

Tai Chi wheelchair brings mobility, self-esteem, better health to practitioners

April 17 2012

An innovative 13-postures Tai Chi designed for wheelchair users is described in the current issue of *Technology and Innovation- Proceedings of the National Academy of Inventors*.

The innovation has brought the traditional Chinese martial and healing arts to people with ambulatory impairment, thanks to the technology and program developed by Zibin Guo, PhD, of the University of Tennessee Chattanooga.

"Too often, social and cultural barriers discourage people with physical disabilities from participating in fitness activities," said Zibin Guo, PhD, who collaborated with the China Disabled People's Federation and the 2008 Beijing Paralympics Committee to introduce the Tai Chi Wheelchair at the 2008 Beijing Olympics/Paralympics Cultural Festival. "Wheelchair Tai Chi can be practiced seated for those needing simple, low-impact, upper-body exercise by integrating wheelchair motion with the gentle, dynamic flowing movements of Tai Chi. It lifts the spirit and give practitioners a sense of command of space."

The 13 Posture Wheelchair Tai Chi incorporates 13 of the 24 Tai Chi movements and, according to Dr. Guo, the 13 Postures of Wheelchair Tai Chi transforms the wheelchair from an assistive device to a tool of empowerment and artistic expression.

A demonstration event from the 2008 Beijing Olympics/Paralympics Cultural Festive can be seen here:

Tai Chi (Taijiquan) has been part of Chinese traditional medicine for thousands of years, but has not been an accessible form of martial arts, therapy or exercise for those with disabilities. Dr. Guo estimates that 83 million people in China are living with disabilities, particularly those disabilities that limit mobility. Most of the 83 million live in rural China where "social and economic development lags behind urban areas," he said.

He also cites a National [Health Interview Survey](#) that suggests that about 73 percent of people in the U.S. with disabilities have no or infrequent physical activity.

"Studies conducted in China and elsewhere suggest that these individuals, and especially wheelchair users, have significantly lower self-esteem and are more vulnerable to depression," explained Dr. Guo. "The rationale behind developing Wheelchair Tai Chi as a fitness and recreational alternative for people with ambulatory impairment was first based on the documented benefits of Tai Chi in terms of health, accessibility, low cost and acceptance in the popular culture. Second, it was based on the perceived benefits for health and fitness that a modified Tai Chi could have for people with ambulatory impairment."

Wheelchair Tai Chi movements allow a wide range of lower back and hip movements, said Dr. Guo. Also, the movements help promote upper body mobility and internal circulation. Vertical and horizontal circles improve and stimulate the rotation and range of motion for the torso, waist, back, shoulders, arms and wrists.

"The slow, guided muscle movement has a way of helping to reinforce the muscle patterns that may not have been present before," said Dr. Glen F. Haban, a neuropsychologist at Siskin Hospital for Rehabilitation in Chattanooga when commenting on early clinical studies related to [Wheelchair](#) Tai Chi.

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Provided by University of South Florida (USF Health)

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