

# Nothing to Fear, But Fear Itself?

## The Link Between “Balance Confidence” and Falling

### *Physical Therapy Research That Benefits You*

While your most likely impression of a physical therapist is that of someone caring for patients, many physical therapists also are involved in research. They’re making new discoveries every day that add to the knowledge that physical therapists use to benefit their patients.

For example, researchers from the MGH Institute of Health Professions in Boston, Massachusetts, tackled the following question:

*Will fear of falling interfere with balance and make people more likely to fall?*

Here’s a summary of the study as recently reported in *Physical Therapy*, the scientific journal of the American Physical Therapy Association.

#### *Why is this research question important?*

Falls are all too common in the elderly population, and the consequences—such as hip fracture—can be devastating to both patients and their families. Some estimates show that as many as 30% of people over age 65 fall annually, climbing to as many as 40% of people 80 years or older. People who fall and have such consequences as fractures may no longer be able to live independently at home and may have to move to a different environment or require assistance to meet their everyday needs. When asked, elderly people rank fear of falling as one of their major concerns. As physical therapists, our goal is to help keep people as safe as possible while at the same time helping them to maintain their independence.

#### *Does this study apply to you or members of your family?*

The investigators studied 50 elderly people who ranged in age from 65 to 95 years, who were relatively healthy, and who were “community dwelling” (living in the community with little or no assistance). The results of this study would be most relevant to people who are of a similar age and who live independently at home or in an assisted living or senior housing arrangement.

#### *How can fear of falling be measured scientifically?*

Actually, the investigators didn’t measure fear per se—they measured something related to fear: confidence level. They measured confidence in doing certain activities, what they called “a



person’s level of confidence in the ability to maintain balance while performing specific daily activities.” They determined the level of confidence through a questionnaire that included such questions as: “How confident are you at reaching at eye level?” “How confident are you at reaching on tiptoes?” “How confident are you at picking up a slipper from the floor?” and “How confident are you at walking in a crowded mall?” Each question was rated on a 0% (no confidence) to 100% (full confidence) scale.

#### *How did the researchers study balance in these subjects?*

The investigators measured balance with a performance test in which subjects do a series of standing activities that become more and more difficult as the test progresses. The test starts with the subject seated unsupported; the subject then is asked to stand without using hands to assist. Next, the subject might be asked to close his or her eyes for 10 seconds, then to stand with feet very close together (touching), with eyes open. As the test proceeds, the subject is asked to do increasingly difficult tasks that challenge balance. The test culminates with asking the subject to stand on one leg and to do “tandem standing” (standing heel to toe without any support). Each task is scored by the physical therapist on a 0-4 scale, with 0 representing “unable to perform” and 4 representing being able to perform the task proficiently. Scores on this

scale can help identify which people are *not* prone to falls.

The investigators also considered what they called “functional mobility,” which generally can be described as the ability to move through various postures and activities required for participation in common daily tasks. The investigators used a timed test in which a person is asked to stand from a chair, walk 10 feet, walk back to the chair, and sit down. In general, completing the task in 14 seconds or less is considered normal. Taking more than 14 seconds is considered slower than normal and is a marker for having mobility restrictions that could affect a person’s ability to do daily tasks.

#### *What other kinds of information did the researchers look for?*

The investigators asked the subjects if they had a fear of falling, if they had ever fallen in the past, and, if so, whether they were hospitalized or required surgery. The researchers also asked some general questions about marital status; whether the subjects walked with a cane, crutches, or a walker; and what sort of living arrangements they had, such as a private home, assisted living, or senior housing facility. This kind of information helps physical therapists and other clinicians to figure out whether the results of the study could apply to their own patients (who might or might not have characteristics similar to those of the study subjects).

#### *What did the investigators find—and what could it mean for you?*

The investigators found that balance confidence, as measured by the questionnaires, was related to how well people performed in

the balance and mobility tests. In other words, the higher their confidence, the better the subjects performed. These results suggest that individuals who have concerns about their balance should heed those concerns. If you are afraid of falling, there is a high likelihood that you will perform poorly on certain balance tests—which in turn may mean that you have balance deficits.

#### *Most studies have limitations. What doesn’t this study tell us?*

The study is a cross-sectional study, which means we do not know what happens first: the fear of falling or the balance deficits. For example, we do not know if people develop balance problems and then become fearful, or the other way around. We also do not know whether improving balance performance lessens the fear of falling (by giving greater confidence), or the other way around. To find that out, researchers would need to use an intervention (procedures or techniques that physical therapists use to produce changes in patient’s condition). No interventions were used in this study.

Also, although this study included people with a range of abilities and living arrangements, the subjects overall were in “relatively good health” and, therefore, the authors said, might not represent the gen-

eral elderly population. The authors recommended that studies need to examine a “larger, more diverse population” to find out whether the relationship between balance confidence and balance ability remains the same among people with varied abilities.

#### *How can you or your family member get help with balance?*

Regular activity that incorporates strengthening and aerobic conditioning, such as walking, biking, swimming, yoga, Tai Chi, or weight training, has been shown to improve balance in elderly individuals. If concern about your balance ability has caused you to restrict participation in social, recreational, or physical activity—that is, if you have a fear of falling—APTA suggests that you contact a qualified provider, such as a physical therapist, for an examination and evaluation. Physical therapists can design safe and progressive balance training programs tailored to individual needs. Visit [www.apta.org](http://www.apta.org) for the Association’s directory of certified clinical specialists in physical therapy, and search for neurological certified specialists in your city and state, selecting the practice focus area “balance and gait disturbances”; or consult your local hospital physical therapy department or your local yellow pages for a physical therapy facility in your area. **PT**

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## Making Your Home Safer

**P**reventing falls is easier than treating them. Your physical therapist can help you evaluate your home environment with the goal of minimizing clutter, loose rugs, slippery conditions, uneven surfaces, and unsecured cords and wires—in short, anything that could cause a fall. Good lighting and well thought-out placement of furniture also can help prevent mishaps.