

Treatment effects of physiotherapy approaches in management of chronic ankle instability



Implication for clinical practice: network meta analysis of randomised controlled trials

Effective chronic ankle instability (CAI) rehabilitation necessitates personalized interventions, considering patient factors and longer training durations. Combining balance, strength, and manual therapy yields the best improvements in function and pain for CAI patients. Utilizing objective assessments to monitor progress and ensuring adherence to structured programs, potentially incorporating Tai Chi for long-term benefits, are crucial for optimal outcomes.

Context

To evaluate and compare the effectiveness of various nonsurgical physiotherapy interventions for managing chronic ankle instability (CAI). To determine which interventions yield the best outcomes in terms of function, balance, range of motion (ROM), instability, and pain relief.

Methods

44 randomised controlled trials involving active individuals with CAI. SUCRA (Surface Under the Cumulative Ranking Curve) was used to determine best interventions.

Interventions assessed:

- Balance, strengthening, stretching, multimodal therapy (MMEs)
- Manual therapy, dry needling, tai chi
- Combinations of the above (e.g., manual + balance + strengthening)

Outcomes measured:

- Function: Foot and Ankle Ability Measure (FAAM - ADL & Sport)
- Instability: Cumberland Ankle Instability Tool (CAIT)
- Balance: Star Excursion Balance Test (SEBT)
- ROM: Dorsiflexion ROM (DFROM)
- Pain: Visual Analogue Scale (VAS)

Results

- Manual therapy with balance and strengthening scored highest across all SEBT directions. This had the best functional improvements and showed moderate improvements in DFROM when combined with multimodal therapies
- Tai chi had the highest ranking for improving joint stability.
- Highest benefit in pain reduction was seen with manual therapy along with balance and strengthening.

Reference

[Yang, Yi-Shiuan et al. "What Will Deliver the Best Bang-For-Your-Treatment-Buck? Treatment Effects of Physical Therapy Approaches to Managing Chronic Ankle Instability: A Network Meta-Analysis of Randomized Controlled Trials." The Journal of orthopaedic and sports physical therapy vol. 55,1 \(2025\): 26-44. doi:10.2519/jospt.2024.12601](#)