

Effectiveness of Passive Physical Modalities for Shoulder Pain: Systematic Review By the Ontario Protocol for Traffic Injury Management Collaboration

Hainan Yu, Pierre Côté, Heather M. Shearer, Jessica J. Wong, Deborah A. Sutton, Kristi A. Randhawa, Sharanya Varatharajan, Danielle Southerst, Silvano A. Mior, Arthur Ameis, Maja Stupar, Margareta Nordin, Gabreille M. van der Velde, Linda Carroll, Craig L. Jacobs, Anne L. Taylor-Vaisey, Sean Abdulla, Yaadwinder Shergill*

Background: Shoulder pain is a common musculoskeletal condition in the general population. Passive physical modalities are commonly used to treat shoulder pain. However, previous systematic reviews reported conflicting results.

Purpose: The aim of this study was to evaluate the effectiveness of passive physical modalities for the management of soft tissue injuries of the shoulder.

Data Sources: MEDLINE, EMBASE, CINAHL, PsycINFO, and the Cochrane Central Register of Controlled Trials were searched from January 1, 1990, to April 18, 2013.

Study Selection: Randomized controlled trials (RCTs) and cohort and case-control studies were eligible. Random pairs of independent reviewers screened 1,470 of 1,760 retrieved articles after removing 290 duplicates. Twenty-two articles were eligible for critical appraisal. Eligible studies were critically appraised using the Scottish Intercollegiate Guidelines Network criteria. Of those, 11 studies had a low risk of bias.

Data Extraction: The lead author extracted data from low risk of bias studies and built evidence tables. A second reviewer independently checked the extracted data.

Data Synthesis: The findings of studies with a low risk of bias were synthesized according to principles of best evidence synthesis. Pretensioned tape, ultrasound, and interferential current were found to be noneffective for managing shoulder pain. However, diathermy and corticosteroid injections led to similar outcomes. Low-level laser therapy provided short-term pain reduction for subacromial impingement syndrome. Extracorporeal shock-wave therapy was not effective for subacromial impingement syndrome but provided benefits for persistent shoulder calcific tendinitis.

Limitations: Non-English studies were excluded.

Conclusions: Most passive physical modalities do not benefit patients with subacromial impingement syndrome. However, low-level laser therapy is more effective than placebo or ultrasound for subacromial impingement syndrome. Similarly, shock-wave therapy is more effective than sham therapy for persistent shoulder calcific tendinitis.

*See full study for list of author affiliations.

