

Notice of Independent Review Decision

**October 20, 2014**

**IRO CASE #:**

**DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:**

Right Shoulder arthroscopy, rotator cuff repair, subacromial decompression, acromioplasty and biceps tenodesis as an outpatient.

**A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION:**

The physician performing this review is Board Certified, American Board of Orthopedic Surgery. The physician has been in practice since 1998 and is licensed in Texas, Oklahoma, Minnesota and South Dakota.

**REVIEW OUTCOME:**

Upon independent review, the reviewer finds that the previous adverse determination/adverse determinations should be:

- Upheld (Agree)
- Overturned (Disagree)
- Partially Overturned (Agree in part/Disagree in part)

Provide a description of the review outcome that clearly states whether medical necessity exists for each of the health care services in dispute.

*Upon independent review the physician finds that the previous adverse determination should be ~ Partially Overturned.*

- 1) biceps tenodesis surgery ~ Upheld*
- 2) rotator cuff repair and subacromial decompression ~ Overturned*

**PATIENT CLINICAL HISTORY [SUMMARY]:**

Patient is a male with right shoulder pain following a work-related injury. He has had exercise therapy, subacromial injections, without improvement. There is pain and tenderness over the anterior aspect of the right shoulder with 4/5 motor strength testing of the rotator cuff. There is also a positive Speed and positive O'Brien's test. MRI again showed full-thickness rotator cuff tear but no evidence for biceps tendon rupture or labral pathology.

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## ANALYSIS AND EXPLANATION OF THE DECISION INCLUDE CLINICAL BASIS, FINDINGS, AND CONCLUSIONS USED TO SUPPORT THE DECISION:

The treating physician's review of the MRI study of the shoulder indicates a full-thickness rotator cuff tear. As such, along with the physical examination findings of weakness as well as impingement, criteria would be met for rotator cuff repair and subacromial decompression. The MRI report, however, indicates no evidence for biceps tear and also shows intact labrum. As such, the biceps tenodesis surgery requested would not be ODG guidelines.

### ODG -TWC

*ODG Treatment*

*Integrated Treatment/Disability Duration Guidelines*

### Shoulder (Acute & Chronic)

Surgery for rotator cuff repair	Recommended as indicated below. Repair of the rotator cuff is indicated for significant tears that impair activities by causing weakness of arm elevation or rotation, particularly acutely in younger workers. However, rotator cuff tears are frequently partial-thickness or smaller full-thickness tears. For partial-thickness rotator cuff tears and small full-thickness tears presenting primarily as impingement, surgery is reserved for cases failing conservative therapy for three months. The preferred procedure is usually arthroscopic decompression, but the outcomes from open repair are as good or better. Surgery is not indicated for patients with mild symptoms or those who have no limitations of activities. ( <a href="#">Ejnisman-Cochrane, 2004</a> ) ( <a href="#">Grant, 2004</a> ) Lesions of the rotator cuff are best thought of as a continuum, from mild inflammation and degeneration to full avulsions. Studies of normal subjects document the universal presence of degenerative changes and conditions, including full avulsions without symptoms. Conservative treatment has results similar to surgical treatment but without surgical risks. Studies evaluating results of conservative treatment of full-thickness rotator cuff tears have shown an 82-86% success rate for patients presenting within three months of injury. The efficacy of arthroscopic decompression for full-thickness tears depends on the size of the tear; one study reported satisfactory results in 90% of patients with small tears. A prior study by the same group reported satisfactory results in 86% of patients who underwent open repair for larger tears. Surgical outcomes are much better in younger patients with a rotator cuff tear, than in older patients, who may be suffering from degenerative changes in the rotator cuff. Referral for surgical consultation may be indicated for patients who have: Activity limitation for more than three months, plus existence of a surgical lesion; Failure of exercise programs to increase range of motion and strength of the musculature around the shoulder, plus existence of a surgical lesion; Clear clinical and imaging evidence of a lesion that has been shown to benefit, in both the short and long term, from surgical repair; Red flag conditions (e.g., acute rotator cuff tear in a young worker, glenohumeral joint dislocation, etc.). Suspected acute tears of the rotator cuff in young workers may be surgically repaired acutely to restore function; in older workers, these tears are typically treated conservatively at first. Partial-thickness tears are treated the same as impingement syndrome regardless of MRI findings. Outpatient rotator cuff repair is a well accepted and cost effective procedure. ( <a href="#">Cordasco, 2000</a> ) Difference between surgery & exercise was not significant. ( <a href="#">Brox, 1999</a> ) There is significant variation in surgical decision-making and a lack of clinical agreement among orthopaedic surgeons about rotator cuff
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surgery. ([Dunn, 2005](#)) For rotator cuff pain with an intact tendon, a trial of 3 to 6 months of conservative therapy is reasonable before orthopaedic referral. Patients with small tears of the rotator cuff may be referred to an orthopaedist after 6 to 12 weeks of conservative treatment. ([Burbank2, 2008](#)) Patients with workers' compensation claims have worse outcomes after rotator cuff repair. ([Henn, 2008](#))

*Revision rotator cuff repair:* The results of revision rotator cuff repair are inferior to those of primary repair. While pain relief may be achieved in most patients, selection criteria should include patients with an intact deltoid origin, good-quality rotator cuff tissue, preoperative elevation above the horizontal, and only one prior procedure. ([Djurasovic, 2001](#))

*Recent research:* Evidence on the pros and cons of various operative and nonoperative treatments for rotator cuff tears is limited and inconclusive, an AHRQ comparative effectiveness review concluded. While the data are sparse, patients improved substantially with all interventions; there were few clinically important differences between approaches, and complications were rare. Most patients try to resolve their pain and disability with a course of physical therapy before attempting surgery, but the study found very little good quality research to guide the choice of nonoperative treatment, the timing of treatment, and who would most benefit from various forms of treatment. Four out of five studies comparing surgical and nonsurgical management favored operative repair, but the evidence was too limited to make conclusions regarding comparative effectiveness. 113 studies comparing various operations found no differences in functional outcomes between open vs mini-open repair, mini-open vs arthroscopic repair, arthroscopic repairs with vs without acromioplasty, and single-row vs double-row fixation. Patients who had mini-open repair returned to work about a month earlier than patients who had open repair. On the other hand, functional improvement was better after open repair compared with arthroscopic debridement. With regard to adding continuous passive motion to postoperative physical therapy, 11 trials yielded moderate evidence for no difference in function or pain. One study found no difference in range of motion or strength, while another suggested that adding continuous passive motion shortened the time until return to work and the time to 90 degrees abduction. For other postoperative rehabilitation strategies, one study showed that progressive loading reduced pain compared to traditional loading. In general, though, most studies found no difference in health-related quality of life, function, pain, range of motion, and strength with one approach versus another (e.g., with or without aquatics, individualized vs at home alone, videotape vs therapist-based, etc.). In the 72 studies that assessed prognostic factors, older age, increasing tear size, and greater preoperative symptoms were consistently associated with recurrent tears, whereas gender, workers' compensation status, and duration of symptoms usually did not predict poorer outcomes. ([Seida, 2010](#)) "Rotator cuff surgery is a viable option for many patients, but, as with any surgery, it is not for everybody," said AHRQ Director Carolyn M. Clancy, M.D. "This report has good news: most interventions work, and each patient should talk to his or her doctor about which to option to pursue." Most older patients who suffer a rotator cuff tear are first treated with up to 3 months of nonsurgical treatment such as pain and anti-inflammatory medications, exercise, and rest. If treatments other than surgery do not work, the rotator cuff may be repaired surgically, using a variety of methods ranging from minimally invasive techniques to an open operation. Patients can then undergo rehabilitation to restore their range of motion, muscle strength, and function following surgery. Rotator cuff tears also can occur in younger adults, usually as a result of traumatic injury. In such cases they are almost always treated with surgery. Some doctors have maintained that earlier surgery results in less pain and better use of the shoulder, leading to an earlier return to work and decreased costs; so, patients often face the difficult decision of opting for surgery rather than waiting for nonoperative treatments to work. However, researchers found little

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evidence that earlier surgery benefits patients. Comparative Effectiveness of Nonoperative and Operative Treatments for Rotator Cuff Tears is the newest comparative effectiveness report from the AHRQ's Effective Health Care Program. The Effective Health Care Program represents the leading federal effort to compare alternative treatments for health conditions and make the findings public, to help doctors, nurses, pharmacists and others work together with patients to choose the most effective treatments. ([Clancy, 2010](#)) This prospective cohort study concluded that PT is effective for most patients with atraumatic full-thickness rotator cuff tears and shoulder pain, without the need for surgery. At six weeks fewer than 10% of patients had decided to undergo surgery, and after 2 years, only 2% of the rest had opted for surgery. Patients did most of their physical therapy at home and usually made only 1 weekly visit to the physical therapist. ([Kuhn, 2011](#)) One-third of rotator cuff repairs fail, and 74% of the failures occur within three months of surgery. Healed tendons, or recurrent tears, at six months can predict outcomes at seven years. ([Kluger, 2011](#)) Not surprisingly, larger tears are harder to repair, and the retear rate based on rotator cuff tear size is: 10% for  $\leq 2$  cm<sup>2</sup>; 16% for 2–4 cm<sup>2</sup>; 31% for 4–6 cm<sup>2</sup>; 50% for 6–8 cm<sup>2</sup>; & 57% for  $> 8$  cm<sup>2</sup>. ([Murrell, 2012](#)) There is insufficient evidence to suggest efficacy in operative or nonoperative treatment of rotator cuff tears in in patients aged older than 60 years. ([Downie, 2012](#)) In this RCT, full-thickness rotator cuff repair outcomes were the same, with or without acromioplasty. Acromioplasty is commonly performed during arthroscopic rotator cuff repair, but it does not improve outcomes by 2-year follow-up. ([Abrams, 2014](#))

## **ODG Indications for Surgery™ -- Rotator cuff repair:**

**Criteria** for rotator cuff repair with diagnosis of full thickness rotator cuff tear AND Cervical pathology and frozen shoulder syndrome have been ruled out:

**1. Subjective Clinical Findings:** Shoulder pain and inability to elevate the arm; tenderness over the greater tuberosity is common in acute cases. PLUS

**2. Objective Clinical Findings:** Patient may have weakness with abduction testing. May also demonstrate atrophy of shoulder musculature. Usually has full passive range of motion. PLUS

**3. Imaging Clinical Findings:** Conventional x-rays, AP, and true lateral or axillary views. AND Gadolinium MRI, ultrasound, or arthrogram shows positive evidence of deficit in rotator cuff.

**Criteria** for rotator cuff repair OR anterior acromioplasty with diagnosis of partial thickness rotator cuff repair OR acromial impingement syndrome (80% of these patients will get better without surgery.)

**1. Conservative Care:** Recommend 3 to 6 months: Three months is adequate if treatment has been continuous, six months if treatment has been intermittent.

Treatment must be directed toward gaining full ROM, which requires both stretching and strengthening to balance the musculature. PLUS

**2. Subjective Clinical Findings:** Pain with active arc motion 90 to 130 degrees. AND Pain at night (Tenderness over the greater tuberosity is common in acute cases.) PLUS

**3. Objective Clinical Findings:** Weak or absent abduction; may also demonstrate atrophy. AND Tenderness over rotator cuff or anterior acromial area. AND Positive impingement sign and temporary relief of pain with anesthetic injection (diagnostic injection test). PLUS

**4. Imaging Clinical Findings:** Conventional x-rays, AP, and true lateral or axillary view. AND Gadolinium MRI, ultrasound, or arthrogram shows positive evidence of deficit in rotator cuff.

([Washington, 2002](#))

For average hospital LOS if criteria are met, see [Hospital length of stay](#) (LOS).

Biceps tenodesis

Recommended as an option for type II or type IV SLAP lesions in patients over 40 years of age. See [SLAP lesion diagnosis](#). Biceps tenodesis (suture of the end of the

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tendon to the bone) is a surgical procedure usually performed for the treatment of biceps tendonitis of the shoulder. A biceps tenodesis may be performed as an isolated procedure, or part of a larger shoulder surgery such as a rotator cuff repair. Patients with biceps tendon problems may have a detachment of the biceps tendon from the socket of the shoulder (a SLAP tear), or they may have inflammation and irritation of the biceps tendon itself. A biceps tenodesis is usually performed in patients over the age of 40, whereas other procedures such as a SLAP repair may be attempted in younger patients. In this study, individuals older than 35 years with an isolated type II SLAP lesion had a shorter postoperative recovery, a more predictable functional outcome, and a higher rate of satisfaction and return to activity with a biceps tenodesis compared with a biceps repair. Based on these observations, biceps tenodesis is preferable to biceps repair for isolated type II SLAP lesions in nonoverhead athletes older than 35 years. ([Denard, 2014](#)) Surgical repair remains the gold standard for most type II and type IV SLAP lesions that fail nonoperative management. However, most recently, there have been data demonstrating unacceptably high failure rates with primary repair of type II SLAP lesions. Biceps tenodesis may offer an acceptable, if not better, alternative to primary repair of SLAP lesions. This study adds to the evolving literature supporting biceps tenodesis as a viable treatment for type II and IV SLAP lesions. ([Gottschalk, 2014](#)) Successful arthroscopic repair of symptomatic superior labral tears in young athletes has been well documented. Superior labral repair in patients older than 40 years is controversial, with concerns for residual postoperative pain, stiffness, and higher rates of revision surgery. While studies show that good outcomes can be obtained with SLAP repair in an older cohort of patients, age older than 40 years and workers' compensation status are independent risk factors for increased surgical complications. The cumulative evidence supports labral debridement or biceps tenotomy over labral repair when an associated rotator cuff injury is present. ([Erickson, 2014](#)) Biceps tenodesis is a viable treatment option for SLAP repair. ([Huri, 2014](#)) Practice trends indicate that the proportion of SLAP repairs has decreased over time, with an increase in biceps tenodesis and tenotomy. Increased patient age correlates with the likelihood of treatment with biceps tenodesis or tenotomy versus SLAP repair. For patients with isolated SLAP lesions, the proportion of SLAP repairs decreased from 69.3% to 44.8%, while biceps tenodesis increased from 1.9% to 18.8%, and biceps tenotomy increased from 0.4% to 1.7%. For patients undergoing concomitant rotator cuff repair, SLAP repair decreased from 60.2% to 15.3%, while biceps tenodesis or tenotomy increased from 6.0% to 28.0%. There was a significant difference in the mean age of patients undergoing SLAP repair (37.1 years) versus biceps tenodesis (47.2 years) versus biceps tenotomy (55.7 years). ([Patterson, 2014](#)) See also [Surgery for SLAP lesions](#).

#### **Criteria for Surgery for Biceps tenodesis:**

- After 3 months of conservative treatment (NSAIDs, PT)
- Type II lesions (fraying and degeneration of the superior labrum, normal biceps, no detachment)
- Type IV lesions (more than 50% of the tendon is involved, vertical tear, bucket-handle tear of the superior labrum, which extends into biceps, intrasubstance tear)
- Generally, type I and type III lesions do not need any treatment or are debrided
- Also patients undergoing concomitant rotator cuff repair
- History and physical examinations and imaging indicate pathology
- Definitive diagnosis of SLAP lesions is diagnostic arthroscopy
- Age over 40 (otherwise consider SLAP repair).

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## A DESCRIPTION AND THE SOURCE OF THE SCREENING CRITERIA OR OTHER CLINICAL BASIS USED TO MAKE THE DECISION:

- ACOEM- AMERICAN COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE
- AHCPR- AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES
- DWC- DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES
- EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN
- INTERQUAL CRITERIA
- MEDICAL JUDGEMENT, CLINICAL EXPERIENCE, AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS
- MERCY CENTER CONSENSUS CONFERENCE GUIDELINES
- MILLIMAN CARE GUIDELINES
- ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES
- PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR
- TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS
- TEXAS TACADA GUIDELINES
- TMF SCREENING CRITERIA MANUAL
- PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)
- OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)