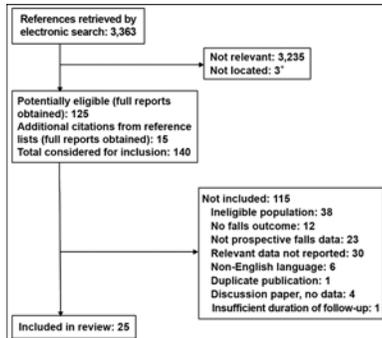


Systematic review of accuracy of screening instruments for predicting fall risk among independently living older adults

Simon Gates, PhD, et al.



Many different screening tests are used by clinicians to predict which people are likely to fall and suffer injuries so that they can be offered treatments to reduce their risk of falls. We reviewed the evidence about how well screening tests identify people

who will fall. We found 25 studies, which evaluated 29 screening tests, that met our criteria for inclusion. No good evidence was found that any screening test discriminates well between people who will and will not fall, and the usefulness of these screening instruments for clinical practice is unclear.

Review of intrinsic factors related to fall risk in individuals with visual impairments

Christopher T. Ray, PhD, ATC, CSCS; Steven L. Wolf, PhD, PT, FAPTA, FAHA

Approximately 1.5 million veterans in the United States have visual impairments. As the veteran population ages, this number is expected to increase. Reductions in overall health, gait, lower-limb power, functional assessment, and balance are associated with aging. Individuals with visual impairments have more health problems than sighted adults, and this may exacerbate their functional decline. Therefore, understanding the relationship between vision loss and reduced physical functioning is crucial. Knowledge of these physiological and functional differences can lead to innovative exercise interventions that may reduce physical disability and falls, thereby offering individuals with vision loss greater independence and enhanced quality of life.

Can personality theory help us understand risk of falls?

Marita Kloseck, PhD, et al.

Falling is a common and frequently devastating problem in older life. Injuries from falls in seniors, especially hip fractures, are enormously expensive and can severely impair an individual's future independence. Although we know a lot about the physical changes of aging and some about the mental changes of aging that make older people more at risk of falling, much less is known about how the personality of some people may increase the risk of falling, while that of others may reduce the risk. In this article, we consider the current views of personality structure and the ways in which personality may influence a person's behavior in the face of the day-to-day situations that aging people face that may put them at risk of falling. Some suggestions for future research are made.

Update on falls prevention for community-dwelling older adults: Review of single and multifactorial intervention programs

Ellen Costello, PT, PhD; Joan E. Edelstein, MA, PT, FISPO, CPed

The number of falls and associated injuries continues to rise along with the growing aging population. A variety of fall prevention programs for older individuals has been established to address this health problem. These prevention programs can vary greatly. Some offer a comprehensive health and fall risk assessment, with a combination of exercise, education, medication management, vision, and home hazard assessment. Other programs offer only one intervention. This article presents a review of recent research on fall prevention programs for the older person living at home. Guidelines are offered regarding health screening, effective exercise approaches, and home hazard assessment.

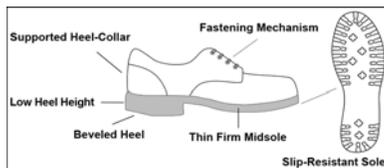
Preventing falls among older adults: No “one size suits all” intervention strategy

Debra J. Rose, PhD

Regularly participating in physical activity is important for all older adults. While many activity choices (for example, walking, tai chi, and dancing) are available to nondisabled older adults at low risk for falls, fewer choices are available as the level of fall risk increases. Carefully designed exercise programs that specifically address the important physical risk factors that contribute to falls (e.g., impaired balance and walking and muscle weakness) will be more effective for older adults at moderate-to-high risk for falls. Programs that also address other identified risk factors for falls (e.g., certain medical conditions, type and number of medications, unsafe home environment) are also likely to be more effective for older adults at high risk for falls. Service providers can use this information to ensure that older adults are referred to an exercise program that best suits their needs.

Optimizing footwear for older people at risk of falls

Jasmine C. Menant, PhD, et al.



Research studies have shown that older people commonly wear unsafe shoes. Walking indoors barefoot or in socks and walking indoors or outdoors in high-heel shoes significantly increase the risk of falls in older people. To optimize balance and prevent falls, older people should wear shoes with low heels and firm soles both inside and outside the home. Wearing shoes with tread soles may also reduce the risk of falling on slippery surfaces.

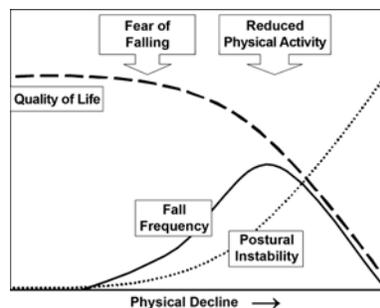
Falls in older people: The place of telemonitoring in rehabilitation

Khim Horton, PhD, BSc(Hons), RN, RCNT, RNT, PGCEA

This study examined older people’s expectations of and experiences with telemonitoring devices. Thirty-five older people who lived in the community and had a history of recurrent falls participated. The 17 participants in the intervention group used a fall detector and bed occupancy sensor, which worked with the Lifeline home unit linked to a local community alarm monitoring service managed by a call center. The 18 participants in the control group used a standard pendant alarm. All participants were interviewed. Positive experiences such as having a greater sense of security and being enabled to remain in their own homes were reported by the intervention group. However, some found the devices “intrusive” and did not feel they were in control of alerting the call center.

Falls in individuals with stroke

Vivian Weerdesteyn, PhD, PT, et al.

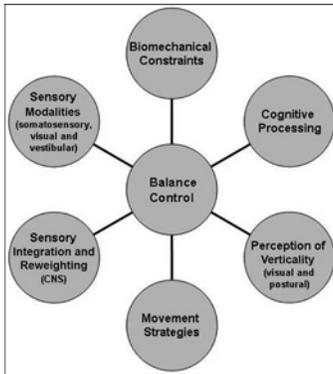


Falls are the number one complication after acute stroke and remain a great health concern during the rest of the person’s life. This continued concern is particularly due to the consequences of falls.

For instance, individuals with stroke are more likely to sustain a hip fracture due to falling. Therefore, falls and their prevention are important issues for every person involved in stroke care. Interventions to prevent falling in these persons are still scarce. A few studies investigated the efficacy of exercise programs and assistive devices and clearly indicated that falls in stroke can indeed be prevented.

Balance control in hemiparetic stroke patients: Main tools for evaluation

Clarissa Barros de Oliveira, PT, et al.

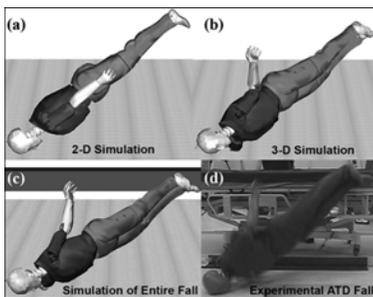


Patients with stroke frequently have balance problems that increase their risk for falls and, therefore, medical complications. Balance is a very complex skill, so identifying specific sources of balance disturbances is important. In this article, we review the basic principles of postural control and the main tools used

to evaluate balance in hemiparetic stroke patients. Comprehensive clinical evaluation, including global measurements and laboratory tests whenever possible, can provide detailed information on balance impairments and guide improvement of rehabilitation strategies for these patients.

Estimation, simulation, and experimentation of a fall from bed

Brian W. Schulz, PhD, et al.

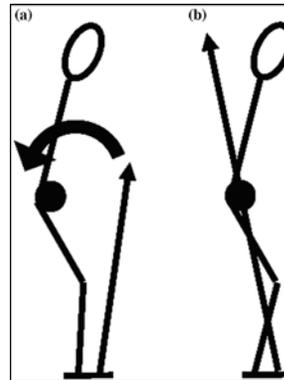


Computer simulations of crash tests are common, but this technology has rarely been applied to falls. Here, we present simulations of a crash test dummy falling from bed to determine which

initial conditions made the simulated head deceleration most similar to the real fall. Improving impact position and fall direction both improved results. Simulating the entire fall instead of only the impact further improved results but required far more setup and processing. Accurate initial conditions are crucial to accurate simulations. Simulations should be validated to experimental data before being used to extrapolate findings beyond what is experimentally practical or possible.

Regulation of angular impulse during fall recovery

Witaya Mathiyakom, PT, PhD; Jill L. McNitt-Gray, PhD



A loss of balance, as shown by inability to maintain the total body center of mass (COM) position over the base of support (feet) during standing or walking, may lead to a fall. Stepping strategy has been found to be a strategy of choice for fall recovery in both younger and older adults. Both support and swing legs contribute to the successful recovery

of a fall. Control of the lower-limb joints and coordination of multiple muscles are means for fall recovery that redirect the ground reaction force relative to the total body COM.