

Tai Chi Exercise Reduces Knee Osteoarthritis Pain In The Elderly, Research Shows

ScienceDaily (Nov. 1, 2009) — Researchers from Tufts University School of Medicine have determined that patients over 65 years of age with knee osteoarthritis (OA) who engage in regular Tai Chi exercise improve physical function and experience less pain. Tai Chi (Chuan) is a traditional style of Chinese martial arts that features slow, rhythmic movements to induce mental relaxation and enhance balance, strength, flexibility, and self-efficacy.

Full findings of the study are published in the November issue of *Arthritis Care & Research*, a journal of the American College of Rheumatology.

The elderly population is at most risk for developing knee OA, which results in pain, functional limitations or disabilities and a reduced quality of life. According to the Centers for Disease Control and Prevention (CDC) there are 4.3 million U.S. adults over age 60 diagnosed with knee OA, a common form of arthritis that causes wearing of joint cartilage. A recent CDC report further explains that half of American adults may develop symptoms of OA in at least one knee by age 85.

For this study, Chenchen Wang, M.D., [M.Sc.](#), and colleagues recruited 40 patients from the greater Boston area with confirmed knee OA who were in otherwise good health. The mean age of participants was 65 years with a mean body mass index of 30.0 kg/m². Patients were randomly selected and 20 were asked to participate in 60-minute Yang style Tai Chi sessions twice weekly for



Three seniors doing Tai Chi on the beach. (Credit: iStockphoto/Anne Clark)

12 weeks. Each session included: a 10-minute self-massage and a review of Tai Chi principles; 30 minutes of Tai Chi movement; 10 minutes of breathing technique; and 10 minutes of relaxation.

"Tai Chi is a mind-body approach that appears to be an applicable treatment for older adults with knee OA," said Dr. Wang. Physical components of Tai Chi are consistent with current exercise recommendations for OA, which include range of motion, flexibility, muscle conditioning, and aerobic work out. Researchers believe the mental feature of Tai Chi addresses negative effects of chronic pain by promoting psychological wellbeing, life satisfaction, and perceptions of health.

The remaining 20 participants assigned to the control group attended two 60-minute class sessions per week for 12 weeks. Each control session included 40 minutes of instruction covering OA as a disease, diet and nutrition, therapies to treat OA, or physical and mental health education. The final 20 minutes consisted of stretching exercises involving the upper body, trunk, and lower body, with each stretch being held for 10-15 seconds.

At the end of the 12-week period, patients practicing Tai Chi exhibited a significant decrease in knee pain compared with those in the control group. Using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain scale, researchers noted a -118.80 reduction in pain from baseline between the Tai Chi and control group. Researchers also observed improved physical function, self-efficacy, depression, and health status for knee OA in subjects in the Tai Chi group. "Our observations emphasize a need to further evaluate the biologic mechanisms and approaches of Tai Chi to extend its benefits to a broader population," concluded Dr. Wang.

Editor's Note: *This article is not intended to provide medical advice, diagnosis or treatment.*

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Journal Reference:

1. Chenchen Wang, Christopher H. Schmid, Patricia L. Hibberd, Robert Kalish, Ronenn Roubenoff, Ramel Rones, and Timothy McAlindon. **Tai Chi Is Effective in Treating Knee Osteoarthritis: A Randomized Controlled Trial.** *Osteoarthritis and Cartilage*, 2008; 16S32 DOI: [10.1016/S1063-4584\(08\)60092-8](https://doi.org/10.1016/S1063-4584(08)60092-8)

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