

Short-term Effects of Neurodynamic Techniques for Treating Carpal Tunnel Syndrome: A Systematic Review with Meta-analysis

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Abstract

U OBJECTIVES: We aimed (1) to estimate the short-term effect (postintervention period) of neurodynamic techniques on pain, symptom severity, functional status, electrophysiological status, grip strength, and pinch strength in people with carpal tunnel syndrome (CTS); and (2) to estimate the effect of neurodynamic techniques compared to other physical therapy modalities and surgical interventions. **U DESIGN:** Intervention systematic review with meta-analysis. **U LITERATURE SEARCH:** We searched the MEDLINE, Cochrane Database of Systematic Reviews, Web of Science, Physiotherapy Evidence Database, and Scopus databases from their inception to September 2020. **U STUDY SELECTION CRITERIA:** We included randomized controlled trials reporting the effect of neurodynamic techniques on pain, symptom severity, function, distal motor latency, grip strength, and pinch strength in people with CTS. **U DATA SYNTHESIS:** Using the DerSimonian-Laird method, we estimated pooled standardized mean differences (SMDs) and 95% confidence intervals (CIs). We used the Grading of Recommendations Assessment, Development and Evaluation approach to judge the certainty of the evidence of each pairwise comparison. **U RESULTS:** There were 22 trials included (n = 1203 people with CTS; mean age, 26.0 to 57.9 years; mean symptom duration, 4.1 to 62.8 months). There was very low-certainty evidence of neurodynamic techniques improving pain (SMD, -0.54; 95% CI: -0.95, -0.13) and function (SMD, -0.35; 95% CI: -0.61, -0.09). There was no significant effect on symptom severity (very low certainty), distal motor latency (very low certainty), and grip and pinch strength (low certainty). **U CONCLUSION:** Neurodynamic techniques were effective for improving pain and function in people with CTS, albeit with very low-certainty evidence. Copyright © 2021 JOSPT®, Inc

Author keywords

Carpal tunnel syndrome; Meta-analysis; Nerve compression syndromes; Neural mobilization; Neurodynamics; Rehabilitation