

## Falls

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# IMPACT OF TAI CHI ON IMPAIRMENT, FUNCTIONAL LIMITATION, AND DISABILITY AMONG PRECLINICALLY DISABLED OLDER PEOPLE: A RANDOMIZED CONTROLLED TRIAL

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**Background** Integration of falls prevention with promotion of independence for older people will enhance uptake of effective programs.

**Objective** To test the effect of tai-chi on both progression of disability and falls prevention in the elderly.

**Methods** Multi-site parallel group individually randomised controlled trial. Participants were pre-clinically disabled community-dwelling people 70+ yrs (n=503), without major medical conditions or moderate to severe cognitive impairment. Intervention was modified Sun style tai-chi compared with seated flexibility exercise, both programs delivered in groups for 60 minutes twice weekly for 24 weeks. Disability was measured with the Late Life Function and Disability Instrument (LLFDI). Falls were reported using a monthly post-card calendar system.

**Results** There was little effect on disability or falls outcomes. The largest disability difference was in the Disability Limitation Score: mean change was -0.1 and -0.04 points for intervention and control groups respectively (adjusted difference -0.6 95% CI -2.31 to 1.11). Multiple imputation of missing data did not change the result. Falls per 100 person years were 57.7 and 59.6 for intervention and control groups respectively (rate ratio 0.96, 95% CI 0.67 to 1.41). A higher proportion of intervention participants ceased attending the exercise program (difference=17.9%, 95% CI 9.6 to 25.8).

**Significance** Modified Sun style tai-chi did not impact on disability or falls in pre-clinically disabled older people when delivered for 24 weeks. Withdrawal from the exercise classes was high but did not explain the null result. It is not clear whether improved compliance or a longer or more intensive program would have achieved a better result.