



NIH PRAGMATIC TRIALS COLLABORATORY

Rethinking Clinical Trials®

Remote Tai Chi for Knee Osteoarthritis: An Embedded Pragmatic Trial (TAICHIKNEE)

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Sponsoring Institution

Tufts Medicine/Tufts Medical Center

Collaborators

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- UCLA Health
- Cleveland Clinic Ohio
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[National Center for Complementary and Integrative Health \(NCCIH\)](#)

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ABSTRACT

Symptomatic knee osteoarthritis affects more than 33 million people in the United States and is a leading cause of disability and growing medical costs. There is a critical shortage of treatment options for people with knee osteoarthritis, especially because comorbid conditions that complicate treatment selection are highly prevalent in this older adult population. Tai chi, a multidimensional practice that integrates physical, psychosocial, and behavioral components, provides clinically significant improvements in chronic knee osteoarthritis pain. American College of Rheumatology clinical practice guidelines strongly recommend tai chi as an intervention for knee osteoarthritis. Moreover, studies conducted during the COVID-19 public health emergency suggest that remotely delivered tai chi is a promising and scalable strategy for knee osteoarthritis pain. However, critical gaps remain regarding the real-world effectiveness of remotely delivered tai chi for knee osteoarthritis and its implementation across multiple healthcare systems. TAICHIKNEE is an embedded, pragmatic, randomized trial comparing the effects of a 3-month, twice-weekly, remotely delivered, web-based tai chi intervention vs routine care across 4 healthcare systems in 4 geographic regions. The trial will enroll 480 patients who have a clinical diagnosis of knee osteoarthritis. Participants will be evaluated at baseline and 3 months, with additional follow-up at 6 and 12 months. The researchers hypothesize that implementation of remotely delivered tai chi is feasible across the 4 healthcare systems and that tai chi, compared with routine care, will improve physical health (including knee pain and function), mental health, and healthcare utilization. TAICHIKNEE is the first rigorous multisite, embedded, pragmatic trial of a remotely delivered tai chi mind-body program in multiple healthcare systems using web-based technology and designed to improve patient-centered outcomes of knee osteoarthritis. The results of the trial will inform widespread adoption of mind-body approaches for knee osteoarthritis across healthcare systems and lay the groundwork for future trials comparing the effectiveness of different implementation strategies.

WHAT WE'VE LEARNED SO FAR

Challenge	Solution
Although tai chi is a well-known term among many clinicians and patients, there is relatively little experience in practicing or recommending tai chi.	The study team incorporated videos and common-sense language about tai chi in recruitment materials for patients, as well as similar information for clinicians.
Setting up centralized IRB review for interviews at multiple sites during the planning phase	Discussions with the Coordinating Center and the program officer led to a decision that each site would have its own IRB rather than centralized IRB during UG3 planning phase activities
For interviews and engagement activities in the planning phase, the study team tracked participant sociodemographic characteristics and aimed to have a diverse sample in terms of age, sex, race, ethnicity, and prior experience with knee pain and tai chi practice.	The study monitored sociodemographic characteristics after conducting half of the interviews and then targeted recruitment to improve diversity in the sample. There will be similar monitoring of recruitment during trial implementation, as well as attention to other issues that relate to health equity, including knee osteoarthritis in non-English-speaking populations and those who have limited access to the internet or devices.

“An impact we hope to see from our trial is that tai chi moves into healthcare systems. Tai chi is usually available in the community and in-person, group-based classes, and we’re moving it into the healthcare system and making it remote or video-based. We hope that makes it easier for healthcare systems to deliver it as an intervention.” — Dr. Eric Roseen

“A key recommendation for investigators is to adopt comprehensive outcome measures. For this study, we want to see if tai chi can impact knee function and pain specifically, as well as improve patients’ overall health. We are also including a pain interference measure to evaluate impacts on physical, emotional, and quality-of-life outcomes, as well as socioeconomic factors.” — Dr. Chenchen Wang

SELECTED PUBLICATIONS & PRESENTATIONS

- Presentation: [NIH Pragmatic Trials Collaboratory Onboarding Meeting \(2023\)](#)
- Video Interview: [Update on the TAICHIKNEE Trial \(2024\)](#)

[See the complete set of TAICHIKNEE resources.](#)