Tai Chi Improves Strength, Reduces Incidence of Falls in Seniors

According to the National Center for Injury Prevention and Control, falls are the leading cause of injury deaths and the most common cause of nonfatal injuries and hospital admission for trauma among adults age 65 and older. In 2003, more than 1.8 million seniors were treated in emergency departments for fall-related injuries. Falls can also cause a significant financial burden on the elderly; in 2000, direct medical costs totaled $179 million for fatal fall injuries, and another $19 billion for nonfatal fall injuries.

In this experimental study, scientists investigated the effectiveness of *tai chi*, an ancient Chinese martial art that helps improve balance and flexibility, in helping reduce the incidence of falls in the elderly. A total of 68 adults (average age 77.8), all of whom were prone to falls, participated in the study. One group of patients participated in a 12-week *tai chi* program, consisting of three weekly sessions of Sun-style *tai chi*. The other group of patients served as controls and did not participate in the exercise program.

Results: Patients who participated in the *tai chi* program demonstrated "significantly improved muscle strength in knee and ankle flexors and extensors, and improved flexibility and mobility compared with the control group." *Tai chi* patients were also less likely to experience a fall than the control patients. Thirty-one percent of the *tai chi* patients experienced a fall during the study, while 50 percent of the control patients suffered a fall during the same time.

"*Tai chi* exercise is recognized as a low-intensity exercise that can be safely and easily applied to older adults to prevent falls in the long-term," the scientists concluded. They added, "The findings reveal that *tai chi* exercise programs can safely improve physical strength and reduce fall risk for fall-prone adults in residential care facilities."

From: Effects of Sun-style tai chi exercise on physical fitness and fall prevention in fall-prone older adults. *Journal of Advanced Nursing* July 2005;51(2):150-157.