

## Stroke Survivors Improve Balance With Tai Chi

ScienceDaily (Mar. 24, 2009) — Stroke can impair balance, heightening the risk of a debilitating fall. But a University of Illinois at Chicago researcher has found that stroke survivors can improve their balance by practicing the Chinese martial art of tai chi.

Christina Hui-Chan, professor and head of physical therapy at UIC, has studied and used tai chi as a way to improve balance and minimize falls among healthy elderly subjects. Now she and a colleague have seen similar results in a group of stroke survivors.

The study used 136 subjects in Hong Kong who had suffered a stroke more than six months earlier. Participants were randomly assigned to a tai chi group or a control group that practiced breathing, stretching and other exercises that involved sitting, walking, memorizing and reasoning.

Tai chi consists of constant coordinated movement of the head, trunk and limbs requiring tremendous concentration and balance control. Participants learned a simplified form that had been shown to be beneficial to arthritis patients.

Patients were trained in small groups by physical therapists in a weekly class, then practiced at home three days a week for one hour. They received 12 weeks of training but were able to learn the technique in as little as eight. The goal was to make the patients as independent in their treatment as possible, Hui-Chan said.

They were then tested for their ability to maintain balance while shifting weight, leaning in different directions, and standing on moving surfaces to simulate a crowded bus. In these tests the tai chi group out-performed the control exercise group. The two groups performed about the same on another test, which was not focused solely on balance but involved sitting, standing, walking, and returning to sit down.

"The tai chi group did particularly better in conditions that required them to use their balance control," Hui-Chan said. "In only six weeks, we saw

significant improvements. The ability to shift your weight is very important because all reaching tasks require it."

While learning tai chi is not easy, Hui-Chan has found that most people can learn the art if taught by a trained instructor. Many Chinese practice tai chi in morning group exercises, and Hui-Chan thinks the experience can work for Americans and other western nationalities.

"It can be taught at community centers, YWCAs or YMCAs, or in parks in the summer," she said.

Hui-Chan said that benefits of tai chi include improved strength and cardio fitness. Group classes also provide a healthy social gathering for isolated seniors at a fraction the cost of physiotherapy or personal training.

Hui-Chan conducted the research with former doctoral student Stephanie Au-Yeung while at The Hong Kong Polytechnic University. The findings, now accessible online, will appear in a forthcoming issue of the journal *Neurorehabilitation and Neural Repair*.

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

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