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Tai Chi Surpasses Aerobic Exercise for Lowering Blood Pressure

Analysis by Dr. Joseph Mercola | March 08, 2024

STORY AT-A-GLANCE

- Tai chi, a gentle form of exercise characterized by slow, flowing movements, may lower blood pressure better than aerobic activity
- Study participants performed four 60-minute sessions of either tai chi or aerobic exercise every week for 12 months
- Those in the tai chi group had a significantly greater reduction in systolic blood pressure (SBP) compared to the aerobics group; those performing tai chi had a 7.01 mm Hg reduction in SBP compared to 4.61 mm Hg among the aerobics group members
- By decreasing SBP, tai chi may be a practical way to prevent cardiovascular diseases and reduce the risk of cardiovascular events
- Close to 22% of those practicing tai chi had their blood pressure levels fall into the normal range, compared to 16% of those doing aerobics

Tai chi, a gentle form of exercise characterized by slow, flowing movements, may lower blood pressure better than aerobic activity. Beyond enhancing strength, balance and postural alignment, tai chi fosters improvements in concentration, relaxation and breath control.[1] It's also beneficial for chronic diseases, including high blood pressure.[2]

In the U.S., 48.1% of adults have high blood pressure, putting them at risk of heart disease and stroke, two leading causes of death. Among them, only 1 in 4 has the condition under control.[3]

Medications are typically the primary treatment for high blood pressure in conventional medicine. However, these drugs are associated with "burdensome" side effects that frequently lead people to discontinue their use.[4]

Lifestyle modification and mind-body interventions like exercise can be at least as effective as drug treatment and are generally free of side effects.[5] In the case of tai chi, it's emerging as one of the best types of exercise to lower blood pressure, outshining even aerobics.

Tai Chi Lowers Blood Pressure Better Than Aerobic Activity

While exercise is widely recommended for blood pressure management, researchers from the China Academy of Chinese Medical Sciences compared the effects of tai chi with aerobic exercise among 342 people with prehypertension, defined as systolic blood pressure (SBP) of 120 to 139 mm Hg and/or diastolic BP (DBP) of 80 to 89 mm Hg.[6]

Prehypertension describes blood pressure levels that are elevated but not yet classified as high blood pressure. Participants performed four 60-minute sessions of either tai chi or aerobic exercise every week for 12 months. Those in the tai chi group had a significantly greater reduction in SBP compared to the aerobics group. Those performing tai chi had a 7.01 mm Hg reduction in SBP compared to 4.61 mm Hg among the aerobics group members.[7]

"These findings were not isolated to office-measured BP," Study Finds noted. "The Tai Chi group also showed superior results in 24-hour ambulatory SBP measurements, particularly during nighttime, suggesting an enduring and consistent blood pressure management effects."[8]

By decreasing SBP in patients with prehypertension by 2.40 mm Hg more than aerobic exercise, tai chi may be a practical way to prevent cardiovascular diseases and reduce the risk of cardiovascular events, according to the study.[9] Close to 22% of those practicing tai chi also had their blood pressure levels fall into the normal range, compared to 16% of those doing aerobics.[10]

It's possible tai chi may benefit blood pressure by reducing sympathetic excitability, which refers to the activity of the sympathetic nervous system (SNS), involved in the body's stress response. The SNS triggers your "fight-or-flight" response, so if Tai Chi indeed reduces sympathetic excitability, it could help your body relax and decrease stress levels, leading to lower blood pressure.

Research Supports Tai Chi's Usefulness for High Blood Pressure

Research continues to emerge supporting tai chi as a useful tool for high blood pressure. In a study of 246 adults with high blood pressure, tai chi was more effective than brisk walking for reducing blood pressure, fasting blood sugar, glycated haemoglobin and perceived stress while increasing perceived mental health.[11]

There are five main styles of tai chi — Chen, Yang, Wu, Sun and Hao. The Chen style is characterized by explosive movements such as jumps, kicks and strikes; the Yang style involves big, exaggerated movements that are slow and controlled.

The Wu style involves more forward and backward leaning, while the Sun style emphasizes mobility. Hao, the least popular style, focuses more on internal movements designed to control the body's qi, or internal force.[12]

The Yang, Sun and Wu styles have all been found to be helpful for treating circulatory system diseases, including high blood pressure. Researchers suggested performing Yang style tai chi two to three times a week for 60-minute sessions, over a 12-week period, may have a positive effect on circulatory system diseases.[13]

Wu style tai chi also appears particularly effective for reducing high blood pressure, even after just six weeks, among middle-aged and older people.[14] Writing in the International Journal of Environmental Research and Public Health, researchers explained:[15]

> *"Tai Chi exercise can improve the adaptability of the vascular function of the middle-aged and elderly people, and enhance athletic ability. Therefore, long-term Tai Chi exercise cannot only improve the elasticity of the blood vessel wall*

of the elderly, but also improve the exercise function of the elderly and prevent hypertension.

The connection of all the movements of traditional Wu style Tai Chi is created according to the rhythm of reverse abdominal breathing. The rhythm of breathing is matched with gentle movements. The reverse abdominal breathing can provide more return heart blood volume and stroke volume. This helps circulatory metabolism."

Separate research involving 208 young and middle-aged people similarly found that doing tai chi for three months led to lower blood pressure, heart rate and cholesterol after the first month.[16] After three months, they also had improved weight, blood sugar, heart health and quality of life.

Among older adults, tai chi also helped lower blood pressure and body mass index, while also helping to keep the kidneys functioning normally.[17] Among people 60 and older with symptoms of depression, tai chi also worked better than aerobic exercise for improving blood pressure, as well as HbA1c level, a measure of blood sugar levels over the last three months.[18]

Tai Chi Is 'Meditation in Motion'

Tai chi, which is often referred to as "meditation in motion," involves movements in which your muscles are relaxed,[19] your breathing is slow and deep, and your mind is focused on the present moment. These meditation-like benefits may help explain why tai chi is so effective at supporting healthy blood pressure levels.

In fact, mind-body practices that trigger your body's relaxation response, such as meditation, play an important role in lowering blood pressure by favorably influencing a recently identified set of genes and biological pathways.[20] One of the ways that meditation and tai chi work to calm the body and mind is by triggering the relaxation response,[21] which the opposite of the fight-or-flight response that occurs due to stress.

By focusing on a word, phrase or repetitive prayer, and disregarding everyday thoughts, the relaxation response is said to be activated,[22] a process that's similar to what occurs during mindfulness meditation, transcendental meditation and other meditative practices.

Once the relaxation response is elicited, biochemical changes are known to occur, including decreased oxygen consumption, blood pressure, heart and respiratory rate, and alterations in cortical and subcortical brain regions.[23] According to a paper published in Clinical Interventions in Aging:[24]

> *"Tai Chi is one of the few exercises that initiate a relaxation response within the body. Most of the other exercises, especially those geared toward competition or reaching certain standards, emphasize exertion and strength, and induce stress response. In Tai Chi, every body part is relaxed.*
>
> *It tones the muscle, relieves tension in various body parts, encourages the flow of Qi within the body, and achieves an overall balanced health status. It does not push one into oxygen debt as most other exercises do because Tai Chi does not cause a sudden increase in body oxygen demand."*

What Else Is Tai Chi Good For?

Tai chi has demonstrated benefits on brain health and may improve cognitive function and alleviate symptoms of mild cognitive impairment in older adults. Along with activating the expression of signals in different brain regions and altering their connectivity, tai chi may increase brain volume and modulate brain-derived neurotropic and inflammation factors, according to research published in Frontiers in Aging Neuroscience.[25]

Further, despite its low intensity, tai chi has been found to benefit a range of diseases beyond high blood pressure, including:[26]

Cognitive capacity in older adults	Dementia	Depression
Insomnia[27]	Osteoarthritis	Chronic obstructive pulmonary disease
Cardiac and stroke rehabilitation	Fall prevention	

Tai chi's potential to improve muscle strength, balance and flexibility, along with cognitive problems, may also be particularly useful for people with Parkinson's disease. In one study, people with Parkinson's who engaged in tai chi had slower disease progression and reduced need for medications.

While 83.5% of those not doing tai chi needed to increase their medication in 2019 — and over 96% did in 2020 — this was lower in the tai chi group, with only 71% and 87.5% increasing their medication in 2019 and 2020, respectively.[28] Parkinson's symptoms were also significantly lower in the tai chi group, while improvements in gait, imbalance, sleep and cognition were also noted.[29]

Isometric Exercises Are Also Beneficial for Blood Pressure

Varying your exercise routine is important, and there are a variety of options for better blood pressure health. When it comes to exercise recommendations to lower blood pressure, cardio aerobic-type exercises typically come to mind. But, according to researchers from Canterbury Christ Church University, this is outdated advice based on older study data that excludes high-intensity interval training (HIIT) and isometric exercise.[30]

In fact, a systematic review and meta-analysis of 270 randomized controlled trials looked at the effects of multiple types of exercise, including aerobics, HIIT, resistance training and combined training, on blood pressure.

While all were beneficial, isometric exercise came out on top as "the most effective mode in reducing both systolic and diastolic blood pressure."[31] It turns out that static contraction of muscle as you hold your body in one position, i.e., isometric exercise, may offer blood pressure benefits that some other types of more dynamic movement don't.

Broken down to individual exercises, wall squats were the most effective for reducing systolic blood pressure. Put simply, isometric exercises are low-impact movements that involve holding a position so the same muscle length is maintained, tiring out your muscles to fatigue.[32] Static contraction defines isometric exercise, examples of which include:[33]

Wall squat	Isometric calf raise	Planking
Hollow-body hold	Low isometric squat	Static slide lunge
Overhead hold	Iso hang	Glute bridge
Incline pushup hold	V-sit	Single-leg stand

By combining tai chi, isometric exercises and other **comprehensive lifestyle changes**, you can often improve your blood pressure health naturally.

Sources and References

- [1] Evid Based Complement Alternat Med. 2021; 2021: 6637612., Intro
- [2] Evid Based Complement Alternat Med. 2021; 2021: 5558805
- [3] U.S. CDC, Facts About Hypertension
- [4] The Journal of Alternative and Complementary Medicine Vol. 24, No. 5
- [5] The Journal of Alternative and Complementary Medicine Vol. 24, No. 5, Intro
- [6, 9] JAMA Netw Open. 2024;7(2):e2354937. doi: 10.1001/jamanetworkopen.2023.54937
- [7, 8] Study Finds February 9, 2024
- [10] NPR February 14, 2024
- [11] Int J Nurs Stud. 2018 Dec:88:44-52. doi: 10.1016/j.ijnurstu.2018.08.009. Epub 2018 Aug 24
- [12] Prushataichi, The 5 Family Styles of Tai Chi
- [13] Evid Based Complement Alternat Med. 2021; 2021: 5558805, Circulatory System Diseases
- [14, 15] Int J Environ Res Public Health. 2021 May; 18(10): 5480

- [16] J Altern Complement Med. 2019 Jan;25(1):73-78. doi: 10.1089/acm.2018.0011. Epub 2018 Aug 23
- [17] Am J Cardiol. 2015 Oct 1;116(7):1076-81. doi: 10.1016/j.amjcard.2015.07.012. Epub 2015 Jul 16
- [18] BMC Geriatr. 2022; 22: 401
- [19] Harvard Health Publishing May 24, 2022
- [20] Science Daily April 4, 2018
- [21] PLoS One. 2013 May 1;8(5):e62817. doi: 10.1371/journal.pone.0062817. Print 2013
- [22, 23] PLOS One May 1, 2013
- [24] Clin Interv Aging. 2023; 18: 1949–1959., Induces Relaxation in the Body
- [25] Front. Aging Neurosci., 06 January 2023
- [26] Can Fam Physician. 2016 Nov; 62(11): 881–890., Main message
- [27] JAMA Netw Open. 2021 Feb 1;4(2):e2037199. doi: 10.1001/jamanetworkopen.2020.37199
- [28, 29] SciTechDaily October 25, 2023
- [30] Canterbury Christ Church University July 26, 2023
- [31] British Journal of Sports Medicine 2023;57:1317-1326
- [32] Cleveland Clinic September 14, 2023
- [33] Vertimax 20 Isometric Exercises