

# Corticosteroid Injections versus Platelet Rich Plasma Injections in Treating Rotator Cuff Tendinopathy

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## Introduction

Rotator Cuff (RC) tendinopathy, common in adults over the age of 40, accounts for over 50% of all shoulder pain and results from the degeneration of four RC muscle tendons which can lead to partial or full thickness tears.<sup>1,2,3</sup> It becomes more prevalent with older age and overuse of the shoulder. Symptoms of RC tendinopathy include weakness and chronic pain, specifically during external rotation and elevation.<sup>3</sup>

Two common interventions used to treat this condition are corticosteroid (CS) injections and platelet rich plasma (PRP) injections both aimed at reducing shoulder pain and improving overall function. CS injections are effective in the acute stage but increase risks of tearing a tendon and interfering with collagen production.<sup>5,6</sup> PRP injections use chemical modifiers of cellular activity, found in platelets, to stimulate healing.<sup>6</sup> This study aims to compare PRP and CS injections in improving the overall quality of life for patients with RC tendinopathy.

## Methods

The primary sources for this systematic review, retrieved from the search engines PubMed and CINAHL, were collected in January and February of 2025. Advanced searches used in both search engines are as follows: corticosteroid AND Platelet-rich plasma AND Rotator cuff AND tendinopathy OR tears. The search was narrowed down from 36 articles to nine after screening.

## Results

This review included seven randomized controlled trials, one comparative study and one prospective study. Four studies determined PRP injections to be superior to CS injections in overall functional improvement.<sup>7,8,10,15</sup> Three studies found short term benefits around the 12-week mark in pain relief, shoulder function, and quality of life; however, by the end of their respective studies, PRP and CS groups experienced no significant differences in their outcomes.<sup>11,12,14</sup> The remaining two studies determined there were no significant differences between the two interventions, as they both showed improvements in pain and overall function.<sup>9,13</sup> There were no studies that found CS injections to be statistically superior to PRP injections.

## Discussion

This study provides evidence that PRP injections have greater benefits over CS injections when treating RC tendinopathy in terms of short term pain relief and overall functional improvement. PRP is a good alternative to CS injections as it uses platelets to stimulate healing, rather than only providing symptomatic relief. While these treatments yield statistically significant results in reducing pain and improving function, patients with full thickness tears or severe tendinopathy may have greater benefit from surgical intervention.<sup>9</sup> Overall, clinicians and patients can utilize this research when choosing an intervention to treat RC tendinopathy.

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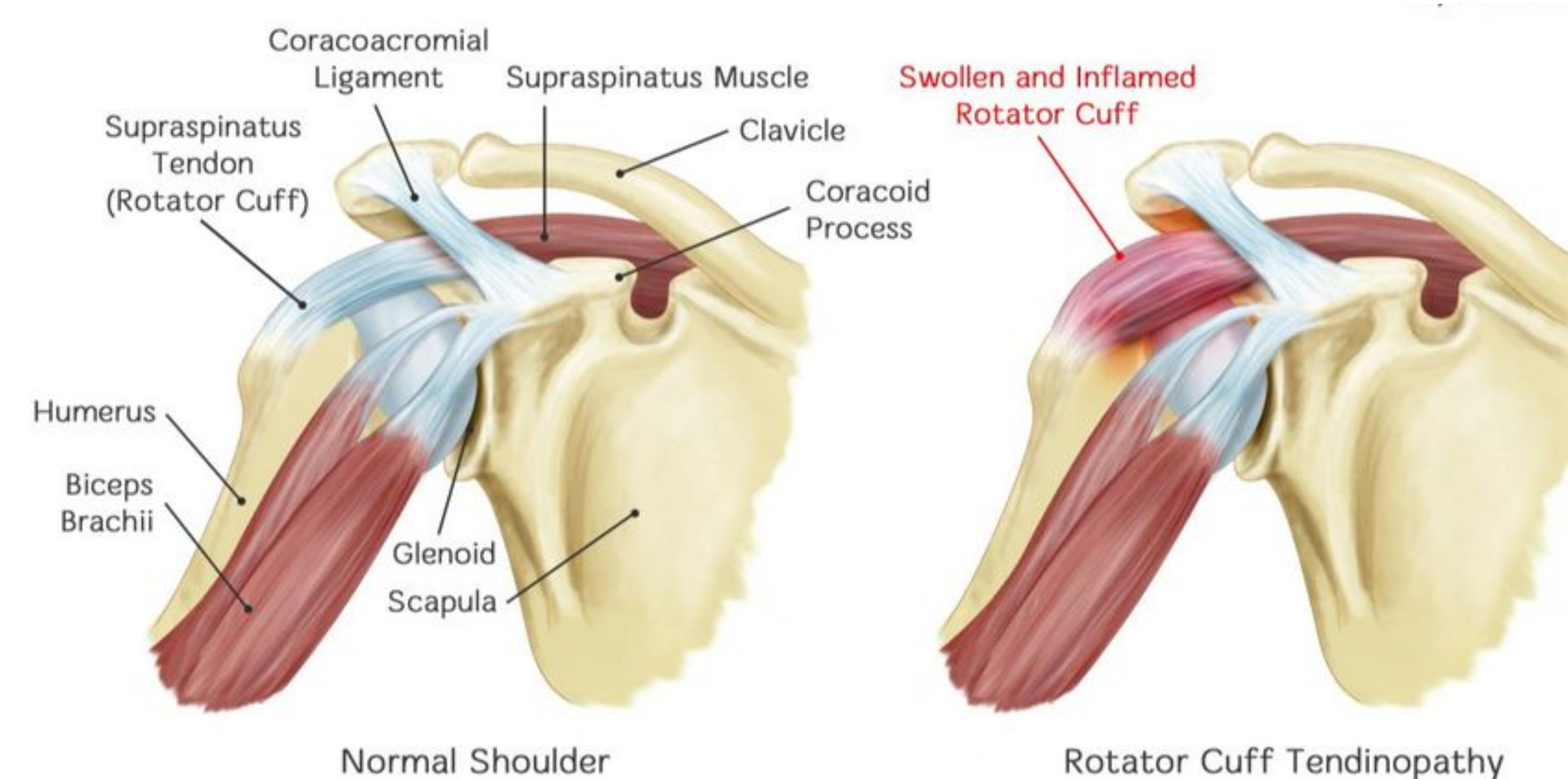


Figure 1. Comparison of a healthy RC to RC tendinopathy.<sup>16</sup>