

# PREVENTING HOSPITAL READMISSIONS:

## RESEARCH ON THE VALUE OF PHYSICAL THERAPY



Excessive hospital readmissions are under scrutiny for their cost and negative impact on patient outcomes. Postacute care providers are undertaking widespread and intense efforts to reduce them. Research validates that access to physical therapy can prevent or reduce the risk of readmissions.

### RESEARCH ON THE VALUE OF PHYSICAL THERAPY IN REDUCING HOSPITAL READMISSIONS

**Community Use of Physical and Occupational Therapy After Stroke and Risk of Hospital Readmission** [*Arch Phys Med Rehabil.* 2018;99(1):26-34]

**Conclusion:** Individuals who received outpatient therapy in the first 30 days after discharge home from the hospital following stroke were less likely to be readmitted in the subsequent 30 days than were individuals who received no therapy.

**Inverse Dose-Response Relationship Between Home Health Care Services and Rehospitalization in Older Adults** [*J Am Med Dir Assoc.* 2019;20(6):736-742]

**Conclusion:** At a threshold of either 1 physical therapy visit or 2 skilled nursing visits per week, home health care lowered the risk of rehospitalization in older patients by up to 82% and 48%, respectively.

**Association of Rehabilitation Intensity for Stroke and Risk of Hospital Readmission** [*Phys Ther.* 2015;95(12):1660-7]

**Conclusion:** Receipt of and intensity of rehabilitation therapy in the acute care of stroke is associated with a decreased risk of hospital readmission.

**Effects of Hospital-Based Physical Therapy on Hospital Discharge Outcomes Among Hospitalized Older Adults With Community-Acquired Pneumonia and Declining Physical Function** [*Aging Dis.* 2015;6(3):174-9]

**Conclusion:** Hospital-based physical therapy helps to reduce the 30-day hospital readmission rate of acutely ill older adults with community-acquired pneumonia and declining physical function.

**Rehospitalization in the First Year of Traumatic Spinal Cord Injury After Discharge From Medical Rehabilitation** [*Arch Phys Med Rehabil.* 2013;94(4):87-97]

**Conclusion:** Individuals with traumatic spinal cord injury who received more-intensive physical therapy had lower odds of rehospitalization.

# PREVENTING HOSPITAL READMISSIONS: RESEARCH ON THE VALUE OF PHYSICAL THERAPY



**Role of Physical Therapists in Reducing Hospital Readmissions: Optimizing Outcomes for Older Adults During Care Transitions From Hospital to Community** [*Phys Ther.* 2016;96(8):1125-34]

**Conclusion:** Physical therapists can help reduce avoidable hospital readmissions by contributing to existing care transition models and collaborating with other health care disciplines. Because physical therapists are uniquely qualified to assess physical function—which is a risk factor for hospital readmission—they need to assume a stronger role in the treatment of older adults within care transition models.

**Understanding the Relationship Between Physical Therapist Participation in Interdisciplinary Rounds and Hospital Readmission Rates: Preliminary Study** [*Phys Ther.* 2016;96(11):1705-1713]

**Conclusion:** Patients had significantly higher readmission rates when their interdisciplinary team did not include a physical therapist.

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# 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.



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



## **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 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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# EARLY MOBILIZATION REDUCES THE RISK OF ADVERSE EVENTS AND IMPROVES FUNCTION: RESEARCH ON THE VALUE OF PHYSICAL THERAPY



Postsurgical mobilization provides numerous benefits for patients of all ages. Research demonstrates that early mobilization after surgery reduces complications and has the potential to improve physical functioning.

## RESEARCH ON EARLY MOBILIZATION

**Are Process Performance Measures Associated With Clinical Outcomes Among Patients With Hip Fractures? A Population-Based Cohort Study.** [*Int J Qual Health Care.* 2016;28(6):698-708]

**Conclusion:** High-quality in-hospital care and, in particular, early mobilization was associated with a better clinical outcome, including lower 30-day mortality, among patients with hip fracture.

**Early Mobilization Decreases Length of Hospital Stay, Perioperative Complications and Improves Functional Outcomes in Elderly Patients Undergoing Surgery for Correction of Adult Degenerative Scoliosis** [*Spine.* 2017;42(18):1420-1425]

**Conclusion:** The research indicates that early mobilization after surgery significantly reduces the incidence of perioperative complications, shortens duration of inpatient hospital stay, and contributes to improved perioperative functional status in elderly patients.

**Adverse Events and Their Risk Factors 90 Days After Cervical Spine Surgery: Analysis From the Michigan Spine Surgery Improvement Collaborative** [*J Neurosurg Spine.* 2019;Feb 15:1-13]

**Conclusion:** The research indicates that early mobilization after cervical spine surgery has the potential to significantly decrease adverse events.

**Effectiveness and Feasibility of Early Physical Rehabilitation Programs for Geriatric Hospitalized Patients: A Systematic Review** [*BMC Geriatr.* 2013;13:107]

**Conclusion:** Early physical rehabilitation programs for acutely hospitalized older adults were found to have the potential to improve physical functioning. Interventions including a follow-up program after hospital discharge increase the chance of maintaining positive effects on functionality for longer periods of time.

**Assisted Early Mobility for Hospitalized Older Veterans: Preliminary Data From the STRIDE Program** [*J Am Geriatr Soc.* 2014;62(11):2180-2184]

**Conclusion:** STRIDE, a supervised walking program for hospitalized older adults, was found to be feasible and safe, and program participants were less likely to be discharged to a skilled nursing facility than were a demographically similar comparison group. STRIDE is a promising interdisciplinary approach to promoting mobility and improving outcomes in hospitalized older adults.



# EARLY MOBILIZATION REDUCES THE RISK OF ADVERSE EVENTS AND IMPROVES FUNCTION: RESEARCH ON THE VALUE OF PHYSICAL THERAPY



## **Complications of Hip Fractures: A Review [World J Orthop. 2014;5(4):402-411]**

**Conclusion:** Advancement of early mobilization to improve functional recovery and falls prevention are among basic recommendations for optimal maintenance of patients who have had a hip fracture. Other recommendations from the review included early surgical fixation, the role of anti-thromboembolic and anti-infective prophylaxis, good pain control at the perioperative, detection and management of delirium, correct urinary tract management, avoidance of malnutrition, vitamin D supplementation, and osteoporosis treatment.

## **Physical Activity in the Acute Ward Following Hip Fracture Surgery Is Associated With Less Fear of Falling [J Aging Phys Act. 2016;24(4):525-532]**

**Conclusion:** Early mobilization following hip fracture surgery reduces medical complications and mortality, but it may increase the risk of falling. More upright time at discharge was associated with less fear of falling, which also was associated with faster gait speed and Timed Up and Go test time.

## **The Effect of Early Mobilization in Critically Ill Patients: A Meta-Analysis [Nurs Crit Care. 2019;June 20]**

**Conclusion:** Early mobilization was found to be effective in preventing intensive care unit-acquired weakness, shortening the length of the ICU and hospital stay, and improving functional mobility.

## **Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial [JAMA Intern Med. 2018;Nov 12]**

**Conclusion:** The exercise intervention proved to be safe and effective in reversing the functional decline associated with acute hospitalization in very elderly patients.

## **Effect of Early Mobilizations and Rehabilitation on Complications in Aneurysmal Subarachnoid Hemorrhage [J Neurosurg. 2017;126(2):518-526]**

**Conclusion:** Early rehabilitation of patients after aneurysmal subarachnoid hemorrhage was found to be safe and feasible.

## **Early Mobilization in Ischemic Stroke: A Pilot Randomized Trial of Safety and Feasibility in a Public Hospital in Brazil [Cerebrovasc Dis Extra. 2015;5(1):31-40]**

**Conclusion:** This pilot trial suggests that early mobilization after acute ischemic stroke is safe and feasible.

## **Early Mobilization After Total Knee Arthroplasty Prevents Patients With Osteoarthritis and Rheumatoid Arthritis From Developing Postoperative Higher Levels of D-dimer [J Med Invest. 2010;57(1-2):146-151]**

**Conclusion:** Postoperative early mobilization within a week after total knee arthroplasty (TKA) kept levels of D-dimer from increasing in patients with osteoarthritis and rheumatoid arthritis.

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