

Older Adult  
Falls

**Tai Ji Quan: Moving for Better Balance®**

**Michigan  
Statistics**

In 2013, there were 838 fatal falls among older adults (aged 65 or older) in MI, a rate of 56.33 per 100,000 compared to the U.S. (56.96) and Midwest (68.16).<sup>1</sup>



From 1999 to 2013, the rate of fatal falls among older adults in MI more than doubled, from 23.6 deaths per 100,000 to 56.3 deaths, an increase of 138.6%.<sup>1</sup>



TJQMBB Website  
<http://tjqmbb.org/>

Find more prevention programs—Visit our Tools & Programs database:

[www.injurycenter.umich.edu/programs](http://www.injurycenter.umich.edu/programs)

**Data Sources:**

- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System.

[www.injurycenter.umich.edu](http://www.injurycenter.umich.edu)

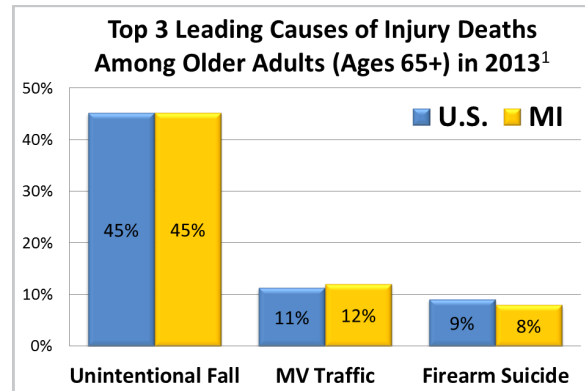
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**What Is the Problem?**

*United States statistics:*

- Falls are the leading cause of both fatal and nonfatal injuries among older adults aged 65 or older.<sup>1</sup>
- In 2013, nearly 2.5 million older adults were treated in emergency departments for nonfatal fall-related injuries and more than 734,000 of them were hospitalized.<sup>1</sup>
- In 2010, the estimated total lifetime costs for unintentional fatal and nonfatal falls among older adults totaled over \$37 billion.<sup>1</sup>



**What Is One Solution?**

Tai Ji Quan: Moving for Better Balance® (TJQMBB) is an evidence-based falls prevention program designed for community-dwelling older adults and individuals with physical limitations. The program consists of motor, sensory, and cognitive components to improve balance, gait, and mobility, enhancing performance of daily functional tasks and reducing the incidence of falls among older adults.<sup>a</sup>

**Program Components**

The program’s innovative approach combines traditional and contemporary Tai Ji Quan practice and is designed to improve skills directly applicable to daily functional activities (e.g., reaching, walking, stepping). It consists of a main routine of eight movements and a subroutine of Mini Therapeutic Movements®.<sup>a</sup>

**Evaluation** *(Program formerly called Tai Chi: Moving for Better Balance)*

A randomized controlled trial was conducted with a sample of community-dwelling older adults aged 70 or older in Portland, Oregon. Participants were randomized into: 1) an intervention group attending Tai Chi classes, or 2) a control group attending stretching classes. Both groups participated in a one-hour class, three times a week for six months.<sup>b</sup>

**Evidence of Effectiveness**

- At the end of the intervention and six-month post-intervention follow-up:
  - The Tai Chi group reported significantly fewer falls, a lower proportion of falls, and fewer injurious falls than the control group.<sup>b</sup>
  - The Tai Chi group demonstrated significant improvements in functional balance, physical performance, and reduced fear of falling compared to the control group.<sup>b</sup>
- The estimated average cost of this program is \$104.02 per participant, with a net benefit of \$529.86 and a return of 509% per each dollar invested.<sup>c</sup>

**Publications**

- Li F. Transforming traditional Tai Ji Quan techniques into integrative movement therapy—Tai Ji Quan: Moving for better balance. *Journal of sport and Health science*. 2014;3(1):9-15.
- Li F, Harmer P, Fisher KJ, et al. Tai Chi and fall reductions in older adults: A randomized controlled trial. *J Gerontol A Biol Sci Med Sci*. 2005;60(2):187-194.
- Carande-Kulis V, Stevens JA, Florence CS, Beattie BL, Arias I. A cost–benefit analysis of three older adult fall prevention interventions. *J Saf Res*. 2015;52:65-70.