

Young Adults' Performance of Unipedal Dynamic Balance with Various Footwear Conditions

Alice Hartman, Dave Martin, Jeremy Milford, Jacob Simmonds, Chris Truong*

Faculty: Barbara Smith

Department of Physical Therapy, College of Health Professions

The study investigated how going barefoot, wearing Vibram Five Finger™ shoes (VFF), and wearing athletic shoes affect dynamic balance. A modified Star Excursion Balance Test (SEBT) was used to measure distance reached in three directions rather than all eight of the SEBT. A timed test measured time to complete the test while tracking errors. A convenience sample participated (n=30; aged 18-30 years) who all met inclusion criteria. The order of footwear conditions was randomly selected for each subject. Protocol and order of tests were kept constant. The left leg was used as the stance leg; the right leg was the reach leg. The right leg length was measured to standardize the measurement of reach distance across participants (reach/leg length). Subjects reached significantly farther in athletic shoes only for anterior reach versus barefoot and VFFs. Wearing VFFs closely mimics going barefoot for single leg stance dynamic balance activities.