

Surgical and Nonsurgical Treatment of Rotator Cuff Tears

Key Policy Issue

What is the comparative effectiveness of surgical and nonsurgical treatments for rotator cuff tears?

Background Information

The rotator cuff (RC) consists of four muscles and their tendons. It holds the humeral head (upper arm bone) into the shoulder joint, permits rotation, and helps lift the arm. Partial or full tears result from injury or degeneration, and the incidence increases with age. Patients may experience significant disability, including work absenteeism and lost productivity.

RC tears are associated with pain, limited movement, and instability of the shoulder joint, although symptoms may vary. Larger RC tears are unlikely to improve without treatment. Both nonsurgical and surgical treatments are used in an attempt to relieve pain and restore shoulder movement and function. Often, surgery is performed for a symptomatic tear after 6 to 12 weeks of nonsurgical treatment has failed.

It can be difficult to decide when to forgo nonsurgical treatment in favor of surgical treatment. Moreover, there is uncertainty related to the comparative effectiveness of the several nonsurgical and surgical treatment options for RC repair.

Conclusions

The comparative effectiveness of the various nonsurgical and surgical treatment options for patients with RC tears remains uncertain. Significant improvements were seen with both surgical and nonsurgical interventions. Postsurgical rehabilitation appears to be essential for maximum recovery, although there is no consensus on optimal rehabilitation protocols. Further study is suggested to determine the relative effectiveness of RC treatment options.

A note about this Policymaker Summary

A **systematic review** of 137 clinical studies was conducted by independent researchers, funded by AHRQ, to synthesize the evidence on what is known and not known on this clinical issue.

This topic was nominated through a public process. The research questions and the results of the report were subject to expert input, peer review, and public comment.

The results of this review are summarized here for use in your decisionmaking. The full report, with references for included and excluded studies, is available at www.effectivehealthcare.ahrq.gov.

Key Findings

Comparative Effectiveness of Surgical vs. Nonsurgical RC Interventions: Significant improvements were seen in all study groups regardless of the intervention. Although there was a trend for better outcomes with surgery, results were too limited to permit conclusions.

Comparative Effectiveness of Nonsurgical Interventions: The comparative studies were of low quality, which limited the usefulness of the studies to determine the most effective nonsurgical patient-management strategy.

Timing of Surgical Intervention: Evidence is too limited to draw conclusions about the comparative effectiveness of early surgical repair when compared to late surgical repair following nonoperative interventions.

Comparative Effectiveness of Surgical Interventions: With surgical repair of RC tears (including open, mini-open, or arthroscopic, combinations of these three, or open or arthroscopic debridement), no one technique has been shown to have better outcomes (●●○). However, exceptions were:

- Patients may return to work or sports *approximately* 1 month earlier if they have a mini-open vs. an open RC repair. ●●○
- Functional outcomes are improved to a greater extent for patients who have open RC repair vs. open or arthroscopic debridement. ●●○

Postsurgical Rehabilitation: Most clinicians agree that postsurgical rehabilitation is an important part of successful outcomes, although there is no consensus on an optimal rehabilitation protocol.

Adverse Events: In general, complication rates were low for clinically important complications such as retears, stiffness, infection, and neurological injury.

Confidence Scale

- High: ●●● There are consistent results from good-quality studies. Further research is very unlikely to change the conclusions.
- Moderate: ●●○ Findings are supported, but further research could change the conclusions.
- Low: ●○○ There are very few studies, or existing studies are flawed.

Source

The information in this summary is based on *Comparative Effectiveness of Nonoperative and Operative Treatments for Rotator Cuff Tears*, Comparative Effectiveness Review No. 22, prepared by the University of Alberta Evidence-based Practice Center under Contract No. 290-02-0023 for the Agency for Healthcare Research and Quality, May 2010. Available at: www.effectivehealthcare.ahrq.gov.

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