SELECTED RESEARCH ON THE BENEFITS OF TAI CHI
A MARTIAL ARTS AND MOVING FORM OF QIGONG

From: *Taijiquan - The Art of Nurturing, The Science of Power*. Yang Yang. Zhenwu Publications. Champaign, Illinois. 2005. Contact: zhenwu@chentaiji.com.

Note: Full references are listed at the end of the table.

Author	**Category / Design** ***Subjects***	**Results**
Van Deusen & Harlowe, 1987	Orthopedic disease (rheumatoid arthritis) / RTC *Rheumatoid arthritis patients- Taiji: 17 Control: 16*	Taiji has positive effects on the range of motion of the upper extremities.
Jin, 1989	Psychological & Physiological / RTC *Healthy- Beginners: 33 Practitioners: 33*	Taiji practice has positive effects as moderate exercise in selected psychological and physiological measures.
Kirsteins et al., 1991	Orthopedic disease (rheumatoid arthritis) / CS *Two Taiji groups: 20, 20 Two control groups: 11, 9*	"Taiji appears safe to RA patients and may serve as an alternative for their exercise therapy and part of their rehabilitation program."
Tse & Bailey, 1992	Postural control / CSS *Healthy community dwelling elderly- Taiji: 9 Non-Taiji: 9*	Taiji has positive effects on postural control.
Lai et al., 1993	Cardio-respiratory function / CCS *Healthy community dwelling middle aged adults- Taiji: 41 Control: 49*	"Taiji may be beneficial to the cardio-respiratory function of older individuals."
Lai et al., 1995	Cardio-respiratory function / COH *Healthy community dwelling older adults- Taiji: 45 Control: 39*	Taiji practice may delay the decline of cardio-respiratory function of older adults.

Lan et al., 1996	Cardio-respiratory function / CCS *Healthy community dwelling older adults-* *Taiji: 41* *Control: 35*	"Taiji practitioners have higher peak oxygen uptake and higher oxygen uptake at the ventilatory threshold. Taiji can be prescribed as a conditioning exercise for older adults."
Schaller 1996	Cardio-respiratory function and balance / NRCT *Community dwelling elders-* *Taiji: 24* *Control: 22*	Taiji practice improved balance but not systolic and diastolic blood pressure. Taiji might help community dwelling elders improve their balance.
Wolf et al., 1996	Cardio-respiratory function and fall prevention Prospective / RCT *Community dwelling elderly adults-* *Taiji: 72* *Balance: 64* *Education: 64*	Taiji training reduced the rate of falls and fear of falling, and lowered blood pressure.
Wolfson et al., 1996	Fall prevention / RCT *Healthy community dwelling older adults-* *Balance: 28* *Strength: 28* *Balance + Strength: 27* *Control: 27*	Taiji training has the effect of maintaining the significant balance and strength gains obtained in strength and balance training.
Jacobson et al., 1997	Balance training / RCT *Healthy volunteers with mean age of 45-* *Taiji: 12* *Control: 12*	Taiji training improved lateral body stability and the strength of the dominant knee extensor significantly. Taiji may be a low stress method for lateral stability and the strength of knee extensor.
Kutner et al., 1997	Psychological effect / RCT *Community dwelling elderly adults-* *Taiji: 72* *Balance: 64* *Education: 64*	Both TC and BT increased participants' confidence in balance and movement, but only TC affected participants' daily activities and their overall life.
Lan et al., 1998	Health fitness / NRCT *Community dwelling elderly adults-* *Taiji: 20* *Control: 18*	TC group significantly improved VO2max, flexibility, and strength of knee extensor and flexor. A 12-month Taiji program appears effective to improve older adults' fitness.

Yan, J. H., 1998	Postural control / Motor control NRCT *Older adults at nursing home-* *Taiji: 28* *Walking: 10*	Taiji practice may improve older adults' dynamic balance and smoothness of arm movement.
Hain et al., 1999	Postural control / NCT *22 persons with mild balance disorders*	Taiji training significantly improved balance.
Husted et al., 1999	Psychosocial and physical effects / NCT *19 patients with multiple sclerosis*	An 8-week Taiji training increased participants' walking speed by 21% and hamstring flexibility by 28%. Patients also improved in vitality, social functioning, mental health, and ability to carry out physical and emotional roles.
Lan et al., 1999	Cardio-respiratory function / NRCT *Low-risk patients with coronary artery bypass surgery-* *Taiji: 9* *Control: 11*	Taiji training increased VO2 peak and peak work rate. Taiji also increased ventilatory threshold VO2 and work rate. Taiji practice can favorably enhance cardio-respiratory function for low risk patients with coronary artery bypass surgery.
Yan, J.H. 1999	Motor control / NRCT *Older adults (mean age 79 yrs.)-* *Taiji: 12* *Walking/jogging: 8*	Taiji practice reduced the force variability in arm movement.
Hong et al., 2000	Balance control, flexibility, and cardio-respiratory function / CSS *Healthy male adults-* *Taiji: 28 (mean age 67 yrs.)* *Control (sedentary): 30 (mean age 66 yrs.)*	Taiji practice may have favorable effects on older adults' balance, flexibility, and cardio-respiratory fitness.
Lan et al., 2000	Strength and endurance (knee extensor) / NCT *Healthy community dwelling elderly adults-- 41 (mean age 61 yrs.)*	A 6-month Taiji program increased participants' concentric and eccentric knee extensor peak torque and knee extensor endurance ratio. Taiji training may improve muscular strength and endurance of knee extensors in elderly individuals.
Lin et al., 2000	Postural control/balance / CSS *Healthy community dwelling elderly adults-* *Taiji: 14 (mean age 71 yrs.)* *Control (active): 14 (mean age 79 yrs.)*	Regular Taiji practice might lead to better postural control, especially in the more complicated conditions with disturbed visual and somato-sensory information.

Lan et al., 2001	Cardio-respiratory function-measurements of heart rate and % of VO2 peak during Taiji practice / CS *15 healthy community dwelling middle- aged men (mean age 40 yrs.)*	Taiji is an aerobic exercise with moderate intensity.
Li et al., 2001	Self-efficacy and self perceived physical function / RCT *98 low-active healthy elderly participants-* *(mean age 73 yrs.)* *Taiji: 49* *Control: 45*	Taiji training has positive effects on both self-efficacy and self perceived physical function.
Wang et al., 2001	Microcirculatory function (cardio-respiratory function) / CCS *Healthy community dwelling elderly males-* *Taiji: 10 (mean age 70 yrs.)* *Control: 10 (mean age 67 yrs.)*	Compared to their sedentary counterparts, Taiji practitioners had higher cutaneous microcirculatory function during exercise.
Christou et al., 2003	Strength and force control / NRCT *Healthy community dwelling older adults-* *Taiji group: 16 (mean age 71 yrs.)* *Control group: 10 (mean age 74 yrs)*	A 20 week Taiji program is effective in improving knee extensor strength and force control in older adults.
Irwin et al., 2003	Immunity --varicella-zoster virus (VZV) specific cell-mediated immunity (CMI) / RCT *36 older adults (age ≥ 60 yrs.) with impairments of health status and are at risk for shingles-* *Taiji group: 18* *Wait group: 18*	A 15 week Taiji training boosts shingles immunity significantly (an increase in VZV-specific CMI).

Rosengren et al., 2003	Taiji movement quantification / NCT *16 healthy community dwelling older adults (mean age 71 yrs)*	Intervention programs that use Taiji should be at least 4 months long for individuals to achieve a moderate level of Taiji skill.
Song et al., 2003	Musculoskeletal disorder-Osteoarthritis (OA) / RCT *43 older women with OA-* *Taiji group: 22* *Control group: 21*	A 12 week Taiji program is effective in improving OA patients' arthritic symptoms, balance, and physical functioning.
Taggart et al., 2003	Musculoskeltal disorder-Fibromyalgia (FM) / NCT *21 patients with FM completed a 6 week Taiji program*	Taiji is potentially beneficial to patients with FM.
Chan et al., 2004	Bone mineral density / RCT *132 healthy postmenopausal women (mean age 54 yrs.) were randomized assigned to two groups:* *Taiji group: 67* *Control group: 65*	A 12 month Taiji program is beneficial for slowing bone loss in weight-bearing bones in early postmenopausal women.
Han et al., 2004	Orthopedic disease (rheumatoid arthritis) / R *Rheumatoid arthritis patients*	Taiji does not aggravate symptoms of RA. Taiji is effective in improving lower extremity range of motion, in particular ankle range of motion, for RA patients.
Lan et al., 2004	Intensity evaluation / ES *100 community dwelling Taiji practitioners aged 25-80 were divided into three groups:* *Young: 25-44 yrs.* *Middle-aged: 45-64 yrs.* *Elderly: 65-80 yrs.*	"Taiji is exercise with moderate intensity. It is an aerobic exercise and suitable for participants of different ages and gender to improve their functional capacity."

Li et al., 2004	Sleep disorder / RCT *118 Community dwelling older adults with moderate sleep complaints-* *Taiji group: 62* *Low-impact exercise group: 56*	A 6 month Taiji program has positive effect on self-rated sleep quality of older adults with moderate sleep complaints.
Wu et al., 2004	Taiji movement quantification (Taiji gait) / ES *10 Taiji practitioners with mean age of 27 yrs.*	The biomechanical characteristics of Taiji gait can be quantified. The quantification of Taiji movement will enhance our understanding of its effects on balance, strength, flexibility, and health.

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