

Effects of physical warm-up on postural control in healthy, physically inactive older adults

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Abstract

Statement of the Problem: The physiological state of an individual during the evaluation of postural control (PC) can exert an influence on postural performance in young people after physical warm-up. However, no studies were found that have performed similar tests with older adults. The aim of the present study was to assess the effects of physical warm-up (PWU) on PC performance in healthy older women. **Methods:** Eighteen healthy physically inactive older women (mean age: 65.2 ± 4.57 years) were enrolled in a randomized, blind, crossover study. Each participant was submitted to two tests in random order: a single session of PWU (12 minutes of warm-up on a treadmill with mild/moderate intensity) and without physical warm-up (WPWU). Sway velocity of the center of pressure in the anterior-posterior (COPap) and medial-lateral (COPml) directions was calculated using a force plate (bipedal, 90 s, three times, eyes open) before, immediately after and 10 minutes after PWU. In the WPWU group, the same evaluations were performed but warm-up was substituted with 10 minutes of rest seated on a chair. A one-week period was respected between sessions. **Findings:** Two-way repeated-measures analysis of variance revealed no statistically significant difference in sway velocity comparing the PWU and WPWU groups in either direction (COPap: $F = 1.16$, $p = 0.31$, $\eta^2 = 0.03$; COPml: $F = 1.65$, $p = 0.31$, $\eta^2 = 0.003$). **Conclusion:** Physical warm-up does not affect postural control in healthy older women in the bipedal stance. This finding indicates that there is no need to perform PWU prior to the evaluation of PC. Thus, the PC evaluation can be faster and less complex, with a consequent increase in interest and adherence of this population to this type of evaluation.

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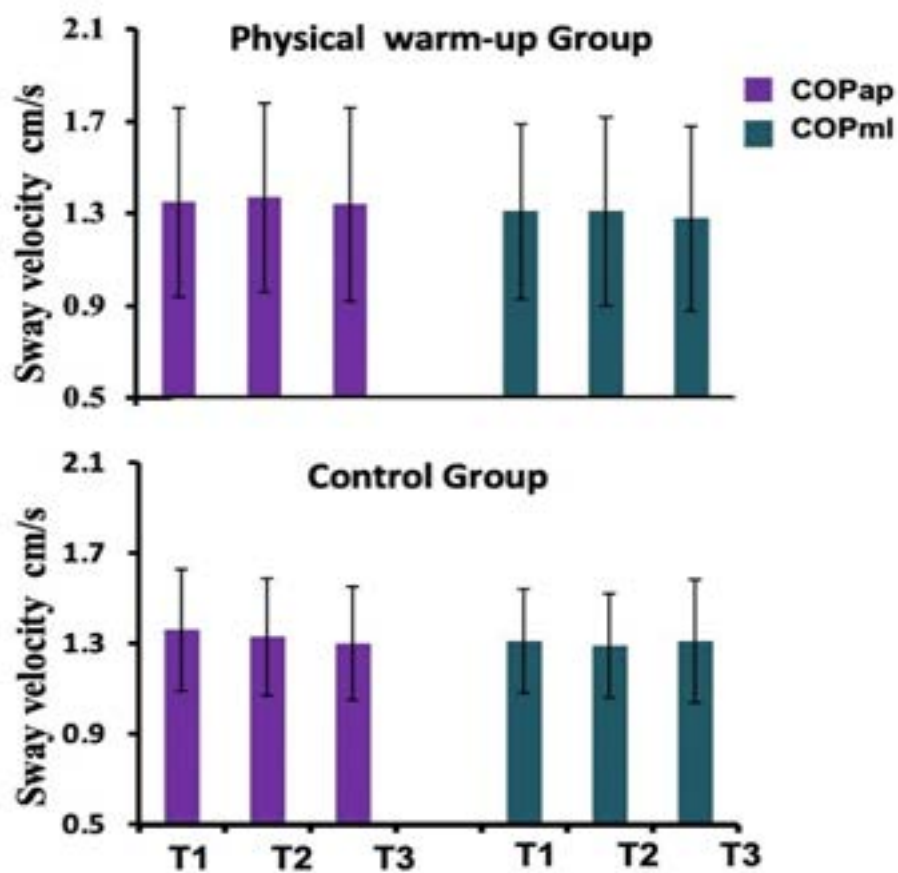


Figure 1. Mean and standard deviation of sway velocity of center of pressure in anterior-posterior (COPap) and medial-lateral (COPml) directions and with physical warm-up and without warm-up (control group), recorded before (T1), immediately after (T2) and 10 minutes after (T3) after physical warm-up.