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The *Journal of Aging and Physical Activity* (JAPA) is a multidisciplinary journal that publishes peer-reviewed original research reports, scholarly reviews, and professional-application articles on the relationship between physical activity and the aging process. The journal encourages the submission of articles that can contribute to an understanding of (a) the impact of physical activity on physiological, psychological, and social aspects of older adults and (b) the effect of advancing age or the aging process on physical activity among older adults.

In addition to publishing research reports and reviews, JAPA publishes articles that examine the development, implementation, and evaluation of physical activity programs among older adults. Articles from the biological, behavioral, and social sciences, as well as from fields such as medicine, clinical psychology, physical and recreational therapy, health, physical education, and recreation, are appropriate for the journal. Studies using animal models do not fit within our mission statement and should be submitted elsewhere.

JAPA consists of three peer-reviewed sections: Original Research, Scholarly Reviews, and Professional Applications. The Original Research section contains scientific studies and investigations, systematic clinical observations, and controlled case studies. The Scholarly Reviews section publishes reviews that synthesize research and practice on important issues in the study of physical activity and aging. Articles based on experience in working with older populations and the available scientific evidence that focus on program development, program activities, and application of exercise principles are appropriate for the Professional Applications section. JAPA also includes an editorial section for exchange of viewpoints on key issues affecting physical activity and older adults.

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### Exergames to Improve Postural Balance in Older People with Dementia

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**Introduction:** The focus of the study concerns the well-documented increased risk of falling in older adults that can lead sometimes to fatal consequences. Improving posture and motor skills is central to preventing falls. Further investigations targeting specific older people such as those suffering from cognitive impairment or dementia are still needed for fall prevention (Shaw, 2003). New technology-based methods, such as digital motion-sensitive games or exergames, appear promising for improving balance (Lamoth, Stins, Pont, Kerckhoff, & Beek, 2008; Lamoth, Caljouw, & Postema, 2011). The present pilot study was aimed to analyze the feasibility and effectiveness of digital balance exergame training in elderly people with dementia. **Methods:** The postural sway is a common measurement when evaluating the standing posture stability of a person. This study was conducted with four subjects (88.8 ± 6.4 years) suffering from dementia and living in a retirement home. The participants completed a six-week (two sessions per week of 60 minutes) training program using the Wii Fit system (Nintendo). Pre- and post-tests were done to collect the center of pressure (CoP) fluctuations using a force plate (Kistler Type 9260a). The posturographic analyses included the standard deviation in the anterior-posterior (A/P) and medio-lateral (M/L) directions, the mean velocity, the path lengths, and the 95% confidence ellipse. Nonparametric Kruskal-Wallis test (Statsoft, Statistica) was used to examine the effects of training on the selected parameters with a significance level of  $p < .05$ . **Results:** Although the six-week intervention did not bring significant changes to the tested parameters, clear trends were identified. Results showed an increase of 12.48% in the mean CoP velocity, an improvement of 18.89% for the 95% confidence ellipse and a clear extension of the CoP path. **Conclusion:** Even though no significant pre–post changes were noted, a trend toward better stability was shown and considered a promising result. Exergames could offer a safe and motivating option to improve postural parameters in older people with dementia. However, further investigations with a larger sample would be needed to bring further insights on the effectiveness of this method. **References:** Lamoth, C.J.C., Caljouw, S.R., & Postema, K. (2011). Active video gaming to improve balance in the elderly. *Annual Review of CyberTherapy and Telemedicine*, 167, 130–133. Lamoth, C.J., Stins, J.F., Pont, M., Kerckhoff, F., & Beek, P. J. (2008). Effects of attention on the control of locomotion in individuals with chronic low back pain. *J Neuroeng Rehabil*, 5, 13. <http://doi.org/10.1186/1743-0003-5-13> Shaw, F.E. (2003). Multifactorial intervention after a fall in older people with cognitive impairment and dementia presenting to the accident and emergency department: randomised controlled trial. *BMJ*, 326(7380), 73–73. <http://doi.org/10.1136/bmj.326.7380.73>

### Muscle Thickness and Concentric Strength in Community-Dwelling Older Women

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**Introduction:** Among all the changes in the aging musculoskeletal system, there is sarcopenia, defined as the loss in muscle mass and strength (1). Muscle strength is important to perform activity of daily living and it can be related to muscle mass (2). Thus, the purpose of this study was to verify the relation between muscle strength and thickness in older community-dwelling women. **Methods:** A cross-sectional design study was performed with community-dwelling older women from Parana, Brazil. The study was approved by the Research Ethics Committee of Federal University of Paraná (UFPR, number 36003814.2.0000.0102). The sample consisted of 25 elderly women (69.7 ± 4.1 years, 63.5 ± 10.2 kg, 1.5 ± 0.1 m, 27.5 ± 3.6 kg/m<sup>2</sup>). Muscle thickness of the medial gastrocnemius (MG) was measured at 20%, 30%, and 40% between the lateral tibia condyle and lateral fibula malleolus, using a B-mode ultrasonography (US) imaging device (Logiq Book XP, General Electric®) with a linear-array probe (50 mm, 11 MHz, General Electric®). Muscle thickness (MT) was defined as the mean distance between deep and superficial aponeuroses, measured at five places along the ultrasound image. All US images analyses were performed using ImageJ software (Version 1.46r, National Institutes of Health, Bethesda, MD, USA). The isokinetic concentric peak torque (PT) of ankle plantiflexors was evaluated through an Isokinetic Dynamometer (System 4, Biodex Medical Systems, Shirley, New York). Two sets of three repetitions each were performed at 60°/s, with two-minute intervals between each set, but only the second one was adopted. For statistical analysis, the Pearson correlation test was used to verify the association between variables ( $p < .05$ ). **Results:** Correlation between MT and PT was observed only when evaluated at 30% ( $r = .47, p = .018$ ) or when the mean value was calculated between the three percentiles ( $r = .44, p = .028$ ). No other relation was observed at 20% ( $r = .328, p = .110$ ) or 40% ( $r = .38, p = .061$ ). **Conclusion:** It can be concluded that in order to find a relationship between muscle strength and thickness, the best portion to evaluate GM thickness is at 30% of the distance between the lateral malleolus of the fibula and the lateral condyle of the tibia. **References:** (1) Cruz-Jentoft, A.J., Baeyens, J.P., Bauer, J.M., et al. (2010). Sarcopenia: European consensus on definition and diagnosis Report of the European Working Group on Sarcopenia in Older People. *Age Ageing*, 39(4):412–423. (2) Frontera, W.R., Reid, K.F., Phillips, E.M., et al. (2008). Muscle fiber size and function in elderly humans: a longitudinal study. *J Appl Physiol (1985)*, 105(2):637–642.

### Factorial Analysis of Get Up and Go Test Modified Version in Active Elderly Women

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