achilles tendon rupture

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### Abstract

**Background and Objective:** There has been considerable debate regarding the best treatment of the Achilles tendon rupture. One of the nonoperative treatment method for Achilles tendon rupture is using the functional brace. The aim of this study was to evaluate the effect of the functional brace with/without patellar tendon bearing on treatment of patients with Achilles tendon rupture.

**Materials and Methods:** In this semi experimental study, 17 patients with Achilles tendon rupture were recruited and randomly allocated into 2 groups: functional brace with patellar tendon bearing and functional brace without patellar tendon bearing. Pain, plantar and dorsi flexion strength and the required time for progressively increased dorsi flexion position in orthoses to reach the neutral position were measured. Data analyzed with SPSS-13, independent t-test and Smironov-Kolomogrov.

**Results:** Three patients were excluded during follow up and finally this study was done on 14 patients. The difference of the pain intensity and the plantar and dorsi flexion, in each group, before and after the intervention was significant ( $P < 0.05$ ), but the difference between two groups after intervention in all variables was not significant.

**Conclusion:** This study showed that both brace with/without patellar tendon bearing are effective on improvement of pain and the plantar flexion and dorsi flexion strength and also are effective in required time to reach the neutral position.

**Keywords:** Achilles tendon rupture, Fncional brace, Pain, Patellar flexion, Dorsi flexion

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