



# Effective Health Care

## Comparative Effectiveness of Non-operative and Operative Treatments for Rotator Cuff Tears

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Comparative Effectiveness of Non-operative and Operative Treatments for Rotator Cuff Tears*, is not feasible for an update to or expansion of an existing comparative effectiveness or effectiveness review due to the limited data available for a review at this time.
  - Seida J, Schouten J, Mousavi S, Tjosvold L, Vandermeer B, Milne A, Bond, K, Hartling L, LeBlanc C, Sheps D. Comparative Effectiveness of Nonoperative and Operative Treatment 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.) AHRQ Publication No. 10-EHC050. Rockville, MD: Agency for Healthcare Research and Quality. July 2010. Available at: [www.effectivehealthcare.ahrq.gov/reports/final.cfm](http://www.effectivehealthcare.ahrq.gov/reports/final.cfm).

#### Topic Description

**Key Questions:** Key Question 1. Does early surgical repair compared to late surgical repair (i.e., non-operative intervention followed by surgery) lead to improved health-related quality of life, decreased disability, reduced time to return to work/activities, higher rate of cuff integrity, less shoulder pain, and increased range of motion and/or strength?

##### Intervention Type    Intervention Comparison

Surgical repair	<ul style="list-style-type: none"><li>■ Early surgical repair vs. late surgical repair (i.e., non-operative followed by surgery)</li></ul>
-----------------	--

Key Question 2. What is the comparative effectiveness of operative approaches (e.g., open surgery, mini-open surgery, and arthroscopy) and postoperative rehabilitation on improved health-related quality of life, decreased disability, reduced time to return to work/activities, higher rate of cuff integrity, less shoulder pain, and increased range of motion and/or strength?

##### Intervention Type    Intervention Comparisons

Operative approaches	<ul style="list-style-type: none"><li>■ Open rotator cuff repair (RCR) vs. mini-open RCR</li><li>■ Mini-open RCR vs. arthroscopic</li><li>■ Open RCR vs. arthroscopic RCR</li><li>■ Open or mini-open RCR vs. arthroscopic RCR</li></ul>
----------------------	--

	<ul style="list-style-type: none"> <li>▪ Open RCR vs. open or arthroscopic debridement</li> <li>▪ Arthroscopic RCR with acromioplasty vs. without acromioplasty</li> <li>▪ Arthroscopic RCR vs. acromioplasty alone</li> <li>▪ Biceps tenotomy vs. tenodesis</li> <li>▪ RCR vs. palliative treatment</li> <li>▪ Arthroscopic RCR with SLAP repair vs. arthroscopic RCR with biceps tenodesis</li> <li>▪ Mini-open RCR plus tenodesis with detachment vs. without detachment</li> <li>▪ Arthroscopic debridement with biceps tenotomy vs. without tenotomy</li> <li>▪ Complete open RCR vs. partial open RCR vs. debridement</li> <li>▪ Open RCR with classic open acromioplasty vs. open RCR with modified open acromioplasty</li> </ul>
Operative techniques	<ul style="list-style-type: none"> <li>▪ Single-row vs. double-row suture anchor fixation</li> <li>▪ Bioabsorbable tacs vs. suture tying</li> <li>▪ Side-to-side vs. tendon-to-bone fixation</li> <li>▪ Nonabsorbable vs. absorbable sutures</li> <li>▪ Bioabsorbable corkscrews vs. metal suture anchor</li> <li>▪ Mattress locking vs. simple stitch</li> <li>▪ Mattress vs. transosseous suture</li> <li>▪ Ultrasonic welding vs. hand-tied knots</li> <li>▪ Staple fixation vs. side-to-side suture</li> </ul>
Operative augmentation	<ul style="list-style-type: none"> <li>▪ Porcine small intestine submucosa vs. no augmentation</li> <li>▪ Patch graft vs. no augmentation</li> </ul>
Postoperative rehabilitation	<ul style="list-style-type: none"> <li>▪ Continuous passive motion with PT treatment vs. PT treatment</li> <li>▪ Aquatic therapy with land-based therapy vs. land-based therapy</li> <li>▪ Inpatient vs. day patient rehabilitation</li> <li>▪ Individualized PT program with home exercise vs. home exercise</li> <li>▪ Progressive vs. traditional loading</li> <li>▪ Inpatient rehabilitation vs. outpatient</li> <li>▪ Standardized vs. non-standardized PT program</li> <li>▪ Videotape vs. PT home exercise instruction</li> </ul>

Key Question 3. What is the comparative effectiveness of non-operative interventions on improved health-related quality of life, decreased disability, reduced time to return to work/activities, higher rate of cuff integrity, less shoulder pain, and increased range of motion and/or strength?

#### **Intervention Type    Intervention Comparisons**

Non-operative interventions	<ul style="list-style-type: none"> <li>▪ Sodium hyaluronate vs. dexamethasone</li> <li>▪ Rehabilitation vs. no rehabilitation</li> <li>▪ Physical therapy, oral medications and steroid injection vs. physical therapy, oral medications and no steroid injection</li> </ul>
-----------------------------	--

Key Question 4. Does operative repair compared with non-operative treatment lead to improved health-related quality of life, decreased disability, reduced time to return to work/activities, higher rate of cuff integrity, less shoulder pain, and increased range of motion and/or strength?

## Intervention Type    Intervention Comparisons

Operative repair vs. non-operative treatment	<ul style="list-style-type: none"><li>▪ Shock-wave therapy vs. mini-open RCR</li><li>▪ Steroid injection, physical therapy, and activity modification vs. Physical therapy vs. open or mini-open RCR</li><li>▪ Physical therapy treatment, oral medication, and steroid injectic debridement vs. open repair</li><li>▪ Passive stretching, strengthening, and corticosteroid injection v acromioplasty</li></ul>
--	--

Key Question 5. What are the associated risks, adverse effects, and potential harms of non-operative and operative therapies?

Key Question 6. Which demographic (e.g., age, gender, ethnicity, comorbidities, workers' compensation claims) and clinical (e.g., size/severity of tear, duration of injury, fatty infiltration of muscle) prognostic factors predict better outcomes following non-operative and operative treatment?

## Considerations

- An assessment of the 2010 report *Comparative Effectiveness of Non-operative and Operative Treatments for Rotator Cuff Tears (CER 22)* found that many of the conclusions are still valid. A scan of the literature yielded very few studies that were published since the 2010 report
- There is limited evidence that suggests the conclusions regarding 1) the comparative effectiveness of operative techniques, specifically single row versus double row suture fixation, and 2) patient clinical prognostic factors that predict outcomes following non-operative and operative treatment are possibly out of date. However, given that the majority of the conclusions from the original report were still valid this additional evidence did not warrant an update of the 2010 report at this time.
- An AHRQ future research needs report published in 2013 highlighted the gaps in evidence addressing these topics.
  - Butler M, Forte M, Braman J, Swiontkowski M, Kane RL. Non-operative and Operative Treatments for Rotator Cuff Tears: Future Research Needs. Future Research Needs Paper No. 39. (Prepared by the Minnesota Evidence-based Practice Center under Contract No. 290-2007-10064-I.) AHRQ Publication No. 13-EHC050-EF. Rockville, MD: Agency for Healthcare Research and Quality. February 2013. [www.effectivehealthcare.ahrq.gov/reports.final.cfm](http://www.effectivehealthcare.ahrq.gov/reports.final.cfm).