

# Falls & Neurological Disorders

## Parkinson's Disease

### [Does Perturbation-based Balance Training Prevent Falls? Systematic Review and Meta-analysis of Preliminary Randomized Controlled Trials](http://sagelink.ca/does_perturbation-based_balance_training_prevent_falls)

[http://sagelink.ca/does\\_perturbation-based\\_balance\\_training\\_prevent\\_falls](http://sagelink.ca/does_perturbation-based_balance_training_prevent_falls)

Perturbation-based balance training is an intervention including repeated postural perturbations aimed at improving control of rapid balance reactions. This study concluded that this kind of intervention appears to reduce fall risk among older adults and those with Parkinson's disease.

### [Recurrent Falls in Parkinson's Disease: A Systematic Review](http://sagelink.ca/recurrent_falls_in_PD-systematic_review)

[http://sagelink.ca/recurrent\\_falls\\_in\\_PD-systematic\\_review](http://sagelink.ca/recurrent_falls_in_PD-systematic_review)

The authors of this article argue the benefit of classifying recurrent fallers into sub-groups based on fall frequency. Fall prevention and management strategies targeting specific sub-groups of people with PD should be investigated and evaluated in their efficacy to reduce fall frequency.

### [Prediction of Falls and/or Near Falls In People with Mild Parkinson's Disease](http://sagelink.ca/prediction_of_falls_and_or_near_falls_in_people_with_mild_PD)

[http://sagelink.ca/prediction\\_of\\_falls\\_and\\_or\\_near\\_falls\\_in\\_people\\_with\\_mild\\_PD](http://sagelink.ca/prediction_of_falls_and_or_near_falls_in_people_with_mild_PD)

This study included 141 participants with the mean age of 68 years with Parkinson's disease. Participant falls and near falls were tracked daily for a 6 month period. The investigators found that the strongest contributing factor was fear of falling followed by a history of near falls and retropulsion.

### [Incidence and Prediction of Falls in Parkinson's Disease: A Prospective Multidisciplinary Study](http://sagelink.ca/incidence_and_prediction_of_falls_parkinsons_disease_multidisciplinary)

[http://sagelink.ca/incidence\\_and\\_prediction\\_of\\_falls\\_parkinsons\\_disease\\_multidisciplinary](http://sagelink.ca/incidence_and_prediction_of_falls_parkinsons_disease_multidisciplinary)

This article concludes that previous falls, disease duration, dementia and loss of arm swing are independent predictors of fall risk. The authors suggest that future studies should aim to investigate interventions for these risk factors specifically.

### [Exercise Therapy for Prevention of Falls in People with Parkinson's Disease: A Protocol for a Randomized Controlled Trial an Economic Evaluation](http://sagelink.ca/exercise_therapy_for_prevention_of_falls_parkinsons_disease)

[http://sagelink.ca/exercise\\_therapy\\_for\\_prevention\\_of\\_falls\\_parkinsons\\_disease](http://sagelink.ca/exercise_therapy_for_prevention_of_falls_parkinsons_disease)

The authors suggest that the PD-WEBB (Parkinson's Disease: Weight Bearing Exercise for Better Balance) program has the potential to be implemented at a reasonable and sustainable cost within existing community services. Through reducing falls for those with Parkinson's disease, it will reduce the personal and financial costs to them, their families, health care system and community.

### [Factors Associated With Fear of Falling in People With Parkinson's Disease](http://sagelink.ca/factors_associated_with_fear_of_falling_in_people_with_PD)

[http://sagelink.ca/factors\\_associated\\_with\\_fear\\_of\\_falling\\_in\\_people\\_with\\_PD](http://sagelink.ca/factors_associated_with_fear_of_falling_in_people_with_PD)

This study aimed to complete a comprehensive investigation of factors which contribute to a fear of falling in individuals with idiopathic Parkinson's disease. Functional balance performance, dependence in ADLs, and fatigue were independently associated with fear of falling.

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## Multiple Sclerosis

### [Fear of Falling is Associated with Recurrent Falls in People with Multiple Sclerosis](http://sagelink.ca/FOF_associated_with_recurrent_falls_in_people_with_MS)

[http://sagelink.ca/FOF\\_associated\\_with\\_recurrent\\_falls\\_in\\_people\\_with\\_MS](http://sagelink.ca/FOF_associated_with_recurrent_falls_in_people_with_MS)

This longitudinal cohort study investigated the validity of the 7-item Falls Efficacy Scale-International (FES-I) as a measure of fear of falling in people with MS. Scores were found significant in predicting recurrent falls in the following 3 months.

### [Targeting Dynamic Balance in Falls-Prevention Interventions in Multiple Sclerosis](http://sagelink.ca/targeting_dynamic_balance_in_falls-prevention_interventions_in_MS)

[http://sagelink.ca/targeting\\_dynamic\\_balance\\_in\\_falls-prevention\\_interventions\\_in\\_MS](http://sagelink.ca/targeting_dynamic_balance_in_falls-prevention_interventions_in_MS)

This article includes recommendations from the International MS Falls Prevention Research Network. It explains how impairments in dynamic balance are linked to falls in people with MS and that MS falls-prevention studies should use measures of dynamic balance, particularly those which capture transitions and walking.

### [Tai Chi for Health Benefits in Patients with Multiple Sclerosis: A Systematic Review](http://sagelink.ca/tai_chi_for_health_benefits_in_patients_with_MS)

[http://sagelink.ca/tai\\_chi\\_for\\_health\\_benefits\\_in\\_patients\\_with\\_MS](http://sagelink.ca/tai_chi_for_health_benefits_in_patients_with_MS)

The aim of this systematic review was to evaluate existing evidence on the effectiveness and safety of Tai Chi to inform guidelines to clinicians to improve symptom management in individuals with MS. While this review didn't focus specifically on older adults, its findings regarding health outcomes particularly functional balance and quality of life can support its incorporation into individualized multifactorial fall prevention interventions.

### [Drawing on Related Knowledge to Advance Multiple Sclerosis Falls-Prevention Research | International Journal of MS Care](http://sagelink.ca/drawing_on_related_knowledge_to_advance_MS_FP)

[http://sagelink.ca/drawing\\_on\\_related\\_knowledge\\_to\\_advance\\_MS\\_FP](http://sagelink.ca/drawing_on_related_knowledge_to_advance_MS_FP)

This publication includes examples of research that have the potential to broaden approaches to fall prevention research. This includes information relevant to the care of older adults.

### [Interventions for Preventing Falls in People With Multiple Sclerosis](http://sagelink.ca/interventions_for_preventing_falls_in_people_with_MS)

[http://sagelink.ca/interventions\\_for\\_preventing\\_falls\\_in\\_people\\_with\\_MS](http://sagelink.ca/interventions_for_preventing_falls_in_people_with_MS)

This review aimed to evaluate the effectiveness of interventions designed to reduce the rate of falls in individuals with MS. It compared single, multiple and multifactorial interventions.

### [Community Delivery of a Comprehensive Fall-Prevention Program in People with Multiple Sclerosis: A Retrospective Observational Study](http://sagelink.ca/community_delivery_of_a_comprehensive_fall-prevention_program_in_people_with_MS)

[http://sagelink.ca/community\\_delivery\\_of\\_a\\_comprehensive\\_fall-prevention\\_program\\_in\\_people\\_with\\_MS](http://sagelink.ca/community_delivery_of_a_comprehensive_fall-prevention_program_in_people_with_MS)

This article describes a retrospective evaluation of assessments from the community delivery of the Free From Falls (FFF) multi-factorial fall prevention group exercise and education program that was launched in 2011 by the National Multiple Sclerosis Society. The findings suggest improved outcomes for people with MS such as improved balance confidence, balance performance, functional mobility and reduced falls.

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## Stroke

### [Redesigned Fall and Injury Management of Patients With Stroke](http://sagelink.ca/redesigned_fall_and_injury_management_of_patients_with_stroke)

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This article aims to provide an overview of evidence which supports redesign of fall prevention programs for patients who have experienced a stroke. Included is a recommendation for fall risk screening and assessment that includes known stroke-specific risk factors such as hemiparesis, hemiplegia, aphasia and visual neglect or loss. Redesign should also be informed by knowledge of differences between left and right brain stroke manifestations.

### [Stroke and Falls – Clash of the Two Titans in Geriatrics](http://sagelink.ca/stroke_and_falls) [http://sagelink.ca/stroke\\_and\\_falls](http://sagelink.ca/stroke_and_falls)

This downloadable pdf includes a clinical review presenting published evidence for the epidemiology, risk factors, prevention and management of fall post-stroke.

### [Effects of Continuous Visual Feedback During Sitting Balance Training in Chronic Stroke Survivors](http://sagelink.ca/effects_of_continuous_visual_feedback_during_sitting_balance_training-stroke_survivors)

[http://sagelink.ca/effects\\_of\\_continuous\\_visual\\_feedback\\_during\\_sitting\\_balance\\_training-stroke\\_survivors](http://sagelink.ca/effects_of_continuous_visual_feedback_during_sitting_balance_training-stroke_survivors)

This study investigated the role of visual feedback during balance retraining and its limitations.

## Traumatic Brain Injury

### [Falls and Traumatic Brain Injury Among Older Adults](http://sagelink.ca/falls_and_traumatic_brain_injury_among_older_adults)

[http://sagelink.ca/falls\\_and\\_traumatic\\_brain\\_injury\\_among\\_older\\_adults](http://sagelink.ca/falls_and_traumatic_brain_injury_among_older_adults)

This article provides a commentary of traumatic brain injury (TBI) related falls in older adults, common TBI sequelae, treatment, TBI-related dementia and chronic traumatic encephalopathy.

### [Predictors of Falls and Mortality Among Elderly Adults With Traumatic Brain Injury](http://sagelink.ca/predictors_of_falls_and_mortality_among_elderly_adults_with_TBI)

[http://sagelink.ca/predictors\\_of\\_falls\\_and\\_mortality\\_among\\_elderly\\_adults\\_with\\_TBI](http://sagelink.ca/predictors_of_falls_and_mortality_among_elderly_adults_with_TBI)

This article describes a nation-wide, population-based study reviewing data from all TBI hospitalizations for adults 65 and over between 2006 and 2011. The investigators found that fall-related TBI admissions increased 7% annually. Advanced age, comorbidity and the severity of the injury were independent predictors of TBI-related falls and mortality.

### [Mild Traumatic Brain Injury Among the Geriatric Population](http://sagelink.ca/mild_TBI_among_the_geriatric_population)

[http://sagelink.ca/mild\\_TBI\\_among\\_the\\_geriatric\\_population](http://sagelink.ca/mild_TBI_among_the_geriatric_population)

The authors of this review express concern by the lack of research in the area of mild TBI in this population and advise against extrapolating evidence from studies using younger adults due to the special needs of this population.

### [Traumatic Brain Injury in the Elderly: Is it as Bad as we Think?](http://sagelink.ca/TBI_in_the_elderly)

[http://sagelink.ca/TBI\\_in\\_the\\_elderly](http://sagelink.ca/TBI_in_the_elderly)

The authors provide an overview of issues of concern and consideration related to TBI in the elderly. The issue of age bias in the treatment received by older adults compared to younger adults is touched upon.

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## Dementia and / or Cognitive Impairment

### [Attitudes of Older People With Mild Dementia and Mild Cognitive Impairment and Their Relatives About Falls Risk and Prevention: A Qualitative Study](http://sagelink.ca/attitudes_of_older_people_with_mild_dementia_and_MCI_and_their_relatives_about_falls_risk_and_prevention)

[http://sagelink.ca/attitudes\\_of\\_older\\_people\\_with\\_mild\\_dementia\\_and\\_MCI\\_and\\_their\\_relatives\\_about\\_falls\\_risk\\_and\\_prevention](http://sagelink.ca/attitudes_of_older_people_with_mild_dementia_and_MCI_and_their_relatives_about_falls_risk_and_prevention)

The authors undertook a qualitative study involving thematic analysis to explore the perceptions of older people with mild dementia and mild cognitive impairment and their family carers, about falling, fall risk and acceptability of fall prevention interventions.

### [Incidence and Prediction of Falls in Dementia: A Prospective Study in Older People](http://sagelink.ca/incidence_and_prediction_of_falls_in_dementia)

[http://sagelink.ca/incidence\\_and\\_prediction\\_of\\_falls\\_in\\_dementia](http://sagelink.ca/incidence_and_prediction_of_falls_in_dementia)

This prospective study aimed to identify modifiable risk factors for falling in older people with mild to moderate dementia.

### [Occupational Therapy and Falls Prevention for People With Dementia](http://sagelink.ca/OT_and_FP_for_people_with_dementia)

[http://sagelink.ca/OT\\_and\\_FP\\_for\\_people\\_with\\_dementia](http://sagelink.ca/OT_and_FP_for_people_with_dementia)

This article speaks to the role of occupational therapy in assessing the person, the environment, and the occupation of people with dementia to prevent falls while improving independence and participation in daily activities.

### [Hypnotics and the Occurrence of Bone Fractures in Hospitalized Dementia Patients: A Matched Case-Control Study Using a National Inpatient Database](http://sagelink.ca/hypnotics_and_the_occurrence_of_bone_fractures_in_hospitalized_dementia_patients)

[http://sagelink.ca/hypnotics\\_and\\_the\\_occurrence\\_of\\_bone\\_fractures\\_in\\_hospitalized\\_dementia\\_patients](http://sagelink.ca/hypnotics_and_the_occurrence_of_bone_fractures_in_hospitalized_dementia_patients)

The authors investigated hypnotic use in older dementia patients as a potential risk factor for falls and bone fractures. Through the use of a national inpatient database in Japan they found that short-acting benzodiazepine hypnotics and ultrashort-acting non-benzodiazepine hypnotics may increase the risk of bone fracture in hospitalized dementia patients.

### [Gait and Cognition: A Complementary Approach to Understanding Brain Function and the Risk of Falling](http://sagelink.ca/gait_and_cognition)

[http://sagelink.ca/gait\\_and\\_cognition](http://sagelink.ca/gait_and_cognition)  
This paper reviews the importance of the gait-cognition inter-relationship in aging and presents evidence that gait assessments can provide a window into the understanding of cognitive function, dysfunction and fall risk in older adults.

### [Executive Function and Falls in Older Adults: New Findings from a Five-Year Prospective Study Link Fall Risk to Cognition](http://sagelink.ca/executive_function_and_falls_in_older_adults)

[http://sagelink.ca/executive\\_function\\_and\\_falls\\_in\\_older\\_adults](http://sagelink.ca/executive_function_and_falls_in_older_adults)

The authors of this longitudinal study aimed to evaluate if reduced executive function (EF) is a risk factor for future falls over the course of 5 years of follow-up. Their findings demonstrated that the risk of future falls was predicted by performance on EF and attention tests conducted 5 years earlier among community-dwelling older adults.

### [Dementia Medications and Risk of Falls, Syncope, and Related Adverse Events Meta-Analysis of Randomized Control Trials](http://sagelink.ca/dementia_meds_and_risk_of_falls)

[http://sagelink.ca/dementia\\_meds\\_and\\_risk\\_of\\_falls](http://sagelink.ca/dementia_meds_and_risk_of_falls)  
This meta-analysis aimed to evaluate the effect of cholinesterase inhibitors and memantine on the risk of falls, syncope and related events.