Abstract Number: 10945

JOURNAL OF THE JFA Foot & Ankle

Effect of a global rehabilitation program on static postural control, dynamic stability, and functionality in individuals with lateral ankle instability. A randomized clinical trial

Daniel Soares Baumfeld[1], Rafael Zambelli de Almeida Pinto[2], Roberto Zambelli de Almeida Pinto[3], Paula Costa Machado[1], Sérgio Teixeira da Fonseca[4], Camila Gomes Miranda e Castor[4]

1. Hospital Felício Rocho, Belo Horizonte, MG, Brazil
2. Programa de Pós-Graduação em Ciências da Reabilitação, Departamento de Fisioterapia, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil
3. Hospital Mater Dei, Belo Horizonte, MG, Brazil
4. Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil

Correspondence: Paula Costa Machado **Email:** paulacostamachadoo@gmail.com

Introduction: Conventional rehabilitation for lateral ankle instability (LAI) emphasizes segmented ankle strengthening. Because LAI involves the entire kinetic chain, global exercises may be an alternative. This study compared global and conventional exercises for postural control, dynamic balance, and functionality, and evaluated dorsiflexion range of motion (ROM), passive ankle stiffness, recurrence, and 6-month retention.

Methods: Forty-seven individuals with LAI were randomized to global exercises (multi-joint, bodyweight) or conventional exercises (segmented ankle exercises with equipment). Both groups received home-exercise booklets for eight weeks. Outcomes at baseline, four and eight weeks, and six months included center-of-pressure (COP) variables on a force platform, Modified Star Excursion Balance Test, Foot and Ankle Ability Measure, dorsiflexion ROM, and passive ankle stiffness.

Results: Both groups improved dynamic stability ($p = 0.001$), COP mean velocity ($p = 0.001$), COP SD ($p = 0.002$), COP area ($p = 0.001$), functionality ($p = 0.001$), and dorsiflexion ROM ($p = 0.001$). Effects were maintained for six months, except for COP SD. Passive ankle stiffness did not improve. No superiority of global exercises was found. Sprain recurrence was lower in the global group (88.2% without new sprains) than in the conventional group (52.6%).

Conclusions: Global exercises were not superior to conventional exercises, but they were effective, accessible, and associated with lower recurrence, supporting their use as an alternative rehabilitation strategy for LAI.

Keywords: Ankle injuries; Exercise therapy; Postural balance.

DOI: https://doi.org/10.30795/jfootankle.2026.v20.2012

This abstract was presented at the XXII Brazilian F&A Meeting 2026, held in São Paulo, Brazil, from April 18 to 21, 2026.