

The effectiveness of nonoperative treatment for frozen shoulder: a systematic review.

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OBJECTIVE: To systematically review the evidence for the effectiveness of non-operative interventions in the management of frozen shoulder (adhesive capsulitis). **DATA SOURCES:** The Cochrane Library, PubMed, EMBASE, CINAHL, and Pedro were searched for randomized controlled trials (RCTs) and systematic reviews of interventions for primary adhesive capsulitis (search words included frozen shoulder, shoulder pain, and periarthritis) up to April 2008. **STUDY SELECTION:** Selection criteria required that studies included patients with frozen shoulder; the disorder was not caused by acute trauma or systemic disease; an intervention for treating adhesive capsulitis was evaluated; the outcome measures included pain, function, or recovery and were reported separately for patients in the study with adhesive capsulitis; and the article was written in English, French, German, or Dutch. Two reviewers independently selected relevant studies from the search results and resolved disagreements by consensus. The findings from 5 Cochrane reviews and 18 recent additional RCTs were included. **DATA EXTRACTION:** Information on the study population, interventions, outcome measures, and results was extracted by 1 reviewer and checked by a second. Methodologic quality was assessed independently by 2 reviewers. Heterogeneity of the studies was such that the data could not be quantitatively assessed. The level of evidence was ranked as strong, moderate, limited, or conflicting, depending on the consistency of positive findings and the quality of the RCTs; as no differences in effectiveness found; and as no evidence for the intervention from reviews or RCTs. **MAIN RESULTS:** There was strong evidence in the short term for the effectiveness of intra-articular steroid injections for pain but not range of motion and moderate evidence for steroid

injections for pain in the medium term. No differences were found on range of motion between steroid injections and manipulation. There was moderate evidence in favor of arthrographic distension compared with steroid injections in the short term. Among physiotherapy interventions, there was strong evidence in favor of laser therapy compared with placebo in producing a good outcome and some evidence for reduced pain and disability. There was moderate evidence for several mobilization techniques in the short and long term and in combination with exercise. There was moderate evidence in the short term for the effectiveness of oral steroids compared with placebo or no treatment for pain relief and range of motion and for suprascapular nerve block compared with acupuncture, placebo, or steroid injections for pain relief. **CONCLUSIONS:** Pain, range of motion, and overall outcome in adhesive capsulitis were most effectively improved by steroid injections, laser therapy, some mobilization techniques, arthrographic distension, and suprascapular nerve block. Most effects were shown in the short term, although physiotherapy did show effects in the longer term.

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