

Medical Benefits Studies

T'ai Chi is a gentle exercise typical made up of slow, relaxed movements. However, even though it is a "soft exercise" it has been shown to improve balance, flexibility and even muscular strength.

Below is a list of some studies relating to specific conditions and how T'ai Chi has been shown to benefit the studies participants:

Arthritis: Tufts University: 1 hour twice a week for 12 weeks reduced pain, improved mood and physical functioning.

Korean Study: 8 weeks class then 8 weeks home practice improved flexibility and slowed progress of spondylitis (arthritis of the spine)

Low Bone Density: Harvard: may maintain bone density in postmenopausal women

Breast Cancer: University of Rochester: 12 weeks of classes - Improved quality of life, aerobic capacity, muscular strength and flexibility.

Heart Disease: National Taiwan University: 1 year of T'ai Chi boosted exercise capacity, lowered blood pressure, and improved levels of cholesterol, triglycerides, insulin, and C-reactive protein.

Heart Failure: Harvard Medical School: 12 weeks of T'ai Chi improved participants' ability to walk and quality of life. Also reduced blood levels of B-type natriuretic protein (an indicator of heart failure).

Hypertension: 26 studies: 85% of trials blood pressure was lowered (from 3 to 32 systolic, 2 to 18 diastolic).

Parkinson's Disease: Washington University School of Medicine in St. Louis: 20 T'ai Chi sessions showed improved balance, walking ability and overall well-being.

Sleep Problems: UCLA: 16 weeks of T'ai Chi improved quality and duration of sleep.

Stroke: Hong Kong Polytechnic Institute: 12 weeks of T'ai Chi improved standing balance.

Fibromyalgia: New England Journal of Medicine: Improved quality of life (physical and mental.)

Multiple Sclerosis: Iranian Multiple Sclerosis Society: 12 weeks twice a week. Improved balance.

Stress Relief: Many studies: Regular practice of T'ai Chi has been shown to greatly improve stress.

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No pain, big gains

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. In a 2006 study published in *Alternative Therapies in Health and Medicine*, Stanford University researchers reported benefits of tai chi in 39 women and men, average age 66, with below-average fitness and at least one cardiovascular risk factor. After taking 36 tai chi classes in 12 weeks, they showed improvement in both lower-body strength (measured by the number of times they could rise from a chair in 30 seconds) and upper-body strength (measured by their ability to do arm curls).

In a Japanese study using the same strength measures, 113 older adults were assigned to different 12-week exercise programs, including tai chi, brisk walking, and resistance training. People who did tai chi improved more than 30% in lower-body strength and 25% in arm strength — almost as much as those who participated in resistance training, and more than those assigned to 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.”

Flexibility. Women in the 2006 Stanford study significantly boosted upper- and lower-body flexibility as well as strength.

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.

Aerobic conditioning. Depending on the speed and size of the movements, tai chi can provide some aerobic benefits. But in the Japanese study, only participants assigned to brisk

walking gained much aerobic fitness. If your clinician advises a more intense cardio workout with a higher heart rate than tai chi can offer, you may need something more aerobic as well.

Selected resources

Tai Chi Healthwww.taichihealth.com

Tai Chi Productionswww.taichiforhealth.com

Tree of Life Tai Chi Centerwww.treeoflifetaichi.com

Tai chi for medical conditions

When combined with standard treatment, tai chi appears to be helpful for several medical conditions. For example:

Arthritis. In a 40-person study at Tufts University, presented in October 2008 at a meeting of the American College of Rheumatology, an hour of tai chi twice a week for 12 weeks reduced pain and improved mood and physical functioning more than standard stretching exercises in people with severe knee osteoarthritis. According to a Korean study published in December 2008 in *Evidence-based Complementary and Alternative Medicine*, eight weeks of tai chi classes followed by eight weeks of home practice significantly improved flexibility and slowed the disease process in patients with ankylosing spondylitis, a painful and debilitating inflammatory form of arthritis that affects the spine.

Low bone density. A review of six controlled studies by Dr. Wayne and other Harvard researchers indicates that tai chi may be a safe and effective way to maintain bone density in postmenopausal women. A controlled study of tai chi in women with osteopenia (diminished bone density not as severe as osteoporosis) is under way at the Osher Research Center and Boston's Beth Israel Deaconess Medical Center.

Breast cancer. Tai chi has shown potential for improving quality of life and functional capacity (the physical ability to carry out normal daily activities, such as work or exercise) in women suffering from breast cancer or the side effects of breast cancer treatment. For example, a

2008 study at the University of Rochester, published in *Medicine and Sport Science*, found that quality of life and functional capacity (including aerobic capacity, muscular strength, and flexibility) improved in women with breast cancer who did 12 weeks of tai chi, while declining in a control group that received only supportive therapy.

Heart disease. A 53-person study at National Taiwan University found that a year of tai chi significantly boosted exercise capacity, lowered blood pressure, and improved levels of cholesterol, triglycerides, insulin, and C-reactive protein in people at high risk for heart disease. The study, which was published in the September 2008 *Journal of Alternative and Complementary Medicine*, found no improvement in a control group that did not practice tai chi.

Heart failure. In a 30-person pilot study at Harvard Medical School, 12 weeks of tai chi improved participants' ability to walk and quality of life. It also reduced blood levels of B-type natriuretic protein, an indicator of heart failure. A 150-patient controlled trial is under way.

Hypertension. In a review of 26 studies in English or Chinese published in *Preventive Cardiology* (Spring 2008), Dr. Yeh reported that in 85% of trials, tai chi lowered blood pressure — with improvements ranging from 3 to 32 mm Hg in systolic pressure and from 2 to 18 mm Hg in diastolic pressure.

Parkinson's disease. A 33-person pilot study from Washington University School of Medicine in St. Louis, published in *Gait and Posture* (October 2008), found that people with mild to moderately severe Parkinson's disease showed improved balance, walking ability, and overall well-being after 20 tai chi sessions.

Sleep problems. In a University of California, Los Angeles, study of 112 healthy older adults with moderate sleep complaints, 16 weeks of tai chi improved the quality and duration of sleep significantly more than standard sleep education. The study was published in the July 2008 issue of the journal *Sleep*.

Stroke. In 136 patients who'd had a stroke at least six months earlier, 12 weeks of tai chi improved standing balance more than a general exercise program that entailed breathing, stretching, and mobilizing muscles and joints involved in sitting and walking. Findings were published in the January 2009 issue of *Neurorehabilitation and Neural Repair*.