

# Effect of corticosteroid injections, comprehensive physiotherapy, and combined treatment on shoulder outcomes in patients with subacromial pain syndrome

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## ABSTRACT

**Objective:** Corticosteroid injection (CI) and comprehensive physiotherapy (CP) are the two most common treatment methods to treat subacromial pain syndrome (SAPS), however, the sole effectiveness of each method or in combination is in doubt yet. **Design:** A double-blind 3x4 randomized controlled trial **Participants:** 75 participants with unilateral SAPS **Intervention:** Random assignment with allocation concealment into three groups labeled as 12 sessions, supervised CP (n=25), 1cc triamhexal CI (n=25), and 1cc triamhexal CI combined with 12 sessions, supervised CP (n= 25). **Outcomes:** Visual Analog Scale (VAS), Shoulder Pain and Disability Index (SPADI), shortened Disabilities of Arm, Shoulder, and Hand (Quick-DASH), and Western Ontario Rotator Cuff Index (WORC). Outcomes were gathered pre- and post-intervention, with three- and six-month follow-ups **Results:** seventy-five SAPS patients (45 female and 30 male) participated (46.36±11.97). The results of the 3x4 repeated measure design revealed that there were interactions of group-in-time for Quick-DASH (p= 0.02, effect size (ES) = 0.81), SPADI (p= 0.05, ES= 0.75), and WORC (p= 0.007, ES=0.90) parameters but not for VAS (p=0.81). Post hoc analysis stated that there was a difference between the physiotherapy and CI groups in terms of Quick-DASH (p= 0.003, mean= 12.04), SPADI (p= 0.009, mean= 10.79), and WORC (p=0.002, mean= 12.09). The results of pairwise comparison revealed that pre-test data were significantly different with data of post-test and follow-ups (p<0.05), but post-test data were not significantly different with follow-ups (p>0.05). **Conclusion:** CP and CP combined with CI results in statistically significant and potentially clinically important differences in function and quality of life at all timeframes compared with CI. Moreover, there was no difference between groups in order to reduce pain. CP combined with CI might be considered for patients needing a quick improvement, but intermediate (12 to 26 weeks) worsening of symptoms makes the treatment difficult to recommend.