# Comparing the Effect of Hip Exercise Versus Ankle Stabilization Exercise in Adults with Ankle Problem

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## Abstract:

**Purpose:** Ankle problem (AP) can impair strength and balance, leading to activity limitations and restricted participation. Traditionally, ankle stabilization exercises have been applied, and more recently, the effects of hip muscle exercises have been studied. The purpose of this study was to determine the immediate effects of hip exercises (HE) and ankle stabilization exercises (ASE) on dynamic balance, performance and ankle function in subjects with AP. We also compared the difference in effectiveness between HE and ASE.

**Methods:** A total of 34 subjects with AP participated, and were randomly divided into two groups: the HE group and the ASE group. The HE group performed a program consisting of exercises above 70 % MVIC, while the ASE group performed a traditional ankle stabilization exercise program. The subjects in each group completed their respective exercise program for a total of 30 minutes once a day and were assessed before and after the intervention. Dynamic balance was assessed using the Y-balance test (YBT). Performance was assessed using the hop for distance test (HDT) and side-hop test (SHT). Ankle function was assessed using foot and ankle ability measure (FAAM) questionnaires.

**Results:** YBT, HDT, and FAAM values increased significantly in both groups after the intervention ($p<.05$), and there was no significant difference between the groups. SHT values decreased significantly in both groups after the intervention ($p<.05$), and there was no significant difference between the groups.

**Conclusion:** Although no significant superiority was observed between HE and ASE in this study, both exercise programs were effective in improving dynamic balance, performance, and ankle function in subjects with AP. These findings suggest that both HE and ASE can be suitable interventions for AP, highlighting the need for individualized treatment plans. Future research is warranted to explore the long-term effects of exercise programs on AP subjects of different ages and occupational characteristics.

## Keywords:

ankle exercise, ankle problem, function, hip exercise, performance.