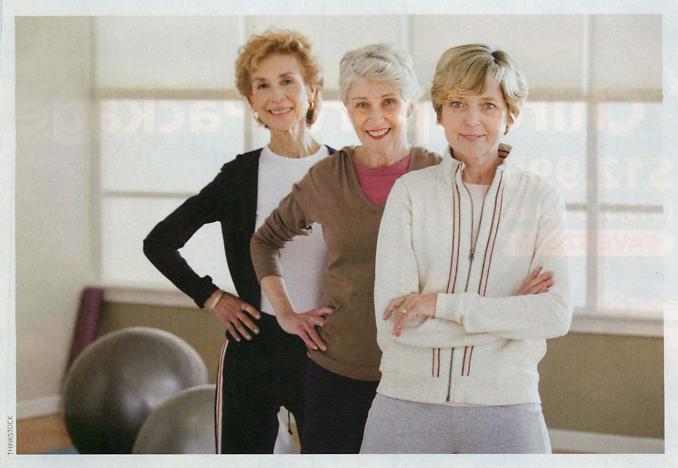


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In the upright position

A strategy for preventing falls in the elderly population.

BY STEVEN WEINIGER, DC

ALLS ARE THE LEADING CAUSE OF DEATH AND INJURY AMONG THE elderly, with a third of people over 65 suffering a fall each year. During the next 20 years, some 10,000 baby boomers will turn 65 every day, creating an increasingly huge demographic prone to this problem. What's more, baby boomers are expected to outlive their parents, which is why the prevalence of falls will explode over the coming decades. So how can DCs help?

Falls are common, but they're not necessarily a natural part of aging.¹
According to experts, fall prevention begins with heightening awareness of the problem, and then taking a multifactorial approach, which

includes looking at an individual's environment, psychology, behavior, and physical functioning.²

Reflexes slow with age, so it's best to begin any fall management intervention by looking at the patient's environment. Along with other fallrisk professionals, DCs should advise patients over 65 to be aware of home tripping hazards, poorly fitting shoes, loose rugs, and electrical cords near walkways. Also, vision can be a factor, making regular eye assessments an important part of prevention.

The psychological fear of falling is also a component. Once someone falls, they're twice as likely to fall again in the next six months.

A vicious spiral of decreased mobility

leads to inactivity and deconditioning, further increasing fall risk. And even if it's only a friend who experiences the fall, awareness of the consequences causes nearly half of older adults to worry.

But while environment and psychology are important, the greatest potential to reduce falls is through countering frailty with physical conditioning. There's potential for chiropractic here, too, as improving the body's biomechanics on segmental as well as global levels plays to chiropractic's strengths.

For the mainstream healthcare fallprevention team to include DCs, however, a clear value proposition must be communicated to MDs, from

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geriatricians to gerontologists, as well as adult-care facility personnel, administrators, the media, and the public.

A neglected part of conditioning

Balance is one of the four aspects of fitness essential for good health, the other three being strength, cardiovascular condition, and flexibility. And although in the past few years balance has received more attention with the rising popularity of exercise balls, Pilates, and yoga, it's still a distant fourth in most exercise programs.

While some DCs address balance, in practice most don't realize (or communicate) the potential for an adjustment to improve a patient's functional equilibrium. But some chiropractic researchers who have looked at manual therapy and falls have seen promising results.³

Osteopathic manipulation is now being investigated as a tool to reduce falls, improve gait, and address balance disorders.⁴ One dizziness study found "osteopathic manipulative treatment for spinal somatic dysfunction improved balance in patients with dizziness lasting at least three months."

Thus spinal manipulation can make unique contributions in fall prevention. Anecdotally, many DCs who focus on balance report observing significant improvement in one-leg balance time and stability after an adjustment.

A chiropractic model for fall management and prevention can empower patients with practical recommendations, and dovetail with the research already being directed at fall-risk mitigation and injury prevention. For chiropractic involvement in fall prevention to be widely adopted, it must integrate the passive therapy it's known for (with an evidence-supported model of active rehab, balance, and gait training, and a focus on balance).

Posture for fall prevention

Clinical communication must come before action. Just as you'd never tell a patient, "Let me work on you, and then I'll tell you what I did," to work in the realm of fall prevention, it's imperative to explain the problem from a biomechanical perspective, which includes the importance of the DC's signature contribution—the adjustment. And the key to this model is posture.

Balance and posture are two sides of the same coin. To stand, the body must be in balance. And postural alignment is relevant to falls. From bottom to top, the body's masses align to balance forces and remain vertical.

Whether standing still or in dynamic gait, posture is how the body's masses balance, align, and move. To communicate this and other biomechanical concepts, you can use such phrases as "Posture is *how* you balance your body. If you don't balance, you fall down."

Body positioning errors are a significant cause of falls, and stability suffers when the building blocks of the body



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are poorly stacked.7 A recent study looked at posture and low-back pain, finding little clinical relevance in high shoulders and low hips, but noted, "The orientation of gross body segments with respect to the gravity line seems superior to local spinopelvic features in terms of clinical importance."8

To facilitate explanations of body position, these body segment masses can be labeled "The four posture zones."9

The postural equilibrium of balancing (the legs support the pelvis, upon which balances the torso, which in turn supports the head) is maintained with a subtle interaction of forces. Equally subtle is the compensation that occurs from injuries and habits causing structural asymmetries, which can cause the body to stand and move in

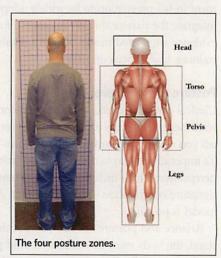
unintended ways.

When a person's proprioception is off, reality intercedes and stability suffers-a major fall risk. When walking, if you believe your foot is going to clear the ground-and it doesn't-your foot catches but the body continues to fall forward. Studies indicate that, especially in men, when the head translates forward of the torso, it is a risk factor for injurious falls.10

Assessing functional symmetry

To begin focusing on posture, observe body control and position by testing patients' ability to maintain body position while standing tall and balancing on one leg, then the other. In addition to timing how long the individual can support themselves, note the symmetry of control in how they are maintaining balance as they lift one leg versus the other.

Waving arms or hopping reveals weakness or loss of control-or both. In other words, there is a discrepancy between where they believe their body to be in space and the objective reality.



Next, photograph the location of the body against a background grid to observe asymmetries and errors between the patient's perceived position of head, torso, and pelvis, versus the reality. It may be subtle, but any deviation from centerline must be addressed for the individual to maintain





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vertical position. For example: If the head goes to the left of midline, the mass must be compensated for by another mass or force shifting the body toward the right.

When you look carefully, you may see correlations between a patient's presenting symptoms with his or her pattern of compensation. During the report of findings, if you can connect the difference between a patient's perceived postural alignment with photographic evidence to the contrary, he or she will often make the same connection.

More people are exercising to stay active; yet posture and balance tend to degenerate with age, and falls often precipitate a slide toward diminished function. You can make a meaningful difference with fall-risk education and balance training.

Chiropractic can contribute to a better culture of health for older

patients with fall prevention. By promoting postural awareness and helping people regain and retrain symmetry of motion, you can help patients stand tall and move well.



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