

On Ankle Mobility in Gait in the Older Adult Population

The feet and ankle complex are very important to balance and balance-recovery both static and dynamic. Besides the mechanics, there is a lot of sensorimotor information that originating from the feet/ankle area (Chevutschi, D'Houwt, Pardessus, & Thevenon, 2015). Chevutschi et al. (2015) noted that during normal aging, there was a tendency for decreased mobility (joint stiffness) and weakness which contributed to balance-recovery issues (e.g. falls). Chevutschi et al. (2015) studied both static and dynamic balance (via force plate) of 19 older adults (average age of 83.1 years) before and after 20 minutes of ankle mobilization (talocrural and subtalar) exercises. Chevutschi et al. (2015) noted the reduction in sway area of static balance (greater stability, better postural control) and greater range of motion (achieved 15° dorsiflexion and 20° plantar flexion).

Chiacchiero, Dresely, Silva and DeLosReyes (2010) noted that decreased dorsiflexion and gastrocnemius length had negative effects on balance recovery. Nolan et al. and Whipple et al. (as cited in Chiacchiero et al., 2010, p. 152) noted that the altered length-tension relationship of knee and ankle muscles contributed to falls and reduced one's ability to create torque in balance recovery.

References

Chevutschi, A., D'Houwt, J., Pardessus, V., & Thevenon, A. (2015). Immediate effects of talocrural and subtalar joint mobilization on balance in the elderly. *Physiotherapy Research International*, 20(1), 1-8.

Chiacchiero, M., Dresely, B., Silva, U., & DeLosReyes, R. (2010). The relationship between range of movement, flexibility, and balance in the elderly. *Topics In Geriatric Rehabilitation*, 26(2), 148.