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Comparing dry needling or local acupuncture to various wet needling injection types for musculoskeletal pain and disability. A systematic review of randomized clinical trials.

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Disability and Rehabilitation, 12 Jan 2023, :1-15
DOI: 10.1080/09638288.2023.2165731 PMID: 36633385

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Abstract

Purpose

Systematically evaluate the comparative effectiveness of dry needling (DN) or local acupuncture to various types of wet needling (WN) for musculoskeletal pain disorders (MPD).

Methods

Seven databases (PubMed, PEDro, SPORTDiscus, CINAHL, Scopus, Embase, and Cochrane Central Register of Controlled Trials) were searched following PROSPERO registration. Randomized clinical trials were included if they compared DN or local acupuncture with WN for MPD. Primary outcomes were pain and/or disability. The Revised Cochrane Collaboration tool (RoB 2.0) assessed the risk of bias.

Results

Twenty-six studies were selected. Wet Needling types included cortisone (CSI) ($N = 5$), platelet-rich plasma (PRP) ($N = 6$), Botox (BoT) ($N = 3$), and local anesthetic injection (LAI) ($N = 12$). Evidence was rated as low to moderate quality. Results indicate DN produces similar effects to CSI in the short-medium term and superior outcomes in the long term. In addition, DN produces similar outcomes compared to PRP in the short and long term and similar outcomes as BoT in the short and medium term; however, LAI produces better pain outcomes in the short term.

Conclusion

Evidence suggests the effectiveness of DN to WN injections is variable depending on the injection type, outcome time frame, and diagnosis. In addition, adverse event data were similar but inconsistently reported. **PROSPERO Registration:** 2019 CRD42019131826Implications for rehabilitationDry needling produces similar effects for pain and disability in the short and medium term compared to cortisone, Botox, and platelet-rich plasma injections. Local anesthetic injection may be more effective at reducing short-term pain.Long-term effects on pain and disability are similar between dry needling and platelet-rich plasma injections, but dry needling may produce better long-term outcomes than cortisone injections.The available adverse event data is similar between dry and wet needling.The conclusions from this study may be beneficial for patients and clinicians for considering risk and cost benefit analyses.

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