



# TAICHI

## THE GATEWAY TO ACTIVE SENIORS

By Sallie Thoreson, MS, and Maureen Hart, ACSM EP-C

**M**ildred is 79 years old. She considers herself to be active. She drives her own car, attends church and occasionally attends bingo at the local senior center. She knows she should exercise more and she is worried about falling, but the Silver Sneakers class at the rec center seems too vigorous. Her friend Bonnie suggested she take something called Tai Chi: Moving for Better Balance. Mildred has heard about Tai Chi being easy and slow exercise and she already knows two ladies taking the class. When she mentions it to her doctor, she says it's a great idea. So Mildred apprehensively enrolls in the next 12-week class at the recreation center.

Public health officials at the federal, state and local levels see older adult wellness as an important goal, and park and recreation departments are a natural partner for state health departments focused on preventing injuries and promoting wellness for this segment of the population. We all envision a community where everyone, including older adults, is active, and park and recreation departments are a key place to address fitness and wellness for all ages. The prevention of older adult falls is an important part of the wellness picture. The Centers for Disease Control and Prevention (CDC) and the

Administration for Community Living (ACL) are federal agencies promoting the public health involvement in older adult fall prevention.

Among older adults in the United States, falls are a leading cause of fatal and nonfatal injuries. Hospital costs associated with injuries sustained by falls account for a significant share of healthcare dollars spent on injury-related care. For example, in 2015 in the state of Colorado, 728 residents ages 65 and older died from fall-related injuries and almost 29,000 fall-related injuries were treated at hospitals and emergency departments. In 2014, among Colorado

residents ages 65 and older, the projected lifetime costs associated with fall-related injuries were estimated at \$738 million for medical and work-loss costs combined. That year, an estimated 27.1 percent of Colorado adults ages 65 and older reported having fallen in the past 12 months, and 34.9 percent of those who fell reported a fall-related injury.

Even if older adults have not fallen, the fear of falling — a fear for an estimated 29 to 77 percent of older adults — can keep them from being active. This leads to functional decline, as the older adult is not motivated to exercise or be more involved in the community, which in turn leads to self-imposed activity restrictions. This is truly one of those times when “use it or lose it” applies.

In order to prescribe and implement specific exercises that lead to fall prevention, an understanding of two key components is paramount: What exactly is fall prevention and how does Tai Chi lead to fall prevention?



### Balance Is More Than Standing on One Leg

Ask most seniors walking into a fall prevention class why they believe the class is needed and the answer usually given is, "I can't stand on one leg...my balance is terrible." Standing on one leg and balance are a single point on a continuum with stability on one end and mobility on the other end. Every step taken requires the ability to stand on one leg for a very brief moment. When the ability to stabilize degrades, the other end of the continuum, mobility, also degrades. Poor stabilization leads to changes in gait that further impairs mobility.

The S.A.I.D. Principle — *specific adaptation to imposed demand* — should guide exercise training designs. If you want to improve the ability not to lose your balance resulting in a fall, you have to "practice falling." It is just like learning to swim. At some point you have to get in the water. The building blocks of fall prevention are knee, hip and ankle flexion and strong spine and abdominal muscles. Toe lifts and inline walking are also key elements.

### Know Your Place in Space

Being aware of where you are in space and anticipating, reacting to and compensating for changes to that space are at the heart of stability and mobility training. Thus, establishing a deep awareness of one's *Base of Support* and training the body to prepare and react to changes in your *Center of Gravity* are paramount. "Proprioception" is the ability of the body to sense where it is in space. Balance training must address all three triggers of proprioception: visual, inner ear (vestibular) and nerves/muscles. Strengthening muscles specific to preventing falls with a profound inner focus and an emphasis on timing and appropriate speed may seem overwhelming and complex, especially with an at-risk population. Falling is not an inevitable consequence of aging. Exercise, especially programs designed to reduce falls,

is just what the older adult needs. Fortunately, there is an exercise practice that has been around for thousands of years with an extensive research foundation supporting it as a proven fall-prevention protocol. It is called Tai Chi.

### Tai Chi for Fall Prevention

Offering one or more Tai Chi classes is a way to address fall prevention that is within the possibility of all park and recreation departments. Evidence-based fall prevention in the public health world means a specific program that has strong research showing that program participants have improved outcomes compared to those who don't participate.

To be effective, evidence-based, fall-prevention programs need to offer older adults progressive challenges to balance and gait, built on an established curriculum, in a safe environment with lower class size and with chairs available to provide initial confidence. Specially designed Tai Chi classes for older adult fall prevention fit this bill. As one example, Tai Chi: Moving for Better Balance program, research showed older adult participants in Tai Chi classes had fewer falls and fewer fall injuries, and their risk of multiple falls was decreased 55 percent. There are other studies linking Tai Chi to fall prevention.

Tai Chi is a set of exercises, known as *forms*, that are performed in a slow, controlled manner with a deep inner awareness of using the body in a holistic way, applying controlled breathing as its *"tempo."* It demands continuous movement as it requires a constant shifting of weight, which improves both stability and mobility and triggers a mindfulness of one's base of support and changing center of gravity. In addition, Tai Chi incorporates both asymmetrical and diagonal arm-leg movements and promotes arm swing and rotation at the waist, all critical components of gait function. This low-impact exercise puts minimal stress on joints, making it a low-risk, appropriate exercise for seniors. Participants

learn the sequence of the moves while improving their posture, control of their body in space and symmetry of motion.

### Other Benefits of Tai Chi

Park and recreation facilities can position themselves ahead of the curve of changing population demographics when they implement programming to address both functional and cognitive improvements in terms of fitness. Aside from being an evidenced-based exercise for fall prevention, Tai Chi is functional, therapeutic and sustainable. Its cognitive benefits include significant focus and spatial-temporal orientation. Memory, both in terms of the sequencing of movements and specific execution of the forms, is developed. Executive functioning in addition to full body movements and postural demands blend both physical and mental development. Other benefits of Tai Chi include calmness, better reach, functional mobility, enhanced mental ability and socialization. This is whole-body training in a very pure sense.

*Mildred appreciated that her instructor had everyone start the class seated in chairs. She felt comfortable and, in a few weeks, moved to a standing position with a chair available for support. She was delighted she could go at her own pace. Learning the moves was a challenge but, each week, she felt her legs growing stronger and her confidence increasing.*

### Colorado Success Story

To address the priority issue of older adult fall prevention, the Colorado Department of Public Health and Environment chose Tai Chi: Moving for Better Balance (TCMBB), a 12-week, twice-a-week exercise program targeted to older adults at risk for falling. Starting in 2012, the state arranged for an instructor training program and assisted local facilities in setting up a class schedule that worked within the facilities' programming schedule. Maureen Hart, who served as the trainer for Colorado's Tai Chi instructors, emphasized it's not about instructors hav-

ing to become Tai Chi Masters, but rather, learning how to teach the Tai Chi moves to older adults in the ways that improve their balance, walking and confidence.

It was easy to add older adult Tai Chi programming to the repertoire of classes already being offered at local parks and recreation facilities. In Colorado, the Tai Chi: Moving for Better Balance program now is embedded in the schedules of 17 park and recreation facilities and YMCAs, six hospital trauma or wellness centers, and six other community organizations. Eighty classes have been held and have reached more than 1,200 older adults. In particular, the park and recreation departments find the program not only meets the fall-prevention goals of the older adults, but it also has become a “gateway” for them to participate in more exercise and strength training programs. Organizations find it fits their emphasis on developing programs for the growing older population and on becoming more involved in evidence-based programming and working with clinical partners.

*Mildred finished her 12-week Tai Chi class and was surprised at how good she felt. She started to carpool with two ladies she met in the class, signed up for a Silver Sneakers class and is walking more in her neighborhood. She has invited a friend to join her at the rec center for the next Tai Chi class.*

There are several ways park and recreation departments in Colorado feature their Tai Chi classes. In one model, recreation centers offer the class as a “freebie” to those who have Silver Sneaker or monthly memberships. Sometimes, the initial offering of TCMBB may be free, while people try out the class. A second model offers Tai Chi as a specialty class, requiring an extra fee. This can be more difficult to sell to the clients, but good marketing helps older adults understand the great benefits of this class and the need for specially trained instructors. The experience in Colorado is that it is not difficult to fill the class, once word spreads.

Many older adults stay in the Tai Chi



class, whereas others are now comfortable enough to take other classes and explore all the facility has to offer. Colorado park and recreation districts, from Bennett (older adult population of 2,400) to large facilities in the Denver Metro area, have found ways to incorporate Tai Chi classes into their regular schedule. It takes creative programming to find the right time of day and seasons to offer the class, enthusiastic instructors to keep participants motivated and marketing to draw in new members and keep regular members engaged. Some centers offer the class on a drop-in basis during the slower summer season and then re-engage with the regularly scheduled twice-a-week classes for the recommended three-month period. Recreation centers may promote the class through demonstrations, stressing the social aspects to keep older adults attending the sessions and even offering incentives like T-shirts.

#### Conclusion

Park and recreation departments are poised to handle the growing older adult population. The concentration on programs for young people and active 24–55 year olds has worked well, as those groups have dominated the age profile. However, the number of older adults is growing rapidly, led by baby boomers. By 2030, one in every five Americans will be 65 years or older, and AARP, Inc., estimates that in many states

the numbers of seniors will equal or exceed the number of school-age children.

Recreation centers and parks will be a desired resource: ease of use — a short car ride or public transportation to their local recreation center — being one of the main reasons. Park and recreation departments also can provide a good financial deal to older adults who may be on a fixed income and may not be able to afford private gym memberships in unfamiliar surroundings. A 2012 Gallup Poll reported only 38 percent of adults in “pre-retirement” say they have enough money to live comfortably when they retire.

By addressing the public health need to reduce falls, older adults will be encouraged to sign up for exercise programs or visit a local center. And, savvy older adults are looking for those programs designed for their specific needs. They may not want hot yoga or Boot Camp, but they want to be challenged with safe classes designed for them — where they can socialize, get fit and remain injury free! 🌿

*Detailed references can be found at [www.parksandrecreation.org/2017/January/Tai-Chi-the-Gateway-to-Active-Seniors](http://www.parksandrecreation.org/2017/January/Tai-Chi-the-Gateway-to-Active-Seniors).*

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