

Are Corticosteroid Injections More Beneficial Than Anesthetic Injections Alone in the Management of Rotator Cuff-Related Shoulder Pain? A Systematic Review

CITATION

Are corticosteroid injections more beneficial than anesthetic injections alone in the management of rotator cuff-related shoulder pain? A systematic review *British Journal of Sports Medicine* 2018;**52**:497-504.

- Shoulder pain is a common musculoskeletal disorder with prevalence estimates ranging from 6.9% to 26.0% for point prevalence, annual prevalence of 4.7%–46.7% and lifetime prevalence of 6.7%–66.7%. Prevalence increases with age and shoulder pain is frequently associated with long-term disability. Although CS injections for RCRSP are common, the definitive mechanism of action is uncertain, with suggestions that they may have an anti-inflammatory role, reduce tenocyte numbers and inhibit nociceptor activity.
- **Purpose:** To compare the effectiveness of corticosteroid injections to local anesthetic injections in the management of rotator cuff-related shoulder pain (RCRSP).
- **Method:** 2018 Systematic review that assessed the efficacy of non-operative options for rotator-cuff injuries
 - o 13 RCTs were included with over 1000 patients.
 - o M . Studies were included if they compared groups receiving single or repeated: subacromial injections of CS with or without local anesthetic versus local anesthetic injection without CS. Concurrent prescription of exercise therapy, as well as prescription of pain-relieving medications, such as analgesics and non-steroidal anti-inflammatory drugs (NSAIDs), was permitted inclusions, as this reflects common clinical management of RCRSP.
 - o Inclusion criteria: studies with adult participants diagnosed with RCRSP were included. Studies that were not randomized controlled trials (RCTs) were excluded from the review. Selection of studies was independently performed by two reviewers.
 - o Outcome measures included shoulder pain, self-reported function, range of motion and patient-perceived improvement. Follow-up time postintervention was defined as short term (less than 3 months), midterm (3–12 months) and long term (a year or longer).

RESULTS

- Short term → There is strong evidence (from eight trials, three of low risk of bias) to suggest a significant benefit
- Mid-term → There is strong evidence (from seven trials, three of low risk of bias) to suggest that at 12 weeks there is no significant difference in outcome between injection types.
- Long term → There is strong evidence (from two trials of low risk of bias) to suggest that there is no significant difference in outcome between injection types in the midterm (26 weeks)
- **OVERALL → The majority of the investigations included found the administration of local anaesthetic injections as a placebo procedure, assuming that local anesthetic injections in the subacromial space are inert and do not provide any therapeutic benefit.**

CLINICAL BOTTOM LINE

- **In summary, CS injections may have better short-term results than anesthetic-only injections in the first 8 weeks. Corticosteroid injections may have a superior short-term therapeutic effect compared with anesthetic-only injections, but not beyond that time point.**
 - o There does not appear to be any convincing evidence from the studies of low or high risk of bias that CS injections confer additional benefit over anesthetic-only injections after this time point.
 - o It is unknown if improvement over time is due to placebo, natural history or a therapeutic effect of the medicines used in the published research.