[Effectiveness of scapula-focused approaches in patients with rotator cuff related shoulder pain: A systematic review and meta-analysis - ScienceDirect](https://www.sciencedirect.com/science/article/abs/pii/S1356689X16303629?via%3Dihub)

**Effectiveness of scapula-focused approaches in patients with rotator cuff related shoulder pain: A systematic review and meta-analysis**

Author links open overlay panelJulie Bury a, Morgan West b, Gema Chamorro-Moriana c, Chris Littlewood d e

Show more

Add to Mendeley

Share

Cite

<https://doi.org/10.1016/j.math.2016.05.337>[Get rights and content](https://s100.copyright.com/AppDispatchServlet?publisherName=ELS&contentID=S1356689X16303629&orderBeanReset=true)

**Abstract**

**Background**

Rotator cuff related shoulder pain (RCSP) is common with a range of conservative treatments currently offered. Evidence supporting superiority of one approach over another is lacking. Scapula focused approaches (SFA) are frequently prescribed and warrant investigation.

**Objective**

To evaluate the effectiveness of SFA in RCSP.

**Design**

*S*ystematic review of randomised controlled trials.

**Methods**

An electronic search including MEDLINE, PEDro, ENFISPO to January 2016 was supplemented by hand searching. Randomised controlled trials were included; appraised using the PEDro scale and synthesised via meta-analysis or narratively, where appropriate.

**Results**

Four studies (*n* = 190) reported on pain and three studies (*n* = 122) reported on disability. Regarding pain, there was statistical but not clinically significant benefit of SFA versus generalised approaches (mean difference (VAS) 0.714; 95% CI 0.402–1.026) in the short term (<6 weeks); regarding disability, there was significant benefit of SFA versus generalised approaches (mean difference 14.0; 95% CI 11.2–16.8) in the short term (<6 weeks). One study (*n* = 22) reported disability at 3 months, which was not statistically significant. Evidence is conflicting from four studies relating to the effect of SFA on scapula position/movement.

**Conclusion**

SFA for RCSP confers benefit over generalised approaches up to six weeks but this benefit is not apparent by 3 months. Early changes in pain are not clinically significant. With regards to scapula position/movement, the evidence is conflicting. These preliminary conclusions should be treated with significant caution due to limitations of the evidence base.

**Introduction**

Shoulder pain is a common musculoskeletal complaint, with a prevalence of 7–26% in the general population (Luime et al., 2004). Disorders of the rotator cuff are most frequently recorded as a source of these symptoms, reported in up to 70% of cases (Van der Windt et al., 1996, Michener et al., 2004). A range of terms including rotator cuff tendinopathy, shoulder impingement syndrome and subacromial pain are used to describe shoulder pain thought to be attributable to the rotator cuff but currently there is lack of consensus about the most appropriate terminology (Carr and Rees, 2012).

The resulting pain and loss of function secondary to rotator cuff disorders can be debilitating and impact on an individual's ability to self-care and work; posing a significant socioeconomic burden (Van der Windt et al., 1996, Harkness et al., 2003). Conservative treatment, including exercise therapy, is recommended as the primary treatment; but there is considerable uncertainty relating to the relative effectiveness of such approaches (Kuhn, 2009, Kromer et al., 2009, Hanratty et al., 2012, Littlewood et al., 2012, Ylinen et al., 2013, Hallgren et al., 2014, Dong et al., 2015), and as a result large variations in practice exist (Michener et al., 2004, Dorrestijn et al., 2007, Kuhn, 2009, Hallgren et al., 2014, Littlewood et al., 2015a). Furthermore, there is uncertainty relating to the role that altered scapula position and movement plays, termed scapula dyskinesis; which is widely regarded as a common finding with this condition (Lukasiewicz et al., 1999, Cools et al., 2003, Ludewig and Braman, 2011, Kibler et al., 2013). As a consequence, despite popularity, confusion exists over the value of scapula-focused approaches (SFA) within rehabilitation programmes (Kibler, 1998).

In this context, the aim of this systematic review is to synthesise the evidence relating to the effectiveness of SFA for rotator cuff related shoulder pain (RCSP) with the objective of informing clinical practice.

**Section snippets**

**Methods**

These methods were pre-specified and recorded in a protocol, consistent with the PRISMA statement (Liberati et al., 2009).

**Search results**

Searching of the electronic databases produced 464 records in total. A further 13 were identified through other sources: 1 through a Google search, 2 by contact with experts and 10 through reference list checking of the identified articles. Following the removal of duplicates, 437 articles were screened by title and abstract, and after exclusions 7 required the full-text to be assessed. Out of these, 3 were excluded for either not meeting the study design, participant or intervention criteria,

**Discussion**

This review summarises the effectiveness of SFA in patients with RCSP and suggests that SFA confers benefit over generalised approaches up to six weeks post commencement of treatment. Although these early changes in pain are statistically significant they are not regarded as clinically significant; early changes in disability are statistically and clinically significant but data from the only study that reported data beyond six weeks suggests the comparative benefit, in terms of disability, is

**Conclusions**

This review summarises the effectiveness of SFA in patients with RCSP and suggests that SFA confers benefit over generalised approaches up to six weeks post commencement of treatment. Although these early changes in pain are statistically significant they are not regarded as clinically significant and data from the only study that reported data beyond six weeks suggests the benefit in terms of disability is not apparent by three months. Findings relating to the effect of SFA with regards to

**Funding**

This report is independent research supported by the National Institute for Health Research/Health Education England Clinical Academic Training Programme Masters in Clinical Research Scheme. The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the National Institute for Health Research or the Department of Health.

**Conflict of interest**

None.