

# Improving Your Balance to Prevent Falls

By Jane E. Brody



Several times a day, whether I'm indoors or out, my bone doctor's mantra reverberates in my head: "Do Not Fall!"

That might seem like telling the sun not to shine, but it does remind me that my balance is not what it used to be. I can no longer take for granted my ability to remain erect when moving about among a plethora of unexpected trip hazards — broken sidewalks, fallen branches, a dog on the loose. How can I keep from falling when I stumble?

Surely, I thought, there'd be helpful advice on the web. But after checking out dozens of postings on how I might improve my balance, I was more confused than enlightened. Most emphasized improving core and leg strength, which for me are already in good shape. Now what?

Then I learned of a new book with a title that echoed my bone doctor's warning: "Falling Is Not an Option: A Way to Lifelong Balance." The author,

George Locker, a lifelong student of martial arts and teacher of tai chi, adapted the lessons of these ancient arts into an approach he has trademarked as “Postural Retraining.”

The goal is stability by increasing one’s downward force, and the examples Mr. Locker gave of surfers, skaters and skiers made perfect sense to me. I can easily recall my stable posture when I skated on ice or pavement or skied on water or snow: a semi squat with knees and ankles bent. Although I no longer attempt these sports at age 79, my ability to remain balanced and stable is more important than ever.

As reported last year in this newspaper, between 2000 and 2016, the mortality rate from falls among those over 75 more than doubled. Mr. Locker calls this “a medical problem without a medical solution.” Rare is the doctor who prescribes postures and movements that enhance balance and stability. Yet, these are health- and life-saving abilities that can be improved regardless of a person’s age by strengthening the body’s postural muscles.

But unlike building up arm or leg muscles, increasing the strength of postural muscles to improve balance is not something visible. It’s internal, something the *body, not the mind*, must learn to do, like learning how to balance on a bicycle. (Parents take note: Children don’t learn how to balance on a bike until the training wheels are removed!)

“Balance,” Mr. Locker wrote, “is not a skill,” and it “is not attained by aptitude, memory or repetition.” In an interview, he said, “Balance is not about moving, thinking about it, being athletic or strong.” Nor is it subject to willful control. Rather, it is something the body learns to do automatically by engaging the postural muscles. Given the amount of sitting most of us do these days, “the postural muscles literally forget how to maintain balance, even on steady, level surfaces,” he wrote.

No weights or machines are needed to strengthen postural muscles. Rather, the body’s own weight is engaged, as in skating when, with bent knee and ankle, the body’s weight is transferred from the back leg to the front leg, or in paddle boarding, when body weight is evenly distributed between bent legs.

As Mr. Locker, now 70, explained, “The exercises in Postural Retraining use the body’s own weight to prompt the postural muscles to balance the body.” The exercises are isometric; there is no movement. Rather, postural

muscles are tensed and the tension is sustained as long as possible, which builds the strength of both muscles and bones.

While I'd normally be highly skeptical of such advice from a nonprofessional without a degree in physical therapy, kinesiology, rehabilitation medicine or athletic training, one paragraph in Mr. Locker's book won me over:

"Walking on an even surface is not weight-bearing," at least not as Mr. Locker defines it, because it does not train postural muscles. "The knee tends to lock when the foot contacts the ground, and the foot does not remain on the ground for more than a moment. Therefore walking, while wonderful and healthy, does not improve balance. Walking on a rocky Adirondack trail, where both legs are constantly bent to maintain balance, *is* weight-bearing."

I immediately related to this description. I spent most of last summer in the lower Catskills, where I trekked with my dog on uneven paths over rocks and roots for an hour or more every other morning. During the first two weeks of July, I felt very unsteady and fell twice. But I became more secure with each outing, and by summer's end my balance and stability had noticeably improved. Even when jostled by a dog while standing on a rocky surface, I easily remained stable and erect.

While many people are not in a position to train their postural muscles by hiking in the woods, Mr. Locker describes exercises that people can do safely at home using their own bodies for equipment. No gym or machine, not even an exercise band, is needed. Basically, the feet learn to be more firmly connected to the ground while the body weight moves within a base of support.

"In tai chi," Mr. Locker noted, "we don't move to achieve balance; first we balance, then we move." Balance is not subject to conscious control, but it can be enhanced by use and diminished by disuse, he explained. "The key to balance and stability in humans is the ability to create downward force in excess of body weight. Thus, neither a statue nor a surfer standing stiff as a statue can remain upright on a surfboard."

A sample lesson: You've likely heard advice to improve balance by standing on one leg when you brush your teeth. A far better plan is to bend the knee and ankle of the leg you're standing on to engage the postural muscles. At the same time, the pelvic muscles remain relaxed. If added support is

needed, use the tips of the fingers of one hand on the sink or wall, but keep in mind that the goal is to stand without support, using the wall only for balance.

Another simple exercise involves standing straight with thigh and buttocks muscles relaxed, then bending knees and ankles as if you're about to sit on a high stool. Keep the spine straight and pelvis relaxed. Hold this position for as long as you can, increasing the time gradually as your postural muscles get stronger, up to 15 minutes.

The ultimate goal, Mr. Locker said, is to achieve "a tremendous connection to the ground so that when you get pushed, instead of lifting up your shoulders and falling forward, your knees and ankles bend and the body naturally pushes into the ground."