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Fall-related injuries in Amsterdam: frail older women at risk

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J. Women Aging. 2016; ePub(ePub): ePub.

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Abstract

Unintentional falls are a common cause of injury, especially among older persons. This study evaluates risk factors such as gender and age on morbidity and mortality after unintentional falls. Data were collected retrospectively for patients with an unintentional fall who were presented to the emergency department in 2013. A total of 3,217 patients were included; the majority were female. Patients over 65 years of age had a significant higher mortality and a longer length of hospital stay. Older women are at risk for sustaining a fall-related injury. Female gender is furthermore associated with increased length of stay in the hospital. Prevention should focus especially on these frail patients.

PDF Y Endnote Y

Falling in the elderly; a clarification of results

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Eur. J. Intern. Med. 2016; ePub(ePub): ePub.

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Abstract Letter to Editor [Abstract unavailable]

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Gait initiation time is associated with the risk of multiple falls-a population-based study

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Gait Posture 2016; 49: 19-24.

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Abstract

AIMS: In a population-based study of older people to examine whether 1) overall gait initiation (GI) time or its components are associated with falls and 2) GI under dual-task is a stronger predictor of falls risk than under single-task.

METHODS: Participants aged 60-85 years were randomly selected from the electoral roll. GI was obtained with a force platform under both single and dual-task conditions. Falls were ascertained prospectively over a 12-month period. Log multinomial regression was used to examine the association between GI time (total and its components) and risk of single and multiple falls. Age, sex and physiological and cognitive falls risk factors were considered as confounders.

RESULTS: The mean age of the sample (n=124) was 71.0 (SD 6.8) years and 58.9% (n=73) were male. Over 12 months 21.8% (n=27) of participants reported a single fall and 16.1% (n=20) reported multiple falls. Slower overall GI time under both single (RR all per 100ms 1.28, 95%CI 1.03, 1.58) and dual-task (RR 1.14, 95%CI 1.02, 1.27) was associated with increased risk of multiple, but not single falls (p<0.05). Multiple falls were also associated with slower time to first lateral movement under single-task (RR 1.90 95%CI 0.59, 1.51) and swing time under dual-task condition (RR 1.44 95%CI 1.08, 1.94).

CONCLUSION: Slower GI time is associated with the risk of multiple falls independent of other risk factors, suggesting it could be used as part of a comprehensive falls assessment. Time to the first lateral movement under single-task may be the best measures of this risk.

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Incidence, risk factors and the healthcare cost of falls postdischarge after elective total hip and total knee replacement surgery: protocol for a prospective observational cohort study

Hill AM, Ross-Adjie G, McPhail SM, Monterosso L, Bulsara M, Etherton-Bear C, Powell SJ, Hardisty G. *BMJ Open* 2016; 6(7): e011139.

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Abstract

INTRODUCTION: The number of major joint replacement procedures continues to increase in Australia. The primary aim of this study is to determine the incidence of falls in the first 12 months after discharge from hospital in a cohort of older patients who undergo elective total hip or total knee replacement.

METHODS AND ANALYSES: A prospective longitudinal observational cohort study starting in July 2015, enrolling patients aged ≥60 years who are admitted for elective major joint replacement (n=267 total hip replacement, n=267 total knee replacement) and are to be discharged to the community. Participants are followed up for 12 months after hospital discharge. The primary outcome measure is the rate of falls per thousand patient-days. Falls data will be collected by 2 methods: issuing a falls diary to each participant and telephoning participants monthly after discharge. Secondary outcomes include the rate of injurious falls and health-related quality of life. Patient-rated outcomes will be measured using the Oxford Hip or Oxford Knee score. Generalised linear mixed modelling will be used to examine the falls outcomes in the 12 months after discharge and to examine patient and clinical characteristics predictive of falls. An economic evaluation will be conducted to describe the nature of healthcare costs in the first 12 months after elective joint replacement and estimate costs directly attributable to fall events. **ETHICS AND DISSEMINATION:** The results will be disseminated through local site networks and will inform future services to support older people undergoing hip or knee joint replacement and also through peer-reviewed publications and medical conferences. This study has been approved by The University of Notre Dame Australia and local hospital human research ethics committees. **TRIAL REGISTRATION NUMBER:** ACTRN12615000653561; Pre-results.

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Managing syncope in the elderly: the not so simple faint in aging patients

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Can. J. Cardiol. 2016; ePub(ePub): ePub.

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Abstract

Providing care to the elderly patient with syncope poses problems that are unusual in their complexity. The differential diagnosis is broad, and sorting through it is made more difficult by the relative lack of symptoms surrounding the faint. Indeed, distinguishing faints from falls is often problematic. Many elderly patients are frail and are at risk of trauma if they should have an unprotected faint or fall to the ground. However, not all elderly patients are frail, and definitions of frailty vary. Providing accurate, effective, and appropriate care for the frail elderly patient who faints may require a multidisciplinary approach.

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Manual and cognitive dual-tasks contribute to fall-risk differentiation in posturography measures

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J. Appl. Biomech. 2016; ePub(ePub): ePub.

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Abstract

Falls occur in 33% of older adults each year, some leading to moderate to severe injuries. To reduce falls and fall related injuries, it is important to identify individuals with subtle risk factors elevating their likelihood of falling. The objective of this study was to determine how postural sway measures differed between fallers and non-fallers under standard and dual-task conditions. Quiet-standing posturography measures were collected from 150 older adults during standard, cognitive, manual and cognitive+manual tasks, and analyzed through traditional and non-linear analyses. Of the traditional measures, M/L sway range and 95% confidence ellipse sway area showed statistically significant differences in all four test conditions between fallers and non-fallers. Although the manual dual-task showed the most stable balance, effect sizes demonstrated larger differences between fallers and non-fallers. Non-linear analysis revealed M/L sample entropy and M/L α -scaling exponent differentiating between fallers and non-fallers with the cognitive task demonstrating larger differences. Based on the results, it is recommended to: 1) apply M/L sway range and 95% confidence ellipse area, 2) utilize the manual task to differentiate between fallers and non-fallers when using traditional analyses, and 3) utilize the cognitive task and M/L alpha and M/L sample entropy when using non-linear analyses.

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Medication use, falls, and fall-related worry in older adults in the United States

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Consult. Pharm. 2016; 31(7): 385-393.

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Abstract

OBJECTIVE: To compare the prevalence of falls and fall-related concerns of medication users versus nonusers in U.S. seniors.

DESIGN: Cross-sectional study.

SETTING: The National Health and Aging Trends Study.

PARTICIPANTS: U.S. nationally representative sample of Medicare beneficiaries in 2011.

OUTCOMES: Comparing subjects who used medications with subjects who did not in the past month, the outcomes were percentages of subjects who experienced 1) a fall in the past month, 2) worry about falling in the past month, 3) being limited by this worry in the past month, 4) a fall in the past year.

RESULTS: A greater percentage of medication users experienced falls and fall-related outcomes, compared with non-medication users. Among medication users, 10.29% had a past month fall, compared with 5.42% of non-medication users; 27.69% of medication users worried in the past month about falling, compared with 9.15% of non-medication users; 40.96% of medication users were limited by this worry, compared with 21.21%; 22.82% of medication users had a fall in the past year, compared with 13.15% of non-medication users.

CONCLUSION: Seniors who use medications are more likely to fall and to be concerned about falling. Pharmacist involvement in fall prevention continues to be essential.

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Quality of standing balance in community-dwelling elderly: age-related differences in single and dual task conditions

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Arch. Gerontol. Geriatr. 2016; 67: 34-39.

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Abstract

AIM: To examine the relationship between age and quality of standing balance in single and dual task conditions.

METHODS: A cross-sectional study was conducted using a sample of 243 community-dwellers aged ≥ 65 years. Quality of standing balance was assessed by measuring the center of pressure (COP) sway with a pressure platform. Measurements were performed under single task (orthostatic position) and dual task (orthostatic position while performing a verbal fluency task) conditions.

RESULTS: The mean age of the participants was 79.1(± 7.3) years and 76.1% were women. Older age was associated with an increased COP sway, mainly in the medial/lateral (ML) direction. Most COP sway parameters were higher under dual task conditions than under single task. After controlling for

the effect of the number of words enunciated in dual task conditions, only the differences in COP sway parameters in the ML direction remained significant. There was no significant interaction between age group (65-79; ≥80 years) and condition, which indicates that differences in COP sway caused by performing a secondary task were similar for younger and for older participants.

CONCLUSION: Age did not seem to influence significantly the decline in the quality of standing balance triggered by performing a concurrent cognitive task. However, older age was consistently associated with poorer standing balance, both in single and in dual task conditions. Therefore, performing a secondary task may lead older individuals to reach their postural stability limits and, consequently, to fall.

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Sex differences in fear of falling among older adults with low grip strength

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Abstract

BACKGROUND: Fear of falling is not only a risk factor for falls, but it is also an important clinical predictor of functional decline in older adults. This study identified sex differences in fear of falling and related factors in older adults with low grip strength.

METHODS: The data of 902 older adults from the 2012 Korean National Survey, conducted as a research project by the Korea Employment Information Service, were analyzed. Grip strength, activities of daily living, cognitive function, depressive symptoms, and fear of falling were assessed. Multiple regression analysis was performed by a simultaneous data entry method.

RESULTS: Fear of falling was greater in older women with low grip strength than in their male equivalents ($P < 0.001$). Regression analysis showed that age, fall experience within the previous 2 yr, activities of daily living, and depressive symptoms collectively accounted for 15.3% ($P < 0.001$) of the variance among men. Meanwhile, age, fall experience within the previous 2 yr, grip strength, activities of daily living, and depressive symptoms collectively accounted for 13.4% ($P < 0.001$) of the variance among women.

CONCLUSION: Thus, the predictors of fear of falling differ between older men and women with low grip strength. Therefore, sex differences must be considered when developing intervention strategies for reducing fear of falling in this demographic.

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Specific but not global cognitive functions are associated with gait initiation in older adults

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J. Aging Phys. Act. 2016; ePub(ePub): ePub.

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Abstract

The objective of this study was to examine the association between cognitive ability and gait initiation performance in older adults. Global and specific cognitive functions and spatiotemporal gait parameters during gait initiation were assessed in 60 older adults. Multivariate linear regression was conducted to determine the association between cognitive functions and gait initiation parameters.

RESULTS showed that global cognitive function was not associated with any of the spatiotemporal parameters. Poorer performance on measures of executive function and language ability were associated with shorter step length, narrower step width, and longer step time. In addition, poorer performance on test of visuospatial ability was associated with longer step time. In conclusion, specific but not global cognitive functions were associated with gait initiation performance. Clinical gait examination should incorporate gait initiation and cognitive assessments. Rehabilitation strategies aimed at improving cognition and gait initiation performance may be beneficial for preventing falls.

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Effects of supervised slackline training on postural instability, freezing of gait, and falls efficacy in people with Parkinson's disease

Santos L, Fernandez-Rio J, Winge K, Barragán-Pérez B, Rodríguez-Pérez V, González-Díez V, Blanco-Traba M, Suman OE, Philip Gabel C, Rodríguez-Gómez J.

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Abstract

PURPOSE: The aim of this study was to assess whether supervised slackline training reduces the risk of falls in people with Parkinson's disease (PD).

METHODS: Twenty-two patients with idiopathic PD were randomized into experimental (EG, N = 11) and control (CG, N = 11) groups. Center of Pressure (CoP), Freezing of Gait (FOG), and Falls Efficacy Scale (FES) were assessed at pre-test, post-test and re-test. Rate perceived exertion (RPE, Borg's 6-20 scale) and local muscle perceived exertion (LRPE) were also assessed at the end of the training sessions.

RESULTS: The EG group showed significant improvements in FOG and FES scores from pre-test to post-test. Both decreased at re-test, though they did not return to pre-test levels. No significant differences were detected in CoP parameters. Analysis of RPE and LRPE scores revealed that slackline was associated with minimal fatigue and involved the major lower limb and lumbar muscles.

CONCLUSIONS: These findings suggest that slacklining is a simple, safe, and challenging training and rehabilitation tool for PD patients. It could be introduced into their physical activity routine to reduce the risk of falls and improve confidence related to fear of falling. Implications for Rehabilitation Individuals with Parkinson's disease (PD) are twice as likely to have falls compared to patients with other neurological conditions. This study support slackline as a simple, safe, and challenging training and rehabilitation tool for people with PD, which reduce their risk of falls and improve confidence related to fear of falling. Slackline in people with PD yields a low tiredness or fatigue impact and involves the major lower limb and lumbar muscles.

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Impairments of postural stability, core endurance, fall index and functional mobility skills in patients with patello femoral pain syndrome

Yilmaz Yelvar GD, Çirak Y, Dalkiliç M, Demir YP, Baltacı G, Kömürcü M, Yelvar GD.

J. Back Musculoskelet. Rehabil. 2016; ePub(ePub): ePub.

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(Copyright © 2016, IOS Press)

DOI 10.3233/BMR-160729 **PMID** 27392843

Abstract

BACKGROUND: Postural control allows performance of daily and sports activities. The previous studies show that postural sway increases in orthopaedic injuries such as osteoarthritis and total knee arthroplasty.

OBJECTIVE: To compare postural sway, risk of falling and function between individuals with and without patellofemoral pain syndrome (PFS).

METHODS: This study included 22 subjects with patellofemoral pain syndrome, age-matched pain-free 22 females serving as a control group. Visual analog scale and Kujala were used to evaluate the pain. Posturographic assessment was performed by Tetrax posturographic device. Biering Modified Sorenson test for extensor endurance and sit-up test for flexor endurance were used for the evaluation of trunk endurance. Timed get-up and go test was used for lower extremity function. The Student's t Test was used to compare variables between the groups. The Pearson correlation coefficients were calculated to examine correlation between the quantitative variables.

RESULTS: Postural sway included eyes open without pillow, eyes open on pillow, eyes closed on pillow, risk of falling, function and postural stabilization included flexor endurance, extensor endurance are impaired in patient with patellofemoral pain syndrome when compare to controls. In subjects with PFPS increased postural sway significantly associated with body mass index ($r= 0.52$), pain duration ($r= 0.43$), postural control (extensor endurance) ($r= -0.50$) and risk of falling ($r= 0.62$) on pillow with open eyes. In addition we found function significantly related with postural control (extensor endurance and flexor endurance) ($r= -0.59$ and $r= -0.59$) and risk of falling ($r= 0.77$)

CONCLUSIONS: Decreased neuromuscular control of the trunk core and increased postural sway and falling risk were found in patients with PFPS. Patients may be evaluated for deficits in postural control and falling risk before treatment.

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Why do we persist in using pediatric fall risk scales that do not prevent falls or fall-related injuries?

Ryan-Wenger NA.

J. Spec. Pediatr. Nurs. 2016; 21(3): 97-98.

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Abstract Editorial [Abstract unavailable]

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