

Identifying Patients at Risk for Falls

How can you help your patients avoid becoming a “fall” statistic? Here is some data to consider: Approximately 25% to 35% of people aged 65 years or older experience falls each year¹. Of community-dwelling older people, 30% to 50% fall at least once a year². Falls are the leading cause of injuries and hospital admissions among people aged 65 years and older¹. One recent study suggests that patients at risk for falls can be recognized if we understand certain gait characteristics (walking speed, stride parameters) of those elderly with a history of falls.

As our patients age, explanations for changes in their walking speed and stride parameters (stride length, stride frequency) include reduction of energy cost, compensation for muscle weakness, and balance impairments. All of these components can be addressed and improved with specific physical therapy intervention. Physical Therapists are trained to perform gait analysis and can recognize modifications necessary in one’s walking pattern that can allow them to ambulate with less energy expenditure. In addition, strength testing in non weight bearing or weight bearing positions and eccentric or concentric muscle control should be assessed to determine specific muscle weaknesses followed by a specific exercise program to treat any deficit. Physical therapy offers several techniques and activities to challenge and improve balance incorporating static and dynamic activities, functional positions and specific proprioceptive tasks which often require close supervision of a physical therapist.

It has also been determined that an increased variability in walking patterns at increased walking speeds also contribute to falls in the elderly population. A recent study suggests that elderly subjects with a history of falls demonstrated several changes in their walking patterns with an increase in walking speed when compared to “non-fallers”. These changes include higher stride frequencies, shorter stride lengths, smaller lateral sway, decreased plantar flexion and hip extension during push-off, and increased hip flexion during swing phase, especially at increased walking speeds. By targeting and addressing these specific gait parameters through gait analysis by a physical therapist it is possible through gait training to develop a more steady, less variable gait pattern.

Using these guidelines, you can better determine which patients are at risk for falling. Patient often don’t tell us they almost fell or lost their balance and the problem often is not identified until it is too late. It is important to seek prevention and treatment strategies by a physical therapist to avoid the significant events that can result from falling in the elderly.

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1. Barak Y, Wagenaar RC, Holt, K. Gait characteristics of elderly people with a history of falls: a dynamic approach. *J Amer Phys Ther Assoc*, 2006;86:1502-1509.
2. Lin et al. Community-Based Tai Chi and its effect on injurious falls, balance, gait, and fear of falling in older people. *J Amer Phys Ther Assoc*, 2006;86:1189-1201.