

# REDUCING THE RISK OF FALLING AND INJURIES FROM FALLS: RESEARCH ON THE VALUE OF PHYSICAL THERAPY



Falls are the second leading cause of accidental or unintentional injury deaths worldwide. Each year, an estimated 646,000 individuals die from falls globally. Research demonstrates that access to exercise and balance training programs reduces the risk of falling and injuries from falls.

## RESEARCH ON THE VALUE OF PHYSICAL THERAPY AND PHYSICAL ACTIVITY IN REDUCING THE RISK OF FALLING

**Effect of a Home-Based Exercise Program on Subsequent Falls Among Community-Dwelling High-Risk Older Adults After a Fall: A Randomized Clinical Trial** [*JAMA*. 2019;321(21):2092-2100]

**Conclusion:** Older adults who received a home-based strength and balance retraining exercise program as part of care within a falls-prevention clinic after a fall had a significantly reduced rate of subsequent falls compared with usual care provided by a geriatrician.

**Fall Prevention Among Older Adults; Case Reports Exemplifying the Value of Incorporating Lumbar Stabilization Training During Balance Exercises** [*South African J Physio*. 2013;69(3):25-32]

**Conclusion:** The addition of lumbar stabilization exercises during balance training is of value to improve gait speed, balance testing scores in stability in gait, and vertical stability limits.

**Physical Activity Guidelines for Americans Second Edition** [US Department of Health and Human Services. 2018. [health.gov/paguidelines/](https://health.gov/paguidelines/)]

**Conclusion:** Among older adults, physical activity reduces the risk of falling and injuries from falls. Multicomponent physical activity programs—those that include more than 1 type of physical activity, such as aerobic, strengthening, and balance—are most successful at reducing falls and injuries.

**Management of Falls in Community-Dwelling Older Adults: Clinical Guidance Statement From the Academy of Geriatric Physical Therapy of the American Physical Therapy Association.** [*Phys Ther*. 2015;95(6):815–834]

**Conclusion:** This clinical guidance statement provides recommendations to assist physical therapists in the identification and management of fall risk in older community-dwelling adults.

**Otago Exercise Program in the United States: Comparison of 2 Implementation Models.** [*Phys Ther*. 2017;97(2):187-197]

**Conclusion:** The data suggest that the action of doing the exercises may be the essential element of the Otago Exercise Program, providing opportunities to develop and test new delivery models to ensure that participants achieve the best outcomes.

**Examining the Effects of an Otago-Based Home Exercise Program on Falls and Fall Risks in an Assisted Living Facility** [*J Geriatr Phys Ther*. Apr 2018.]

**Conclusion:** An Otago-based strengthening, balance, and walking home exercise program can potentially be used to decrease the number of falls and the risk of falling among older adults residing in an assisted-living facility.

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## **Non-Pharmacological Management of Osteoporosis: a Consensus of the Belgian Bone Club [Osteoporosis Intl. 2011;22(11):2679-88]**

**Conclusion:** Individually prescribed muscle strengthening and balance retraining exercises can reduce the number of falls and fall-related injuries by 35%. Multifactorial fall-prevention programs are effective on both risk of falling and monthly rate of falling.

## **Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-Analysis. [JAMA. 2017;318(17):1687-1699]**

**Conclusion:** Exercise alone and various combinations of interventions were associated with lower risk of injurious falls compared with usual care.

## **Physical Therapy Approaches to Reduce Fall and Fracture Risk Among Older Adults. [Nat Rev Endocrinol. 2010;(6)7:396-407]**

**Conclusion:** The most effective physical therapy approach for the prevention of falls and fractures in community-dwelling older adults is regular multicomponent exercise; in particular a combination of balance and strength training. To be effective, multifactorial preventive programs should include an exercise component accompanied by individually tailored measures focused on high-risk populations.

## **The Impact of Implementing a Fall-Prevention Educational Session for Community-Dwelling Physical Therapy Patients [Nurs Open. 2018;5(4):567-574]**

**Conclusion:** When older adults receive patient education about the risk of falling as part of physical therapist services, a greater number of them use fall-prevention interventions at home, leading to a reduction in the number of falls.

## **Understanding the Relationship Between Walking Aids and Falls in Older Adults: A Prospective Cohort Study [J Geriatr Phys Ther. 2015;38(3):127-132]**

**Conclusions:** Using walking aids is a risk factor for future falls among the older population living in residential settings, much of which could be explained by an altered spatiotemporal gait pattern, increased age, and psychotropic drug intake. This finding supports the aim of extensive training periods and appropriate instructions on the proper use of walking aids in terms of adequate and safe gait patterns.

## **A Prospective Cohort Study on the Effect of a Balance Training Program, Including Calf Muscle Strengthening, in Community-Dwelling Older Adults [J Geriatr Phys Ther. 2016;39(3):125-131]**

**Conclusion:** A balance training program that includes calf muscle strengthening performed twice a week for 5 weeks resulted in significant improvements in calf muscle strength, functional performance, and balance, as well as a significant improvement in balance confidence. The results from this study identify the impact of unilateral calf muscle strength on falls risk among older adults.

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