

## Safety Literature 19<sup>th</sup> April 2020

### A structural equation model of falls at home in individuals with chronic stroke, based on the international classification of function, disability, and health

Kongwattanakul K, Hiengkaew V, Jalayondeja C, Sawangdee Y. PLoS One 2020; 15(4): e0231491.

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#### Abstract

**PURPOSE:** To use structural equation model (SEM) to explain falls at home in individuals with chronic stroke, based on the International Classification of Functioning, Disability and Health (ICF).

**MATERIALS AND METHODS:** A cross sectional observation study was conducted in home-dwelling individuals with chronic stroke (N = 236; 148 non-fallers, 88 fallers). Participants were assessed; structural impairments using Modified Ashworth Scale, Fugl-Meyer Assessment upper (FMA-UE), lower (FMA-LE), and sensory function, ankle plantarflexor strength; activity limitations using Timed Up and Go Test, Step Test, Berg Balance Scale, Barthel Index (BI); participation restrictions using Stroke Impact Scale-participation (SIS-P); and contextual factors using home hazard environments, home safety surroundings, risk behaviors, and Fall-related Self Efficacy. The measurement model was analyzed by confirmatory factor analysis. The SEM was conducted to analyze a structural model of falls at home.

**RESULTS:** FMA-UE was significantly ( $p < 0.01$ ) associated with FMA-LE, combining as one variable in the structural impairments. In the measurement model, variables were fit to their domains, except variables of contextual factors, but the ICF domains did not correspond to disability. A structural model of falls at home demonstrated a significant ( $p < 0.01$ ) direct path of contextual factors and activity limitations with falls at home. The structural impairments showed a significant ( $p < 0.01$ ) direct path with activity limitations. All variables, except BI, SIS-P and risk behaviors, related to their domains in the structural model.

**CONCLUSIONS:** A structural model of falls at home proposes contextual factors being the strongest association with falls at home that home hazard environments seem the most influence in its domain. The activity limitations presented by balance ability are directed to falls at home. The structural impairments are associated with falls at home through activity limitations. Home assessment to decrease home hazard environments is suggested to prevent falls at home for individuals with chronic stroke.

Language: en

## **A survey of falls in people with dystonia**

Boyce MJ, Chang FCF, Mahant N, Fung VSC, Bradnam L. *Physiother. Res. Int.* 2020; ePub(ePub): ePub.

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**DOI** 10.1002/pri.1840 **PMID** 32267046

### **Abstract**

**OBJECTIVE:** Dystonia is a chronic and sometimes progressive neurological disorder causing abnormalities in movement and function. We conducted a preliminary survey to investigate whether people with dystonia experience falls and to identify contributing factors to falls in this population.

**METHODS:** An online survey of people with dystonia was conducted in November 2015. Respondents were asked to complete demographic information, three questionnaires (the Falls Self-Efficacy Scale International [FES-I], the Activities-based Balance Confidence Scale [ABC] and the Functional Disability Questionnaire [FDQ]), and to report any falls sustained during the previous 6 months.

**RESULTS:** Thirty-nine percent of the 122 respondents reported falling in the previous 6 months and 65% of fallers were diagnosed with dystonia not affecting the lower limbs. Fallers reported lower falls self-efficacy and balance confidence with higher functional disability. Both falling scales correlated with self-reported functional disability. Linear regression analysis for falls prediction revealed the variables FES-I and FDQ accounted for almost 30% of the falls in this dystonia population.

**CONCLUSION:** This survey indicates that fear of falling and balance confidence are impaired in people with dystonia, possibly impacting on function and falls. Further investigation into balance, function and falls in this population is required.

Language: en

### **Keywords**

dystonia; falls; physiotherapy; self-efficacy; survey

## Characteristics associated with improved physical performance among community-dwelling older adults in a community-based falls prevention program

Scronce G, Zhang W, Smith ML, Mercer VS. *Int. J. Environ. Res. Public Health* 2020; 17(7): e2509.

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### Abstract

This was a retrospective analysis of quasi-longitudinal data from an ongoing, community-based falls prevention program. The purpose was to identify participant characteristics predicting improvement on physical performance measures associated with falls risk. Community-dwelling older adults  $\geq 60$  years old participated in a community-based implementation of the Otago Exercise Program (OEP). Participants with increased falls risk ( $n = 353$ ) were provided with individualized exercises from OEP and were invited to return for monthly follow-up. One hundred twenty-eight participants returned for at least two follow-up visits within 6 months of their initial visit (mean time to second follow-up = 93 days with standard deviation = 43 days). Outcome measures assessed at initial and all follow-up visits included Four Stage Balance Test (4SBT), Timed Up and Go test (TUG), and Chair Rise Test (CRT). Distributions were examined, and results were categorized to depict improvement from initial visit (IVT) to second follow-up visit (F2). Key predictor variables were included in multivariable linear or logistic regression models. Improved 4SBT performance was predicted by greater balance confidence. Better TUG performance at F2 was predicted by no use of assistive device for walking, higher scores on cognitive screening, and better IVT TUG performance. Improvement on CRT was predicted by younger age and lower scores on cognitive screening. While improvements on each of the three measures were predicted by a unique combination of variables, these variables tended to be associated with less frailty.

Language: en

### Keywords

exercise; falls; older adults

## Comparative effectiveness of functional tests in fall prediction after hip fracture

Wald P, Chocano-Bedoya PO, Meyer U, Orav EJ, Egli A, Theiler R, Bischoff-Ferrari HA. J. Am. Med. Dir. Assoc. 2020; ePub(ePub): ePub.

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DOI 10.1016/j.jamda.2020.02.008 PMID 32276783

### Abstract

**OBJECTIVES:** To assess the validity of 4 functional tests in predicting falls within the first year after hip fracture.

**DESIGN:** Prospective study of functional tests shortly after hip surgery and incident falls during 12 months' follow-up. **SETTING AND PARTICIPANTS:** The sample comprised 173 adults with acute hip fracture, aged 65 years and older (79% women, 77% community dwelling, mean age 84.2 years), who participated in a clinical trial of vitamin D or home exercise.

**METHODS:** We assessed 4 functional tests [Timed Up and Go test (TUG), grip strength, and knee flexor and extensor strength in the nonoperated leg] by trained study physiotherapists at baseline (1-12 days after hip fracture surgery). During 12 months' follow-up, we ascertained all fall events by monthly personal phone calls, a telephone hotline, and a patient diary. Then we compared TUG and strength test performance at baseline between future single fallers, recurrent fallers, and nonfallers over the 12-month follow-up. All analyses adjusted for age, body mass index, gender, 25-hydroxyvitamin D status at baseline, days of follow-up, and treatment allocation (the original trial tested vitamin D treatment and/or a home exercise program).

**RESULTS:** Ninety-two of 173 (53%) participants fell and experienced 212 falls. Participants who became recurrent fallers ( $n = 54$ ) had significantly longer TUG times at baseline than those who did not fall ( $n = 81$ ) in the following 12 months (mean TUG for recurrent fallers = 71.6 seconds, SD = 8.2 seconds, vs mean TUG for nonfallers = 51.4 seconds, SD = 6.9 seconds;  $P = .02$ ). There were no significant differences in TUG times between single fallers and nonfallers. For all 3 strength tests, there were no significant differences between single fallers, recurrent fallers, and nonfallers.

**CONCLUSIONS AND IMPLICATIONS:** In this population of frail older adults recruited shortly after hip fracture surgery, only the TUG test discriminated between future recurrent fallers and nonfallers over a 12-month follow-up. Because of the high incidence and serious consequences of falls in older adults after a hip fracture, it is very important to identify practical and clinically related tests to predict repeated falls in the first year after a hip fracture, which is of great public health importance.

Language: en

### Keywords

Falls; Timed Up and Go test; functional assessments; grip strength; hip fracture; knee flexor and extensor strength

## Deep learning prediction of falls among nursing home residents with Alzheimer's disease

Suzuki M, Yamamoto R, Ishiguro Y, Sasaki H, Kotaki H. *Geriatr. Gerontol. Int.* 2020; ePub(ePub): ePub.

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DOI 10.1111/ggi.13920 PMID 32267067

### Abstract

**AIM:** This study aimed to use a convolutional neural network (CNN) to investigate the associations between the time of falling and multiple complicating factors, including age, dementia severity, lower extremity strength and physical function, among nursing home residents with Alzheimer's disease.

**METHODS:** A total of 42 people with Alzheimer's disease were enrolled. We evaluated falling events from nursing home admission (baseline) to 300 days later. We assessed the knee extension strength and Functional Independence Measure locomotion item and carried out the Mini-Mental State Examination at baseline. To predict falling, participants were categorized into three classes: those who fell within the first 150 (or 300) days from baseline or those who did not experience a fall within the study period. For each class, 1000 bootstrap datasets were generated using 42 actual sample datasets, and were used to propose a CNN algorithm and cross-validate the algorithm.

**RESULTS:** Eight (19.0%), 11 (26.2%) and 31 participants (73.8%) fell within 150 or 300 days after the baseline assessment or did not fall until 300 days or later, respectively. The highest accuracy rate of the CNN classification was 0.647 in the factor combination extracted from the Mini-Mental State Examination score, knee extension strength and Functional Independence Measure locomotion item score.

**CONCLUSIONS:** A CNN based on multiple complicating factors could predict the time of falling in nursing home residents with Alzheimer's disease. *Geriatr Gerontol Int* 2020  
Language: en

### Keywords

Alzheimer's disease; falling; nursing home resident; prediction

## Differences in treatment and prognosis by the experience of falls or bone fracture in elderly patients with atrial fibrillation

Akama J, Suzuki S, Kato Y, Arita T, Yagi N, Otsuka T, Semba H, Kishi M, Kano H, Matsuno S, Uejima T, Oikawa Y, Matsuhama M, Yajima J, Takeishi Y, Yamashita T. *Heart Vessels* 2020; ePub(ePub): ePub.

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### Abstract

Treatment and prognosis of elderly patients with atrial fibrillation (AF) may differ by the experience of fall or bone fracture. However, their current status is still unclear. From our institute database between 2010 and 2015, 674 AF patients with age  $\geq 70$  years were selected and were divided into those who experienced fall or fracture during the observation period (F/F group; n = 49) and those who did not (non-F/F group; n = 625). We compared the treatment and prognosis between the 2 groups. Patients in the F/F group were older (79 vs 76 years,  $P < 0.001$ ) and had more comorbidities compared with those in the non-F/F group. The prescription rate of oral anticoagulant was similar between the two groups (77.6% vs 68.2%,  $P = 0.201$ ), where warfarin was predominant. The F/F group was not associated with higher incidence of ischemic stroke. The F/F group was associated with a higher incidence of heart failure events (adjusted odds ratio (OR) 3.88; 95% confidence intervals (CI) 1.70-8.85;  $P = 0.001$ ), and cardiovascular events (OR 3.43; 95% CI 1.71-6.85;  $P < 0.001$ ). In elderly AF patients in a cardiovascular hospital, the experience of fall or fracture did not affect the prescription of oral anticoagulants and the incidence of ischemic stroke, but it was significantly associated with increase of heart failure.

Language: en

### Keywords

Atrial fibrillation; Cardiovascular events; Falls; Heart failure



## Effectiveness of multifactorial interventions in preventing falls among older adults in the community: a systematic review and meta-analysis

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### Abstract

**BACKGROUND:** Falls often cause unexpected injuries that older adults find difficult to recover from (e.g., hip and other major fractures, intracranial bleeding); therefore, fall prevention and interventions are of particular significance.

**OBJECTIVES:** This study aimed to examine the effectiveness of multifactorial fall prevention interventions among community-dwelling older adults and compare subgroups that differed in terms of their degree of fall risk and the intensity and components of interventions.

**METHODS:** An exhaustive systematic literature search was undertaken using the following databases: Ovid-Medline, Ovid-Embase, and the Cochrane Central Register of Controlled Trials (Central). Two investigators independently extracted data and assessed the quality of the studies by examining the risk of bias. We conducted a meta-analysis of randomized controlled trials that had been published up to March 31st, 2019, using Review Manager.

**RESULTS:** Of 1,328 studies, 45 articles were relevant to this study. In total, 29 studies included participants in the high-risk group, 3 in the frail group, and 13 in the healthy older adult group. Additionally, 28 and 17 studies used active and referral multifactorial interventions, respectively. Multifactorial interventions included the following components: exercise, education, environmental modification, medication, mobility aids, and vision and psychological management. Multifactorial interventions significantly reduced fall rates in the high-risk (risk ratio 0.66; 95% confidence interval 0.52-0.84) and healthy groups (risk ratio 0.72; 95% confidence interval 0.58-0.89), when compared to the control group. Active multifactorial interventions (risk ratio 0.64; 95% confidence interval 0.51-0.80) and those featuring exercise (risk ratio 0.66; 95% confidence interval 0.54-0.80) and environmental modification also showed significantly reduced fall rates (risk ratio 0.65; 95% confidence interval 0.54-0.79) compared to usual care. Multifactorial interventions had a significantly lower number of people who experienced falls during the study period compared to usual care in the healthy group (risk ratio 0.77; 95% confidence interval 0.62-0.95). Active multifactorial interventions (risk ratio 0.73; 95% confidence interval 0.60-0.89) and those featuring exercise (risk ratio 0.79; 95% confidence interval 0.66-0.95) and environmental modification (risk ratio 0.80; 95% confidence interval 0.68-0.95) had a significantly lower number of people who experienced falls compared to those receiving usual care.

**CONCLUSIONS:** Active multifactorial interventions had positive effects on fall rates and the number of people experiencing falls. Thus, healthcare workers, including nurses, should be involved in planning fall prevention programs so that older adults can be provided with optimal care; multifactorial interventions that include exercise and environmental modification are particularly effective in reducing falls.

Language: en

## Keywords

Community; Effectiveness; Falls; Meta-analysis; Systematic review

## Falls and life-space mobility: longitudinal analysis from The International Mobility in Aging Study

Ahmed T, Curcio CL, Auais M, Vafaei A, Pirkle CM, Guerra RO, Gómez F. *Aging Clin. Exp. Res.* 2020; ePub(ePub): ePub.

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## Abstract

**OBJECTIVES:** To investigate a 4-year longitudinal relationship between falls, recurrent falls, and injurious falls, according to different levels of life-space mobility (LSM).

**METHODS:** Longitudinal analysis of an international cohort study. The participants were older adults from the International Mobility in Aging Study (IMIAS) aged between 65 and 74 years at baseline. Three waves of data (2012, 2014, 2016) were used. Fall history during the past year was recorded. Recurrent fallers were identified as those who fell at least twice and injurious fallers as participants who required medical attention. LSM measurements included Total Life-Space (LS-C), Maximal Life-Space (LS-M), Assisted Life-Space (LS-A), Independent Life-Space (LS-I) and Restricted Life-space (LS-ID) scores. Generalized estimation equation (GEE) models were used to determine whether life-space mobility measures and their change over time differed between recurrence of falls and injurious falls.

**RESULTS:** At baseline, the prevalence of falls in the last year was 28%. 11.8% reported recurrent falls and 2.6% had serious injurious falls in the last year preceding the assessments. Recurrent fallers were more likely to be female, with insufficient income and, with comorbidities. GEE models showed that life-space mobility was lower among those with recurrent falls or serious injurious falls compared to those who never fell, but the rate of change did not differ over the 4-year follow-up except for the LS-A and LS-I scores, where some improvements were observed over time.

**CONCLUSIONS AND IMPLICATIONS:** Falls were independently associated with a decrease in LSM over 4 years. Targeting older adults with recurrent and injurious falls with appropriate interventions may improve community mobility and social participation.

Language: en



**Keywords**

Falls; Injurious falls; Life-space mobility; Recurrent falls

**Falls and older people: understanding why people fall**

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**Abstract**

Falls are common among older people and a major public health challenge. This article describes why falls are more common among older people, the potential causes of falls and what assessments should be undertaken to inform preventive interventions. District nurses are well placed to contribute to the understanding of why an older person has had a fall as part of a falls risk assessment.

Language: en

**Keywords**

Balance and gait; Falls; Gravity; Older adults; Risk assessment

## Falls: considerations for the dental surgeon

Khan I. Br. Dent. J. 2020; 228(7): 509-514.

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### Abstract

Falls are a serious issue that occur mainly among older people. Due to an increasingly ageing population, worldwide, dental surgeons will very likely see patients who either have suffered or are at risk of a fall. In addition, other at-risk patient groups may visit dental surgeons, such as paediatric, special care or medically compromised patients - the latter suffering neurological or movement disorders, sensory impairments, and cardiorespiratory and bone or joint diseases. Patients at risk of falls may also be at risk of medication-related osteonecrosis of the jaw (MRONJ); further challenges for the dental surgeon include transfer to the dental chair and the provision of sedation or general anaesthesia. While falls could cause dental and maxillofacial trauma, emerging evidence suggests dental health could also be an independent risk factor for falls; therefore, dental surgeons may have a role in preventing falls. NICE and Public Health England (PHE) both recommend that all healthcare professionals caring for at-risk patients should maintain a basic knowledge of falls and be able to advise on falls prevention.

Language: en

## **Fear of falling among older patients admitted to hospital after falls in Vietnam: prevalence, associated factors and correlation with impaired health-related quality of life**

Nguyen LH, Thu Vu G, Ha GH, Tat Nguyen C, Vu HM, Nguyen TQ, Tran TH, Pham KTH, Latkin CA, Xuan Tran B, Ho RCM, Ho CSH. *Int. J. Environ. Res. Public Health* 2020; 17(7): e2493.

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**DOI** 10.3390/ijerph17072493 **PMID** 32268486

### **Abstract**

Fear of falling (FOF) diminishes older people's independence in daily activities, as well as causes serious health and economic consequences. This study examined the prevalence of FOF in older patients hospitalized due to fall-injuries, its effect on health-related quality of life (HRQOL), and its associated factors. We conducted a cross-sectional study in seven hospitals in Thai Binh, Vietnam. FOF was assessed using a single close-ended question. HRQOL was evaluated by the EQ-5D-5L instrument. Multilevel logistic regression and Tobit regression models were utilized. The prevalence of FOF in 405 older patients admitted to hospitals after fall injuries was 88.2%, with a mean EQ-5D index and EQ-VAS of 0.34 (SD = 0.38) and 61.6 (SD = 15.2), respectively. Factors associated with FOF included living alone (OR = 0.13, 95%CI = 0.04; 0.50.), history of eye diseases (OR = 4.12; 95%CI = 1.91; 8.89), and experiencing psychological distress (OR = 3.56, 95% CI = 1.05; 12.00). After adjusting for confounders, the EQ-5D index in the FOF group reduced by 0.15 points (Coef. = -0.15; 95%CI = -0.24; -0.05) compared to that of non-FOF group. Our study shows that FOF had an independent negative relationship with HRQOL of patients. Improving knowledge about fall prevention in patients and caregivers could reduce the burden of falls in older people.

Language: en

### **Keywords**

EQ-5D-5L; Vietnam; fear of falling; health-related quality of life; older people

## **Individual and environmental factors associated with recurrent falls in elderly patients hospitalized after falls**

Vu HM, Nguyen LH, Nguyen HLT, Vu GT, Nguyen CT, Hoang TN, Tran TH, Pham KTH, A Latkin C, Xuan Tran B, S H Ho C, Ho RCM. *Int. J. Environ. Res. Public Health* 2020; 17(7): e2441.

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### **Abstract**

Falls and recurrent falls cause great health and social consequences in older people. However, these problems are poorly understood in Vietnam. A cross-sectional study was performed at seven hospitals in Thai Binh province, Vietnam, to investigate the individual and environmental factors associated with recurrent falls among elderly patients hospitalized due to fall injuries in Vietnam. A history of recurrent falls within the last 12 months, sociodemographic, health, and clinical characteristics, as well as environmental conditions, were obtained via self-reported interviews. Multivariate logistic and Poisson regression models were used to identify associated factors. Overall, the mean fall episodes in the last 12 months were 1.8 (Standard deviation-SD = 1.2) episodes, and the 12-month prevalence of recurrent falls was 40.5%. The individual risk factors included not receiving fall prevention guidelines, walking with devices, loss of sensation in hand or foot, and using pain relief medications. The environmental risk factors comprised having too-high stairs and not having dry, clean, and nonslippery bathrooms. This study highlights a significantly high 12-month prevalence of recurrent falls in older patients hospitalized after falls in Vietnam. Moreover, regular assessments of functional disabilities and hazardous environmental conditions, as well as the provision of prevention programs, have potential to prevent falls and recurrent falls.

Language: en

### **Keywords**

Vietnam; environmental factor; fall; older people; recurrent fall

## **Intervention characteristics associated with a reduction in fear of falling among community-dwelling older people: a systematic review and meta-analysis of randomized controlled trials**

Kruisbrink M, Delbaere K, Kempen GIJM, Crutzen R, Ambergen T, Cheung KL, Kendrick D, Iliffe S, Zijlstra GAR. *Gerontologist* 2020; ePub(ePub): ePub.

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### **Abstract**

**BACKGROUND AND OBJECTIVES:** Fear of falling (FoF) is associated with decreased physical functioning and an increased fall risk. Interventions generally demonstrate moderate effects and optimized interventions are needed. Intervention characteristics, such as setting or delivery method may vary. We investigated which overarching intervention characteristics are associated with a reduction in FoF in community-dwelling older people. **RESEARCH DESIGN AND METHODS:** A systematic review and meta-analysis of randomized controlled trials (RCTs) in community-dwelling older people without specific diseases was performed. Associations between intervention characteristics and standardized mean differences (SMD) were determined by univariate meta-regression. Sensitivity analyses were performed.

**RESULTS:** Data on 62 RCTs were extracted, 50 intervention groups were included in the meta-analysis. Most intervention characteristics and intervention types were not associated with the intervention effect. Supervision by a tai chi instructor (SMD: -1.047, 95% confidence interval [CI]: -1.598; -0.496) and delivery in a community setting (SMD: -0.528, 95% CI: -0.894; -0.161) were compared to interventions without these characteristics-associated with a greater reduction in FoF. Holistic exercise, such as Pilates or yoga (SMD: -0.823, 95% CI: -1.255; -0.392), was also associated with a greater reduction in FoF. Delivery at home (SMD: 0.384, 95% CI: 0.002; 0.766) or with written materials (SMD: 0.452, 95% CI: 0.088; 0.815) and tailoring were less effective in reducing FoF (SMD: 0.687, 95% CI: 0.364; 1.011).

**DISCUSSION AND IMPLICATIONS:** Holistic exercise, delivery with written materials, the setting and tailoring potentially represent characteristics to take into account when designing and improving interventions for FoF in community-dwelling older people. PROSPERO international prospective register of systematic reviews, registration ID CRD42018080483.

Language: en

### **Keywords**

Accidental falls; Falls self-efficacy; Intervention effectiveness



## Physical activity and falls among a national cohort of older veterans

Marciniak D, Alexander NB, Hoffman GJ. *J. Appl. Gerontol.* 2020; ePub(ePub): ePub.

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### Abstract

The more than 20 million U.S. veterans have a history of physical activity engagement but face increasing disability as they age. Falls are common among older adults, but there is little evidence on veterans' fall risk. We conducted a retrospective cohort study using 48,643 observations from 14,831 older ( $\geq 65$  years) Americans from the 2006-2014 waves of the Health and Retirement Study. Veterans reported more noninjurious falls (26.6% vs. 24.0%,  $p < .002$ ), but fewer fall-related injuries (8.9% vs. 12.3%,  $p < .001$ ) than nonveterans. In adjusted analyses, for each 5-year increase in age, the odds of a noninjurious fall were greater for veterans (odds ratio [OR] = 1.05, 95% confidence interval [CI] = [1.01, 1.10]) and, among those with regular physical activity, the odds were lower for veterans compared with nonveterans (OR = 0.89; 95% CI = [0.81, 0.99]). For veterans, physical activity engagement may prove a particularly effective mechanism for reducing the aging-related risks associated with falls and fall injuries.

Language: en

### Keywords

aging; disability; falls; physical activity; veterans

## Posturographic measures did not improve the predictive power to identify recurrent falls in community-dwelling elderly fallers

Cabral KN, Brech GC, Alonso AC, Soares AT, Opaleye DC, Greve JMD, Jacob-Filho W. Clinics (Sao Paulo) 2020; 75: e1409.

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DOI 10.6061/clinics/2020/e1409 PMID 32267394

### Abstract

**OBJECTIVE:** This study aimed to evaluate if posturography can be considered a recurrent fall predictor in elderly individuals.

**METHODS:** This was a cross-sectional study. A total of 124 subjects aged 60 to 88 years were evaluated and divided into two groups-the recurrent fallers (89) and single fallers (35) groups. Patients' sociodemographic characteristics were assessed, and clinical testing was performed. The functional test assessment instruments used were timed up and go test (TUGT), Berg Balance Scale (BBS), five times sit-to-stand test, and Falls Efficacy Scale (to measure fear of falling). Static posturography was performed in a force platform in the following three different situations-eyes open (EO), eyes closed (EC), and EO dual task.

**RESULTS:** There were significant differences between the single and recurrent fallers groups regarding the fear of falling, the Geriatric Depression Scale score, the mean speed calculated from the total displacement of the center point of pressure (COP) in all directions with EO, and the root mean square of the displacement from the COP in the mediolateral axis with EC. Based on the hierarchical logistic regression model, none of the studied posturographic variables was capable of significantly increasing the power of differentiation between the recurrent and single fallers groups. Only TUGT with a cognitive distractor ( $p < 0.05$ ) and the BBS ( $p < 0.01$ ) presented with significant independent predictive power.

**CONCLUSION:** TUGT with a cognitive distractor and the BBS were considered recurrent fall predictors in elderly fallers.

Language: en