



Case Report

Functional Outcome of Arthroscopic Bankart Repair in Patients with Recurrent Shoulder Dislocation

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ABSTRACT

Background: Recurrent anterior shoulder dislocation is a common problem among young, active individuals. Arthroscopic Bankart repair has emerged as a favorable treatment due to its minimally invasive nature and excellent functional outcomes.

Aim: To evaluate the functional outcome of arthroscopic Bankart repair in patients with recurrent anterior shoulder dislocation.

Methods: A prospective observational study was conducted on 10 patients with recurrent anterior shoulder dislocation who underwent arthroscopic Bankart repair. Patients were followed up at 3, 6, and 12 months. Functional outcomes were analyzed using the American Shoulder and Elbow Surgeons (ASES) score and Rowe score.

Results: There was significant improvement in functional scores in 12 months postoperatively (mean ASES score increased from 45.3 to 91.6; Rowe score increased from 38.4 to 89.2; $p < 0.001$).

Conclusion: Arthroscopic Bankart repair leads to significant improvement in functional outcomes in patients with recurrent shoulder dislocations.

Keywords: Arthroscopic Bankart repair, Recurrent shoulder dislocation, Functional outcome, ASES score, Rowe score.

INTRODUCTION

Recurrent anterior shoulder dislocation represents a debilitating condition frequently seen in athletes and active individuals. It leads to pain, instability, and functional impairment. The Bankart lesion (detachment of the anteroinferior labrum) is the most common pathology found in recurrent dislocation cases. Traditional open stabilization has been replaced increasingly by arthroscopic techniques that offer less morbidity, faster recovery, and excellent outcomes when performed correctly.

AIM OF THE STUDY

To evaluate the functional outcome of arthroscopic Bankart repair in patients with recurrent anterior shoulder dislocation using validated scoring systems and to determine the recurrence rate and complications associated with the procedure.

MATERIALS AND METHODS

Study Design

was a prospective observational study done over a period of 18 months from January 2024 to July 2025 conducted in the Department of Orthopaedics at Tertiary Care Hospital, Surat.

Study Population: All patients between 18-45 years of age with bankart lesion due to recurrent shoulder dislocation admitted in Department of Orthopaedics at Tertiary Care Hospital, Surat, Gujarat, during the mentioned study period and fulfilling the selection criteria mentioned below were recruited for the study.

Study Duration: 18 months

Inclusion Criteria

- Patients aged 18–45 years
- ≥2 episodes of anterior shoulder dislocation
- Bankart lesion confirmed by MRI
- Voluntary consent for surgery and follow-up

Exclusion Criteria

- Associated humeral head (Hill–Sachs) lesion >25%
- Glenoid bone loss >20%
- Multi-directional instability
- Prior shoulder surgery
- Rotator cuff tear
- Connective tissue disorders
- Non-compliance with postoperative rehabilitation

Preoperative Evaluation

- Clinical assessment: Apprehension test, relocation test
- Imaging: X-ray (AP, axillary), MRI for labrum and bone loss
- Baseline functional scores: ASES, Rowe

Scoring system

1. The American Shoulder and Elbow Surgeons (ASES) score is a patient reported outcome measure that assesses shoulder function and pain: Scoring: The ASES score is a 100-point scale that combines a patient-rated questionnaire with a physician-rated section. The patient-rated section includes a pain visual analog scale (VAS) and 10 questions about activities of daily living (ADL). The pain score is calculated by subtracting the VAS from 10 and multiplying by 5. The functional score is calculated by multiplying the sum of the 10 ADL questions by 5/3. The pain and function scores are then added together to get the final ASES score.

Interpretation: Higher ASES scores indicate better outcomes.

American Shoulder and Elbow Surgeons Score (ASES)

American Shoulder and Elbow Surgeons Score (ASES)
Patient Name: _____
Date: _____

Dominant Hand: R L Both (Circle One)
Affected Shoulder: R L (Circle One)

Pain Questionnaire

1. Usual Work

2. Usual Sport/Leisure Activity

3. Do you have shoulder pain at night (circle one)?

Yes No

4. Do you take pain killers such as paracetamol (acetaminophen), diclofenac, or ibuprofen (circle one)?

Yes No

5. Do you take strong pain killers such as codeine, tramadol, or morphine (circle one)?

Yes No

6. How many pills do you take on an average day?

Activities of Daily Living Questionnaire
8. Is it difficult for you to put on a coat?

<input type="checkbox"/> Unable to do	+0
<input type="checkbox"/> Very difficult to do	+1
<input type="checkbox"/> Somewhat difficult	+2
<input type="checkbox"/> Not difficult	+3

9. Is it difficult for you to sleep on the affected side?

<input type="checkbox"/> Unable to do	+0
<input type="checkbox"/> Very difficult to do	+1
<input type="checkbox"/> Somewhat difficult	+2
<input type="checkbox"/> Not difficult	+3

10. Is it difficult for you to wash your back/do up bra?

<input type="checkbox"/> Unable to do	+0
<input type="checkbox"/> Very difficult to do	+1
<input type="checkbox"/> Somewhat difficult	+2
<input type="checkbox"/> Not difficult	+3

11. Is it difficult for you to manage toileting?

<input type="checkbox"/> Unable to do	+0
<input type="checkbox"/> Very difficult to do	+1
<input type="checkbox"/> Somewhat difficult	+2
<input type="checkbox"/> Not difficult	+3

ROWE Score

The Rowe Score is a clinical scoring system used to assess shoulder stability, especially after treatment for anterior shoulder dislocation (e.g., Bankart repair).

Surgical Technique

Under general anesthesia, arthroscopic Bankart repair was performed using:

ROWE SCORE

1. You complain of: Right shoulder Left shoulder 2. You are: Right-handed Left-handed

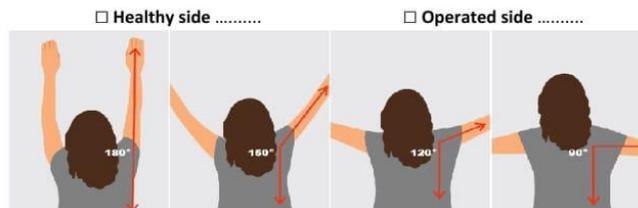
3. Do you still feel apprehensive / fearful of a dislocation after undergoing surgery?

- No recurrence, subluxation or apprehension
- Persistent apprehension (apprehension when placing arm in certain positions)
- Feeling of instability / subluxation (not requiring reduction)
- True dislocation

4. How is your shoulder's function for sports and/or work ?

- No limitation in work and sports
- No limitation in work, mild limitation in sports
- Mild limitation in work above head and sports
- Marked limitation and pain

5. Using the images below, can you tell us which angle you can obtain while raising your arm to the side ? (values from 0° to 180°)



6. How high up your back can you bring your hand ?

	Between shoulder blades	Under the shoulders	Lower back
Healthy side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operated or painful side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



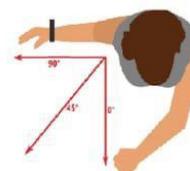
7. With your arm out to the side at 90 degrees, how far back can you bring your forearm? (values from 0° to 110°)

- Healthy side
- Operated / painful side



8. While keeping your elbow flexed at 90 degrees against your body, how far out can you turn your forearm? (value from 0° to 90°)

- Healthy side
- Operated / painful side



- Standard posterior and anterior portals
- Preparation of glenoid rim and labrum
- Anchors placed at 3:00–6:00 o'clock position
- Suture anchor fixation with restoration of labrum

Postoperative immobilization in a sling for 4 weeks.

Surgical procedure

Regional anaesthesia was provided with an interscalene block combined with general anaesthesia. The patient was positioned in the lateral decubitus position, and the arm was suspended at 40°–50° of abduction and 10°–15° of forward flexion with a sterile shoulder traction and rotation sleeve.

The joint was inspected for evidence of substantial articular injury, concomitant injury to the biceps origin, and rotator cuff tear, along with examination of the anteroinferior aspect of the labrum for the presence of a Bankart lesion in all patients.



Arthroscopic Procedure

Following anaesthesia and proper positioning of the patient, a spinal needle was inserted 1 cm anterior to the corner of the anterior acromion so as to allow it to pass into the joint in the rotator interval, just anterior to the biceps tendon. A small skin incision was made to insert a smooth-walled crystal cannula fitted with a taper tip obturator.

This 6 mm smooth cannula was inserted into the anterior mid-glenoid portal (AMGP), and the scope was inserted into the anterior superior portal (ASP) for the anterior reconstruction. A liberator knife and shaver were used to debride frayed tissues and to mobilize the anterior labrum and capsule completely from the neck of the glenoid.

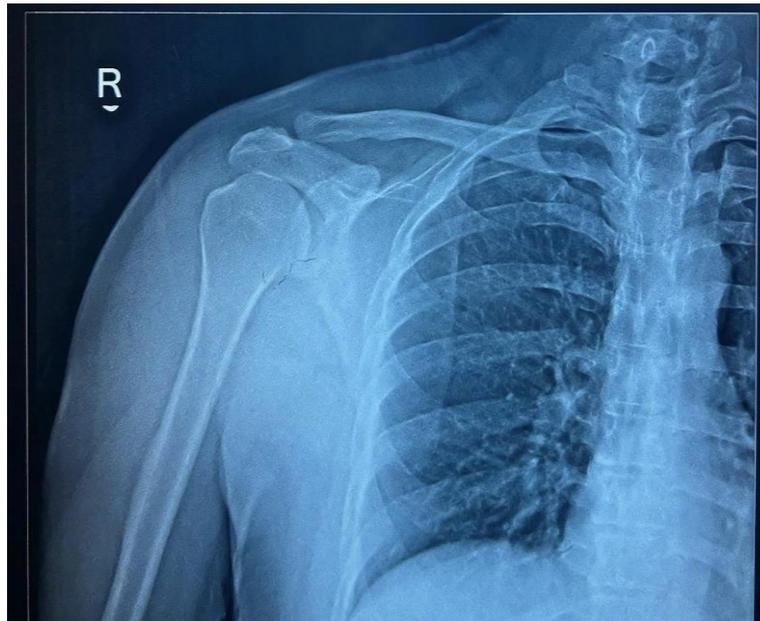
The anterior glenoid neck was lightly abraded to expose cancellous bone, which becomes the bed for the newly attached anterior labral tissues during healing.

The first pilot hole for the inferior most anchor was created by inserting a 2 mm drill with a self-stopper through the AMGP, on the face of the articular cartilage of the glenoid around the 5-o'clock position, down to the horizontal seating line. One to two additional holes were drilled along the edge of the cartilage at the 4:30 and 3:30 o'clock positions, depending on the extent and size of the detached labral tissue.

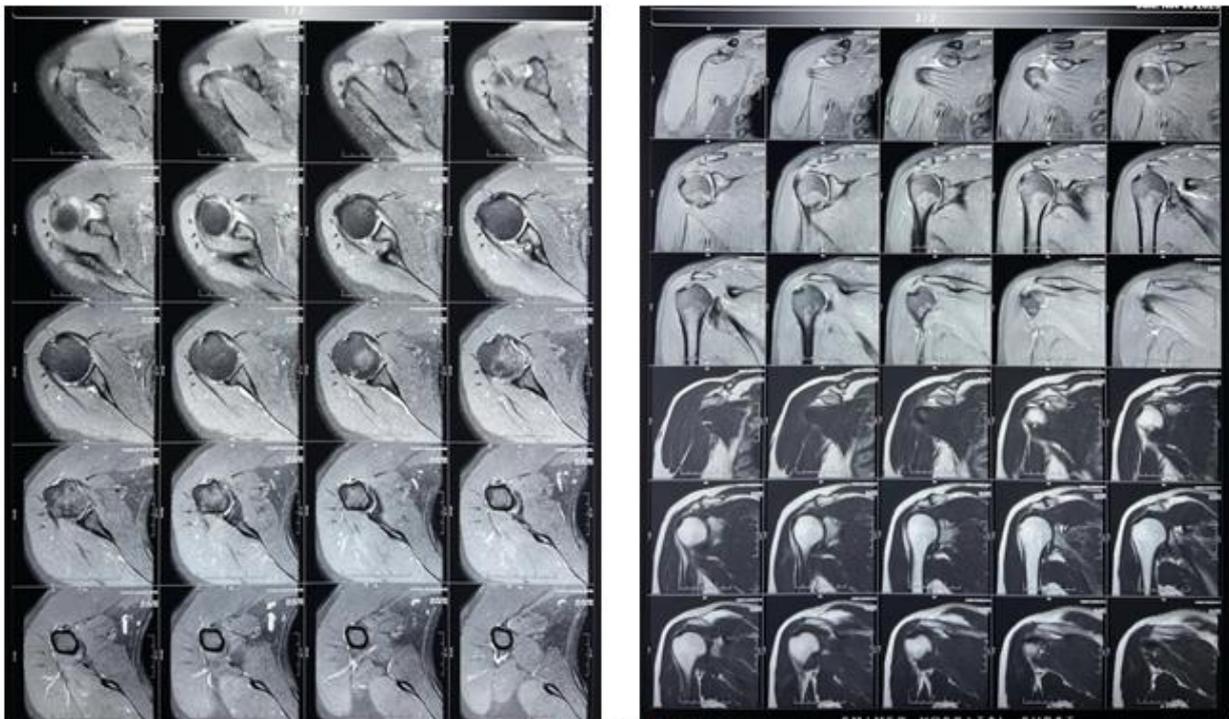
It was ensured that the suture anchor was completely seated below the subchondral bone without risking breakage during insertion in the hard glenoid bone. The anchor was screwed completely below the bone, ensuring it remained approximately 2 mm beneath the subchondral surface. While removing the screwdriver, care was taken to avoid toggling or altering alignment.

A crochet hook was inserted through the posterior cannula to retrieve one strand of the suture that exited the eyelet from the anterior-inferior side of the anchor. A 45-degree curved spectrum suture hook loaded with a shuttle relay of 1 mm Prolene was inserted into the anterior mid-glenoid portal, and a healthy plication stitch was created through the anterior-inferior capsule tissue, 1–2 cm below the anchor and 1 cm lateral to the labral edge.

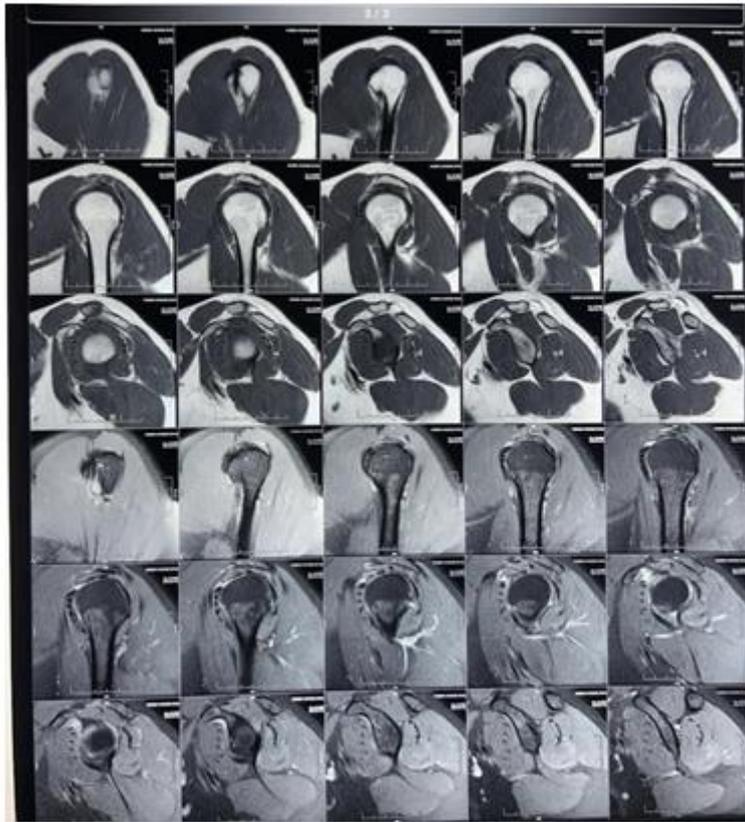
CASE 1
39 years/Male



Pre- op Xray



Pre - Op MRI



Pre-Op MRI Report

EXAMINATION: MRI STUDY OF RIGHT SHOULDER JOINT

EXAMINATION PROTOCOL:

MRI study of right shoulder joint was performed using T1W, STIR and PD FSAT coronal. PD FSAT sagittal and PD FSAT, GRE axial images.

OBSERVATION:

✓ Marginal blunting of antero-inferior glenoid labrum from 3 to 5 o'clock, however glenoid bone appears normal – soft tissue bankart lesion.

Supraspinatous tendon appears hyperintense without disruption of its fibers
-suggest changes of mild tendinosis.

There is type II acromia. Subacromial space measures 6.2 mm.
Bulk of supraspinatous muscle appears maintained without obvious atrophy.

Grade I subluxation of AC joint, with Grade I sprain of acromio-clavicular ligament.

Mild synovial hypertrophy with articular margin irregularities & small osteophytes seen involving acromio-clavicular joint, suggest mild changes of arthritis.

Thin strip of fluid is seen in subacromial & subcoracoid bursa region.

Mild fluid noted around Biceps tendon sheath in the bicipital groove.
suggest possible mild changes of paratendinosis.

Infraspinatus, subscapularis and Teres minor muscle & tendon appears normal.

Ill-defined mild hyperintensity seen involving rotator cuff interval. Coraco-humeral ligament appears normal. IGHL appears normal.

Humeral head reveals normal contour. Humeral head and proximal shaft reveals normal signal intensity. Visualized scapula appears normal. No bone erosion or destruction seen. Articular cartilage of the shoulder joint appears normal.

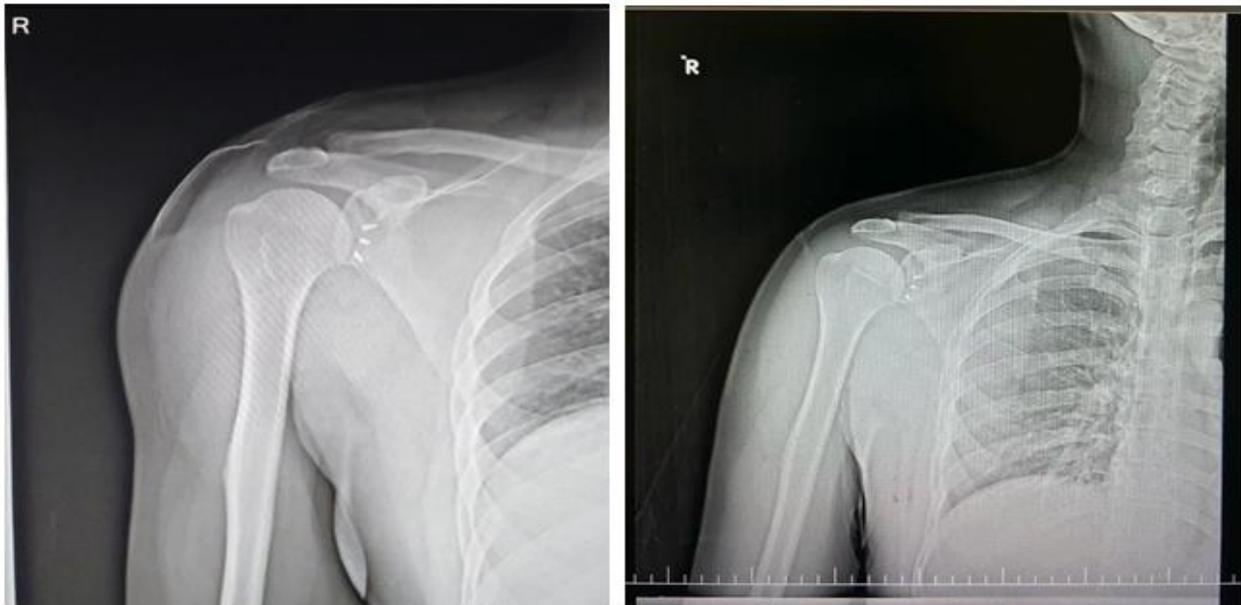
No shoulder joint effusion is noted.

DEPARTMENT OF RADIODIAGNOSIS

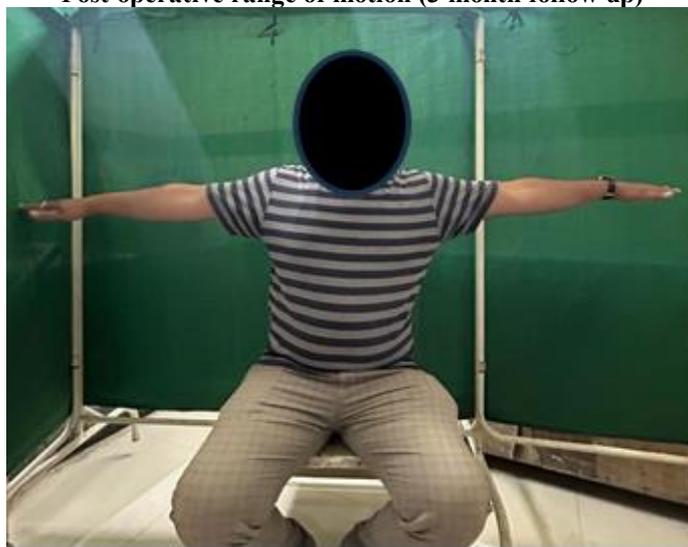
IMPRESSION :

- ✓ Soft tissue bankart lesion as described above.
- Mild tendinosis involving supraspinatous tendon as described above.
- Grade I subluxation of ac joint, with grade I sprain of acromio-clavicular ligament.
- Changes of arthritis involving acromio-clavicular joint as described above.

Post operative and follow up Xrays :



Post operative range of motion (3 month follow up)





Postoperative Rehabilitation Protocol

Phase I (0–4 weeks): Protection

- Immobilization in a shoulder sling
- Hand, wrist and elbow range of motion (ROM) exercises
- Pendulum exercises

Phase II (4–8 weeks): Passive to Active-Assistive

- Passive shoulder flexion and abduction
- Active-assistive ROM
- Avoid external rotation beyond 30°

Phase III (8–12 weeks): Active Strengthening

- Active shoulder motion
- Isometric strengthening exercises
- Scapular stabilization exercises

Phase IV (12–24 weeks): Advanced Strengthening

- Progressive resistance exercises
- Rotator cuff and deltoid strengthening
- Sport-specific training after 16 weeks

Outcome Measures

Primary Outcome

- Functional scores: ASES and Rowe scores evaluated preoperatively and at 3, 6, and 12 months.

Secondary Outcomes

- Recurrence of dislocation
- Range of motion
- Complications
- Significant improvement in both scores ($p < 0.001$).

RESULTS

Parameter	Preoperative	12-Month Postoperative	p-Value
ASES Score	45.3 ± 11.2	91.6 ± 7.5	<0.001
Rowe Score	38.4 ± 9.7	89.2 ± 8.1	<0.001
ROM Limitation	18%	8% (minimal)	-

DISCUSSION

Arthroscopic Bankart repair demonstrated significant functional improvement at 12 months, supporting its use as a standard treatment for recurrent anterior shoulder instability. The minimally invasive nature resulted in reduced pain and faster rehabilitation compared with open techniques reported in the literature.

Factors influencing success included early intervention, accurate diagnosis, and strict adherence to rehabilitation. Limitations include a relatively small sample size and short-term follow-up. Long-term studies will help define durability.

CONCLUSION

Arthroscopic Bankart repair is an effective surgical technique for recurrent anterior shoulder dislocation, showing significant functional improvement with low recurrence when proper patient selection and structured rehabilitation are applied.

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