

Abstract

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The Effect of Six Sessions of Barefoot Running on the Flexibility of the Foot and Ankle Complex in Respect to the Risk Factors of Plantar Fasciitis

Purpose: To determine if barefoot running could cause changes in the foot and ankle complex that could reduce the risk factors commonly associated with plantar fasciitis.

Methods: Five female and four male participants had their range of motion (ROM) assessed for ankle dorsiflexion, ankle plantar flexion, forefoot inversion, forefoot eversion, and great toe extension with a neutral ankle (Baseline

in the left foot ($p < 0.01$) while an increase, though not significant, was found in the right foot ($p > 0.05$). There was a significant increase in ROM for great toe extension in the left foot ($p < 0.05$) while a decrease, although not significant, was found in the right foot ($p > 0.05$). There was no significance found in navicular foot drop ($p > 0.05$), which increased pre to post in the left foot and decreased pre to post in the right foot. There was a significant decrease in medial longitudinal arch length in the right foot ($p < 0.05$) while a decrease, although not significant ($p > 0.05$) was found in the left foot.

Discussion: Favorable changes were found in the measures of plantar flexion, forefoot eversion, inversion, and medial longitudinal arch length. The measures of ankle dorsiflexion, great toe extension, and navicular foot drop were in contrast to the hypothesis but are likely due to the short duration of the study which likely caused the participants to be experiencing soreness and a lack of complete muscular developments at the time of measurement reassessment. Previous literature has found that a period of two to three months is necessary for complete muscular development (Robbins).