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Review > [Eur J Pain](#). 2021 Jan;25(1):71-87. doi: 10.1002/ejp.1670. Epub 2020 Oct 27.

Measures of central sensitization and their measurement properties in musculoskeletal trauma: A systematic review

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Abstract

Background and objective: Chronic pain following musculoskeletal trauma is common, which may partially be attributed to the early presence of central sensitization (CS). Multiple measures are suggested to assess clinical features of CS, yet no systematic review has evaluated the measurement properties of these measures in a musculoskeletal trauma population.

Databases and data treatment: This systematic review, which followed a published and PROSPERO registered protocol (CRD42018091531), aimed to establish the scope of CS measures used within a musculoskeletal trauma population and evaluate their measurement properties. Searches were conducted in two stages by two independent reviewers. The Consensus-based Standards for the selection of Health Measurement Instruments (COSMIN) checklist was used to evaluate risk of bias and overall quality was assessed using the modified Grading of Recommendations Assessment, Development and Evaluation.

Results: From 86 studies, 30 different CS outcome measures were identified. Nine studies evaluated measurement properties of nine outcome measures; eight evaluated reliability and one evaluated construct validity. Measures included seven quantitative sensory testing methods (pressure, cold and electrical pain thresholds; warm, cold and vibration detection thresholds; vibration perception thresholds), pain drawings and a pinwheel. Risk of bias was assessed as doubtful/inadequate for all but one study, overall quality of evidence was low/very low for all measures. Reliability of measures ranged from poor to excellent.

Conclusions: Many measures are used to evaluate CS but with limited established measurement properties in musculoskeletal trauma. High quality research to establish measurement properties of CS outcome measures is required.

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