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An increasing number of hand injuries in an elderly population - a retrospective study over a 30-year period

Rosberg HE, Dahlin LB.

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Affiliation: Translational Medicine - Hand Surgery, Lund University, Jan Waldenströms gata 5, SE-205 02, Malmö, Sweden.

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Abstract

BACKGROUND: Both the number and the proportion of elderly people in the society increase. The number of elderly subjects with a disability due to a disease has decreased resulting in more active elderly. Therefore, an increase in numbers of injury in the elderly population can be expected; a hypothesis that was investigated in the present study.

METHODS: Two-hundred sixteen patients with an age of > 65 years, and admitted to a hand surgery ward with a hand injury, were retrospectively collected at four different 2-years periods over a 30 years time (1980-81 to 2010-11). Information about patient gender, age at injury, injury place and mechanism (s), injured structures, duration of hospital stay, number of out patient visits and rehabilitation visits as well as social status was collected. The injuries were classified with the Modified Hand Injury Severity Score (MHIS).

RESULTS: Most injured patients were men (72%) and the number of patients who reported to be healthy significantly decreased (67% to 18%) during the study period. The number of injuries increased over the study period (n = 24 to n = 83/2-year period). Outside home was the most common injury place and a saw or a fall was the most frequent injury mechanism. Several fingers were most often injured. The majority of the injuries were classified to be Minor or Moderate (MHIS) and a fracture was the most common injured structure.

CONCLUSIONS: We found an increased number of hand injuries over a 30-year period in combination with a decrease in patients reported health treated at a hand surgery ward. Further studies regarding hand trauma in the elderly population will be valuable for future prevention and rehabilitation of this patient group.

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Dual-task performance: influence of frailty, level of physical activity, and cognition

Giusti Rossi P, Pires de Andrade L, Hotta Ansai J, Silva Farche AC, Carnaz L, Dalpubel D, Ferriolli E, Assis Carvalho Vale F, de Medeiros Takahashi AC. *J. Geriatr. Phys. Ther.* 2018; ePub(ePub): ePub.

Affiliation: Department of Physiotherapy, Federal University of São Carlos, São Carlos, São Paulo, Brazil.

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Abstract

BACKGROUND AND PURPOSE: Cognition and level of physical activity have been associated with frailty syndrome. The development of tools that assess deficits related to physical and cognitive frailties simultaneously are of common interest. However, little is known about how much these

aspects influence the performance of dual-task tests. Our aims were (a) to verify the influence of frailty syndrome and objectively measured physical activity and cognition on the Timed Up and Go (TUG) test and Timed Up and Go associated with dual-task (TUG-DT) performances; and (b) to compare TUG and TUG-DT performances between older adults who develop frailty syndrome. METHODS: Sixty-four community-dwelling older adults were divided into frail, prefrail, and nonfrail groups, according to frailty phenotype. Assessments included anamnesis, screening of frailty syndrome, cognitive assessment (Addenbrooke's cognitive examination), placement of a triaxial accelerometer to assess level of physical activity, and TUG and TUG-DT (TUG associated with a motor-cognitive task of calling a phone number) performances. After 7 days, the accelerometer was removed. A multiple linear regression was applied to identify which independent variables could explain performances in the TUG and TUG-DT. Subsequently, the analysis of covariance test, adjusted for age, cognition, and level of physical activity covariates, was used to compare test performances.

RESULTS: There were no differences in cognition between groups. Significant differences in the level of physical activity were found in the frail group. Compared with the frail group, the nonfrail group required less time and fewer steps to complete the TUG. Regarding the TUG-DT, cognition and age influenced the time spent and number of steps, respectively; however, no differences were found between groups.

CONCLUSIONS: Frail older adults presented worse performance in the TUG when compared with nonfrail older adults. The dual-task test does not differentiate older adults with frailty syndrome, regardless of cognitive performance.

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Safer Prescribing and Care for the Elderly (SPACE): feasibility of audit and feedback plus practice mail-out to patients with high-risk prescribing

Wallis K, Tuckey R.

J. Prim. Health Care 2017; 9(2): 145-152.

Affiliation: The University of Auckland, General Practice and Primary Health Care, Auckland, New Zealand.

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Abstract

INTRODUCTION High-risk prescribing in general practice is common and places patients at increased risk of adverse events. **AIM** The Safer Prescribing and Care for the Elderly (SPACE) intervention, comprising audit and feedback plus practice mail-out to patients with high-risk prescribing, was designed to promote medicines review and support safer prescribing. This study aims to test the SPACE intervention feasibility in general practice.

METHODS This feasibility study involved an Auckland Primary Health Organisation (PHO), a clinical advisory pharmacist, two purposively sampled urban general practices, and seven GPs. The acceptability and utility of the SPACE intervention were assessed by semi-structured interviews involving study participants, including 11 patients with high-risk prescribing. Interviews were audio-recorded, transcribed verbatim and analysed using a general inductive approach to identify emergent themes.

RESULTS The pharmacist said the SPACE intervention facilitated communication with GPs, and provided a platform for their clinical advisory role at no extra cost to the PHO. GPs said the feedback session with the pharmacist was educational but added to time pressures. GPs selected 29 patients for the mail-out. Some GPs were concerned the mail-out might upset patients, but patients said they felt cared for. Some patients intended to take the letter to their next appointment and discuss their medicines with their GP; others said there were already many things to discuss and not enough time. Some patients were confused by the medicines information brochure.

DISCUSSION The SPACE intervention is feasible in general practice. The medicines information brochure needs simplification. Further research is needed to test the effect of SPACE on high-risk prescribing.

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Antidepressant use and risk of adverse outcomes in people aged 20-64 years: cohort study using a primary care database

Coupland C, Hill T, Morriss R, Moore M, Arthur A, Hippisley-Cox J.

BMC Med. 2018; 16(1): e36.

Affiliation: Division of Primary Care, University of Nottingham, 13th floor, Tower Building, University Park, Nottingham, NG7 2RD, UK.

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Abstract

BACKGROUND: Antidepressants are one of the most commonly prescribed medications in young and middle-aged adults, but there is relatively little information on their safety across a range of adverse outcomes in this age group. This study aimed to assess associations between antidepressant treatment and several adverse outcomes in people aged 20-64 years diagnosed with depression.

METHODS: We conducted a cohort study in 238,963 patients aged 20-64 years registered with practices across the UK contributing to the QResearch primary care database. Only patients with a first diagnosis of depression were included. Outcomes were falls, fractures, upper gastrointestinal bleed, road traffic accidents, adverse drug reactions and all-cause mortality recorded during follow-up. Cox proportional hazards models were used to estimate hazard ratios associated with antidepressant exposure adjusting for potential confounding variables.

RESULTS: During 5 years of follow-up, 4651 patients had experienced a fall, 4796 had fractures, 1066 had upper gastrointestinal bleeds, 3690 had road traffic accidents, 1058 had experienced adverse drug reactions, and 3181 patients died. Fracture rates were significantly increased for selective serotonin reuptake inhibitors (adjusted hazard ratio 1.30, 95% CI 1.21-1.39) and other antidepressants (1.28, 1.11-1.48) compared with periods when antidepressants were not used. All antidepressant drug classes were associated with significantly increased rates of falls. Rates of adverse drug reactions were significantly higher for tricyclic and related antidepressants (1.54, 1.25-1.88) and other antidepressants (1.61, 1.22-2.12) compared with selective serotonin reuptake inhibitors. Trazodone was associated with a significantly increased risk of upper gastrointestinal bleed. All-cause mortality rates were significantly higher for tricyclic and related antidepressants (1.39, 1.22-1.59) and other antidepressants (1.26, 1.08-1.47) than for selective serotonin reuptake inhibitors over 5 years but not 1 year, and were significantly reduced after 85 or more days of

treatment with selective serotonin reuptake inhibitors. Mirtazapine was associated with significantly increased mortality rates over 1 and 5 years of follow-up.

CONCLUSIONS: Selective serotonin reuptake inhibitors had higher rates of fracture than tricyclic and related antidepressants but lower mortality and adverse drug reaction rates than the other antidepressant drug classes. The association between mirtazapine and increased mortality merits further investigation. These risks should be carefully considered and balanced against potential benefits for individual patients when the decision to prescribe an antidepressant is made.

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Effectiveness of a combination of cognitive behavioral therapy and task-oriented balance training in reducing the fear of falling in patients with chronic stroke: study protocol for a randomized controlled trial

Liu TW, Ng GYF, Ng SSM.

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Affiliation: Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, Special Administrative Region of China. Shamay.Ng@polyu.edu.hk.

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Abstract

BACKGROUND: The consequences of falls are devastating for patients with stroke. Balance problems and fear of falling are two major challenges, and recent systematic reviews have revealed that habitual physical exercise training alone cannot reduce the occurrence of falls in stroke survivors. However, recent trials with community-dwelling healthy older adults yielded the promising result that interventions with a cognitive behavioral therapy (CBT) component can simultaneously promote balance and reduce the fear of falling. Therefore, the aim of the proposed clinical trial is to evaluate the effectiveness of a combination of CBT and task-oriented balance training (TOBT) in promoting subjective balance confidence, and thereby reducing fear-avoidance behavior, improving balance ability, reducing fall risk, and promoting independent living, community reintegration, and health-related quality of life of patients with stroke.

METHODS: The study will constitute a placebo-controlled single-blind parallel-group randomized controlled trial in which patients are assessed immediately, at 3 months, and at 12 months. The selected participants will be randomly allocated into one of two parallel groups (the experimental group and the control group) with a 1:1 ratio. Both groups will receive 45 min of TOBT twice per week for 8 weeks. In addition, the experimental group will receive a 45-min CBT-based group intervention, and the control group will receive 45 min of general health education (GHE) twice per week for 8 weeks. The primary outcome measure is subjective balance confidence. The secondary outcome measures are fear-avoidance behavior, balance ability, fall risk, level of activities of daily living, community reintegration, and health-related quality of life.

DISCUSSION: The proposed clinical trial will compare the effectiveness of CBT combined with TOBT and GHE combined with TOBT in promoting subjective balance confidence among chronic stroke patients. We hope our results will provide evidence of a safe, cost-effective, and readily transferrable therapeutic approach to clinical practice that reduces fear-avoidance behavior, improves balance ability, reduces fall risk, promotes independence and community reintegration,

and enhances health-related quality of life. TRIAL REGISTRATION: ClinicalTrials.gov, NCT02937532. Registered on 17 October 2016.

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Wearable inertial sensors for fall risk assessment and prediction in older adults: a systematic review and meta-analysis

Montesinos L, Castaldo R, Pecchia L.

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Abstract

Wearable inertial sensors have been widely investigated for fall risk assessment and prediction in older adults. However, heterogeneity in published studies in terms of sensor location, task assessed and features extracted is high, making challenging evidence-based design of new studies and/or real-life applications. We conducted a systematic review and meta-analysis to appraise the best available evidence in the field. Namely, we applied established statistical methods for the analysis of categorical data to identify optimal combinations of sensor locations, tasks, and feature categories. We also conducted a meta-analysis on sensor-based features to identify a set of significant features and their pivot values. The results demonstrated that with a walking test, the most effective feature to assess the risk of falling was the velocity with the sensor placed on the shins. Conversely, during quiet standing, linear acceleration measured at the lower back was the most effective combination of feature-placement. Similarly, during the sit-to-stand and/or the stand-to-sit tests, linear acceleration measured at the lower back seems to be the most effective feature-placement combination. The meta-analysis demonstrated that four features resulted significantly higher in fallers: the root-mean-square acceleration in the mediolateral direction during quiet standing with eyes closed [Mean Difference (MD): 0.01 g; 95% Confidence Interval (CI95%): 0.006 to 0.014]; the number of steps (MD: 1.638 steps; CI95%: 0.384 to 2.892) and total time (MD: 2.274 seconds; CI95%: 0.531 to 4.017) to complete the timed up and go test; and the step time (MD: 0.053; CI95%: 0.012 to 0.095; $p = 0.01$) during walking.

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