

# Comparing Results of Shoulder Stabilization Surgery

When the shoulder dislocates repeatedly, it's time to get some serious help. That's when the surgeon steps in and provides a stabilization procedure. Special suture anchors are used to repair damage to the soft tissue. The surgeon can use either an open incision approach or an arthroscopic method to accomplish the task.

Sometimes the stabilization doesn't hold and the shoulder re-dislocates. Once again, the surgeon can go back in and use surgical means to restabilize the joint. Invariably, the question comes up whether it's the way the surgery is done (open versus arthroscopically) that determines the rate of failure.

Various studies have been published on the rates of success/failure for arthroscopic versus open stabilization. The rates of failure requiring a revision operation are fairly even between the two different approaches. So the next question is: how do the results compare between the initial stabilization surgery and the revision (second) surgery?

In this study, this comparison is made just for patients who were treated using the arthroscopic approach. The same technique using suture anchors was used for both sets of patients for a clear comparison. And patients were "matched" between the groups so that their ages, sex (male versus female), and hand dominance (right-handed versus left-handed) were the same between the two groups.

There were 20 patients in each group (one woman and 19 men per group). They ranged in age from 16 up to 45 years old. Everyone had at least one dislocation, of course before having the first operation. Some patients had up to 60 recurrent dislocations.

The repair procedure was done for everyone under general anesthesia. Using an arthroscope, the surgeon looked inside each joint to determine the location and full extent of the damage. The damaged tissue around the joint was cleaned up and reattached. In the case of second (revision) surgeries, any loose sutures from the first operation were removed. Everyone was put in a sling for four weeks and then went to rehab afterwards for six weeks.

The results were compared between groups using X-rays and five standardized tests of shoulder function. The tests included the Rowe Score, Walch-Duplay Score, Melbourne Instability Shoulder Score, Western Ontario Shoulder Instability Index, and Subjective Shoulder Value. Each test measured a slightly different aspect of pain, motion, function, patient satisfaction, return to sports/recreation/work, and stability (physical and emotional).

Everyone was followed for at least two years so the data collected reflect mid-range results. Patients will be followed further in order to gather long-term results as well. But for now, here's what they found. First of all, the patients who had a longer period of time with more recurrent dislocations before the initial stabilization surgery were the most likely to require further surgical procedures.

Four other differences were seen from the revision group when compared to the group who only had the initial stabilization procedure. Shoulder function was reduced in the revision group. Return to sport or work at the same level as before the first surgery was a bigger problem for the revision group. Many had to reduce their work/play, change sport, or even quit sports involvement.

Shoulder fatigue with everyday activities like writing or raising the arms overhead was reported more often in the revision group. A sudden, unguarded movement (e.g., losing balance) requiring the arms to respond quickly created problems for the revision group. The revision group was afraid of falling, especially if it

meant a fall onto the involved shoulder. And finally, the revision group was unable to maintain their preferred level of fitness.

You probably get the picture the surgeons saw: outcomes after revision (salvage) surgery for recurrent shoulder instability just aren't as good as results for patients who only need one stabilization procedure. What's the benefit of a study like this?

Well, knowing that results of revision surgery are not optimal, surgeons can investigate two things: 1) are there risk factors that might be able to predict who will have a failed first stabilization procedure and 2) what can be done to prevent this from happening?

Is it a matter of finding the right surgical technique for each patient based on his or her specific injury, number of dislocations before surgery, length of time between first dislocation and surgery, or some other variable? The authors suggested perhaps there's an emotional element connected with the experience of a failed surgery.

In summary, arthroscopic surgery to stabilize the shoulder is an effective and reliable procedure for most patients. But for those who have a failed response with further subluxations (partial dislocation) or full dislocation, a second (revision) surgery may be needed. Results of revision stabilization surgery are often disappointing with reduced function and inability to return to sports or work at the desired level. Studies like this one will aid future efforts to improve the results -- both for the initial (first) surgery and for a revision procedure when one is needed.

Reference: David Krueger, et al. Subjective and Objective Outcome After Revision Arthroscopic Stabilization for Recurrent Anterior Instability Versus Shoulder Stabilization. In *The American Journal of Sports Medicine*. January 2011. Vol. 39. No. 1. Pp. 71-77.