

### Balance Training and Fall Prevention in the Elderly

In many of our patients, the fear of falling is often a major concern. Falls in the elderly often precipitate a series of events with catastrophic potential. Epidemiological studies show that half of women over the age of 85 will suffer a fall. For men, the risk of falling increases from 13 percent in the 65 to 69 age group to a peak of 31 percent in the 80- to 84-year age group. Many people in these age groups suffer fractures as a result of their falls. For many geriatric patients, immobility after a fracture can lead to pneumonia and possible fatality. Physical Therapy can help to prevent many of these falls and fractures by treating many of the impairments that caused their fall.

Many researchers believe that geriatric falls occur secondary to inactivity, decreased vision, impaired proprioception, and decreased vestibular function. A good physical therapy evaluation can evaluate deficits of a patient's somatosensory, visual, or vestibular systems and design a treatment program to challenge each of these systems as they all work together to maintain a patient's balance.

With all individuals it is important to personalize each treatment plan in order to best serve the patient. Often it is necessary to vary the lighting and walking surfaces in order to properly stimulate the somatosensory system. Balance training can incorporate head movements to any physical activity in order to enhance gaze stabilization and challenge the vestibular system. An example of balance training can include activities such as balancing on one foot with progression to balancing on one foot on an uneven surface with the eyes closed.

Additionally, many balance exercises can be incorporated into home activities. Activities such as sit-to-stand from surfaces of varying heights will challenge the ankles, knees and hips and has direct functional carryover outside the clinic. Gait training using obstacle courses can also be used to challenge all three sensory systems in addition to receiving feedback from the physical therapist on proper and safe technique.

Physical therapy can also include a general strengthening and fitness program in order to encourage the geriatric patient to become more active and less sedentary. Achieving a more active lifestyle only serves to compliment other improvements made in regards to balance and falls. By properly identifying deficits and challenging them appropriately, physical therapy can help geriatric patients decrease the number of falls and the incidences of fractures and help them to lead a safer and more active lifestyle.

*Jessica Jorde, DPT is a physical therapist working at the Jordan Young Institute in Virginia Beach. She earned her Bachelor of Science with a concentration in Exercise Science from Old Dominion University in 2005. She also completed her Doctor of Physical Therapy degree in May of 2008 from Old Dominion University.*

