Tai Chi and Its Health Benefits

Better Balance | Increased Relaxation | Improved Memory
Heightened Agility | Reduction of Stress | More Energy
Lower Blood Pressure | Better Sleep | Improved Immunity

The most important benefit of studying Tai Chi Chuan is that when you reach the age where you know what life is about...you have some health to enjoy it.
Professor Cheng Man-ching
Falling Is Dangerous for the Elderly—and Often Preventable

Falls can be reduced with balance training, physical therapy and safer homes

By Barbara Sadick - Nov. 12, 2017

One of the biggest health threats facing Americans age 65 and older is also one many of them don't like to talk about: falling.

At least half of senior Americans who fall don’t tell anyone, according to a report from the Centers for Disease Control and Prevention. Whether it’s a spouse declining to tell a partner, or an elderly parent hiding it from the children, many seniors keep quiet because they are embarrassed and fear losing their independence.
By remaining silent, however, many of these patients become more afraid and more sedentary, medical experts say. That increases their risk for additional falls and injuries, which can lead to fatal complications such as intracranial bleeding, flail chest and respiratory failure. Indeed, falls are the leading cause of injuries and death from injuries in older Americans, according to the CDC.

While falls can occur at any age, the elderly are most at risk. The CDC says that in 2014, almost one-third of adults 65 or older reported falling at least once in the preceding year, representing an estimated 29 million falls and seven million injuries. Of those who fell, 37.5% reported at least one fall that either restricted their activity or resulted in medical treatment, costing an estimated $31 billion in annual Medicare costs, according to the CDC. With large numbers of baby boomers turning 65 each year, falling is likely to become an even more serious medical issue in years ahead, experts say. The good news is that there are steps the elderly can take to reduce their risk. Medical experts increasingly believe that strength and mobility, not age, are the biggest factors in determining whether a person will fall.

“With balance training and physical therapy, some muscles and nerves can regenerate at any age and compensate for the atrophy often seen in aging, thus reducing the risk of falling,” says Daniel Deems, an otolaryngologist and chief medical officer of Fyzical Therapy & Balance Center, a physical-therapy franchise in 39 states. Falls can be reduced, he says, by working with trained physical therapists to increase balance function in the brain and improve core muscle strength for stability. Dr. Elizabeth Phelan, a geriatrician and associate professor of medicine at the University of Washington School of Medicine in Seattle, agrees, saying, “The single most effective prevention strategy is the practice of strength-balance exercises like Tai Chi and the development of muscle strength.”

Jon Pynoos, co-director of the Fall Prevention Center of Excellence and professor of gerontology at the University of Southern California’s Leonard Davis School of Gerontology, recommends that older adults be screened for fall risk at least once a year, and after any fall occurs. Checking a patient’s medications and dosages is a good idea, he says, since many drugs can cause dizziness, confusion, balance problems and a drop in blood pressure, all of which contribute to falls. Eyeglass prescriptions should be kept up-to-date, and periodic eye exams (every one to two years) also should be conducted, he says. Dr. Phelan believes that communities and state officials could do more to make public spaces safer for the elderly. She recommends making sidewalks even, adding lighting, lowering curbs and adding benches.

In Massachusetts, a commission examines data and makes recommendations to the governor and Legislature on how to reduce falls and the health-care costs associated with them. The state's Department of Public Health, meanwhile, works with community partnerships to make strength training and balance programs available to older adults at risk of falling. (Seniors should check to see what resources their state has to offer.) “Falling is an expensive problem with huge ramifications that can affect the quality of life of an entire family,” says Carlene Pavlos, director of the Bureau of Community Health and Prevention in Massachusetts. In 2014, she says, falls accounted for 500 deaths, 22,000 hospitalizations and 48,000 emergency-room visits in her state. “Lifetime health-care costs associated with falls in one year are projected at about $1 billion,” Ms. Pavlos says.

“With solid strategies,” however, “falls don't have to be inevitable and can be prevented,” she says.
A Comprehensive Review of Health Benefits of Qigong and Tai Chi


Objective - Research examining psychological and physiological benefits of Qigong and Tai Chi is growing rapidly. The many practices described as Qigong or Tai Chi have similar theoretical roots, proposed mechanisms of action and expected benefits. Research trials and reviews, however, treat them as separate targets of examination. This review examines the evidence for achieving outcomes from randomized controlled trials (RCTs) of both.

Results - Seventy-seven articles met the inclusion criteria. The 9 outcome category groupings that emerged were: bone density (n=4), cardiopulmonary effects (n=19), physical function (n=16), falls and related risk factors (n=23), Quality of Life (n=17), self-efficacy (n=8), patient reported outcomes (n=13), psychological symptoms (n=27), and immune function (n=6).

Conclusion - A compelling body of research emerges when Tai Chi studies and the growing body of Qigong studies are combined. The evidence suggests that a wide range of health benefits accrue in response to these meditative movement forms, some consistently so, and some with limitations in the findings thus far. This review has identified numerous outcomes with varying levels of evidence for the efficacy for Qigong and Tai Chi, including bone health, cardiopulmonary fitness and related biomarkers, physical function, falls prevention and balance, general quality of life and patient reported outcomes, immunity, and psychological factors such as anxiety, depression and self-efficacy. A substantial number RCTs have demonstrated consistent, positive results especially when the studies are designed with limited activity for controls. When both Tai Chi and Qigong are investigated together, as two approaches to a single category of practice, meditative movement, the magnitude of the body of research is quite impressive.
The Health Benefits of Tai Chi

https://www.health.harvard.edu/staying-healthy/the-health-benefits-of-tai-chi

Tai chi is often described as "meditation in motion," but it might well be called "medication in motion." There is growing evidence that this mind-body practice, which originated in China as a martial art, has value in treating or preventing many health problems. And you can get started even if you aren't in top shape or the best of health. In this low-impact, slow-motion exercise, you go without pausing through a series of motions named for animal actions — for example, "white crane spreads its wings" — or martial arts moves, such as "box both ears." As you move, you breathe deeply and naturally, focusing your attention — as in some kinds of meditation — on your bodily sensations. Tai chi differs from other types of exercise in several respects. Tai chi can be easily adapted for anyone, from the most fit to people confined to wheelchairs or recovering from surgery.

"A growing body of carefully conducted research is building a compelling case for tai chi as an adjunct to standard medical treatment for the prevention and rehabilitation of many conditions commonly associated with age," says Peter M. Wayne, assistant professor of medicine at Harvard Medical School and director of the Tai Chi and Mind-Body Research Program at Harvard Medical School's Osher Research Center. An adjunct therapy is one that's used together with primary medical treatments, either to address a disease itself or its primary symptoms, or, more generally, to improve a patient's functioning and quality of life. Although tai chi is slow and gentle and doesn't leave you breathless, it addresses the key components of fitness — muscle strength, flexibility, balance, and, to a lesser degree, aerobic conditioning. Here's some of the evidence:

**Muscle Strength** - Tai chi can improve both lower-body strength and upper-body strength. When practiced regularly, tai chi can be comparable to resistance training and brisk walking. "Although you aren't working with weights or resistance bands, the unsupported arm exercise involved in tai chi strengthens your upper body," says internist Dr. Gloria Yeh, an assistant professor at Harvard Medical School. "Tai chi strengthens both the lower and upper extremities and also the core muscles of the back and abdomen."

**Balance** - Tai chi improves balance and, according to some studies, reduces falls. Proprioception — the ability to sense the position of one's body in space — declines with age. Tai chi helps train this sense, which is a function of sensory neurons in the inner ear and stretch receptors in the muscles and ligaments. Tai chi also improves muscle strength and flexibility, which makes it easier to recover from a stumble. Fear of falling can make you more likely to fall; some studies have found that tai chi training helps reduce that fear.
Tai Chi Increases Brain Size, Improves Memory, Combats Alzheimer's


Researchers have shown that regular practice of Tai Chi increases brain volume, augments memory and thinking skills, and may combat dementia.

In a randomized controlled trial, researchers have shown that regular practice of Tai Chi in seniors increases brain volume and augments memory and thinking scores. Scientists collaborating from University of South Florida and Fudan University in China showed that Tai Chi that appears to actually increase brain volume. In this study, some participants practiced the ancient Chinese martial art three times weekly over an 8-month period while the control group received no intervention. Previous studies have demonstrated that aerobic exercise can increase brain volume but this is the first to study Tai Chi specifically.

In fact, the researchers' experiment even showed improvements on memory and thinking skills tests. These types of results show the treatment, Tai Chi, to be highly efficacious in combating dementia illnesses like Alzheimer's. According to lead author Dr. James Mortimer, professor of epidemiology at the University of South Florida College of Public Health, "epidemiologic studies have shown repeatedly that individuals who engage in more physical exercise or are more socially active have a lower risk of Alzheimer's disease."
Graceful Exercise: Tai Chi


Exercise is important for people of all ages, but can be especially beneficial to people with memory problems, as well as their caregivers. Low-impact exercises, such as water aerobics, yoga—and even simply walking—are often suggested for older adults. To improve balance and coordination, as well as combat joint stiffness and increase calmness and awareness, tai chi is an ideal choice.

Tai chi, a mind-body practice that originated in China around the 12th century A.D. as a martial art, focuses on moving the body slowly and gently while breathing deeply and meditating. Studies have suggested that tai chi can help boost older adults’ immunity to viruses and improve their balance, thereby helping to prevent falls. “The premise is to coordinate the movements with breathing, and many of them are simple movements or can be modified to fit the needs of older adults,” says Fabio Comana, MA, MS, ACE-CPT & LWMC, ACSM HFI, CSCS, CISSN, exercise physiologist and research scientist with the American Council on Exercise in San Diego, Calif. “It teaches the participant to evolve the movements, to flow freely, and integrate many of them.”

As a low-impact and aerobic exercise, tai chi can help improve physical condition, muscle strength, coordination, and flexibility; ease pain and stiffness; and improve sleep. “[The various forms of tai chi] emphasize movement through three planes (breathing, relaxation, and meditation), and thus help maintain functional mobility at joints and integrate multiple joint movements, which helps older adults maintain their functional capacity,” says Comana. “In many of the movements, the eyes are closed, challenging the balance centers of the body. This certainly is key to functional capacity, given the risk of falls with older adults. It’s great training for balance and coordinated movements, parameters lost as we age.”

Movements in tai chi use the person’s own body as resistance and maintains a good range of motion at the joints, Comana adds. “Coupled with the slow movements, [tai chi] helps with many age-related conditions such as arthritis,” he says.
Study: Tai Chi Increases Brain Size, Boosts Memory, May Delay Dementia


Problem - Though previous studies have shown aerobic exercise's ability to increase brain volume and improve memory, it's unclear if a less strenuous form of physical exercise, namely tai chi, can engender the same brain benefits.

Methodology - Scientists from the University of South Florida and Fudan University conducted a 40-week randomized controlled trial with 120 non-demented seniors from Shanghai, China. They compared the cognitive health of tai chi practitioners to that of members of a group that received no intervention by administering MRIs as well as neuropsychological measures for dementia, learning capacity, and verbal fluency throughout the study period.

Results - The subjects in the control group showed brain shrinkage that was consistent with what has generally been observed among people in their 60s and 70s. The participants who practiced tai chi thrice a week, however, showed significant increases in brain volume as well as improvements in their memory and thinking test scores.

Conclusion - A regular tai chi exercise regimen enlarges the brain and enhances the cognitive abilities of the elderly.

Implication - Since past research has shown a link between dementia and brain shrinkage, a less aerobic form of exercise, such as tai chi, may delay the onset of this degenerative mental illness.


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