

REHAB PROGRAM FOR ARTHROSCOPIC BANKART REPAIR OR SUTURE PLICATION FOR ANTERIOR INSTABILITY

The treatment for patients with a first time acute anterior shoulder dislocation is somewhat controversial. Although there are no well-controlled prospective studies in the literature, the retrospective studies that do exist have shown recurrence rates as high as 90 percent in patients younger than 20 - 25 years of age who have a first time dislocation and are treated nonoperatively. Athletes who are involved in contact sports appear to have a higher rate of recurrent instability after an acute dislocation. The decision for surgery after an acute dislocation can be difficult in these young patients since many physicians have traditionally treated them nonoperatively. The patient's age and activity level should, however has a significant influence on deciding the appropriate treatment for a patient with a first time traumatic anterior dislocation.

Although patients under the age of 25 years are at the highest risk for recurrence, a sedentary, less active lifestyle may protect them from having recurrent instability.

A Bankart-type capsulolabral reconstruction is the “gold standard” surgical treatment for acute dislocators and patients with chronic instability who decide to have surgery. This procedure can be either performed open or with arthroscopic technique. The goal of the procedure is to restore the normal anatomy of the anterior portion of the inferior glenohumeral ligament which is torn away from the labrum in patients with traumatic anterior instability. The open technique has been used for many years and has a proven, highly predictable success rate. More recently, arthroscopic technique of Bankart repair are being utilized by many surgeons. Initially, these arthroscopic procedures had a much higher failure rate as compared to the open technique. As our experience with arthroscopic shoulder reconstruction has evolved, the technique now has results similar to the open procedure.

The primary advantages of an arthroscopic Bankart repair is that the patients have less pain postoperatively and it is much easier to regain full shoulder motion. The technique usually involves the placement of bioabsorbable arthroscopic tack or suture anchors. A tack-type device may actually result in a higher rate of failure. These failures may occur because some bioabsorbable implants lose 50 percent of their strength two weeks postoperatively and is nearly completely dissolved by six weeks. Nevertheless, many surgeons utilize this device because it is **much easier** to place than arthroscopic suture anchors. The primary disadvantage of a suture anchor is that it requires a **high degree of skill** in order to appropriately pass the sutures through the tissue and to tie secure knots using an arthroscopic technique. In addition to addressing the Bankart lesion, **capsular laxity** or redundancy should also be treated. Traditionally, arthroscopic techniques have not done this and therefore have had higher failure rates as compared to an open reconstruction. Capsular placcation with suture can be used to address capsular redundancy and to decrease the overall intraarticular volume.

The following protocol is a **guideline** for rehabilitation after surgery. **It should not be used as an absolute cookbook type of a program.** There are many factors that may accelerate or decelerate the program including the patient's previous activity level, tissue status, response to surgery, method of fixation and the actual surgical procedure performed. As always, appropriate open **communication** among the surgeon, patient, therapist and often coaches and parents, is important to the long term success of any surgical procedure. A "hands-on" approach is critical for successful shoulder rehabilitation.

PHASE I: Immediate postoperative phase

Goals:

- Protect the surgical procedure
- Minimize the effects of immobilization
- Diminish pain and inflammation

Weeks 0-2

- **Sling** for 3-4 weeks
- Wear **immobilizer** during sleep 4 weeks
- Elbow/hand ROM & Gripping exercises
- Codman's pendulum exercises & Submaximal isometrics
- Cryotherapy, modalities as needed to control pain and swelling

Weeks 3-6

- **AAROM & PROM (NO Active Motion)**
 - Flexion to 90 degrees
 - ER in scapular plane to 30 degrees
 - IR in scapular plane to 45-60 degrees
 - Abduction to 60-75 degrees
 - No shoulder extension**
 - No combined abduction/ER**
- Continue isometrics
- Begin submaximal dynamic stabilization at **4-6 weeks**
- Flexion to 120-130 degrees by **4-6 weeks**

BEGIN TO ACCESS "END FEEL" AT 3 WEEKS. BE MORE AGGRESSIVE IN PATIENTS WITH FIRM "END FEEL" AND SLOW DOWN IN THOSE WITH A SOFT FEEL!

Weeks 6-8

- Gradually improve motion – **"END FEEL" IS VERY IMPORTANT AT THIS POINT. NOTIFY SURGEON IF THERE ANY CONCERNS OR QUESTIONS**
 - Flexion to full
 - At 45 degrees abduction: ER of 45 degrees and IR of full
- Initiate posterior capsular stretching
- Initiate exercise tubing ER/IR (with arm at side)
- Continue dynamic stabilization, PNF

Weeks 8-10

- Progress ROM to:
 - At 90 degrees abduction: ER of 90 degrees and IR of 75 degrees
 - Flexion: FULL
- Joint mobilization, stretching, etc.
- Continue self-capsular stretching
- UBE arm at 90 degrees abduction

- Continue PNF **diagonal patterns** (rhythmic stabilization techniques)
- Progressive isotonic strengthening

PHASE II: Intermediate phase

Goals: Reestablish full ROM

Normalize arthrokinematics

Improve muscular strength

Enhance neuromuscular control

Weeks 10-14

- Progress to full ROM
- Continue all stretching exercises
 - Joint mobilization, capsular stretching, passive and active stretching
- In overhead athletes, progress ER past 90 degrees
- In nonoverhead athletes, maintain 90-degree ER
- Continue strengthening exercises
 - Throwers Ten Program
 - Isotonic strengthening for entire shoulder complex
 - PNF manual technique
 - Neuromuscular **control** drills
 - Isokinetic** strengthening
- Begin sports specific exercises
- May initiate “light” plyometric exercises
- May initiate “controlled” swimming, golf swings, etc.
- May initiate light isotonic machine weight training

PHASE III: Advanced strengthening phase

Goals: Enhance muscular strength, power and endurance

Improve muscular endurance

Maintain mobility

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Criteria to enter Phase III:

- 1) Full range of motion
 - 2) No pain or tenderness
 - 3) Satisfactory stability
 - 4) Strength 70-80% of contralateral side
- Continue all flexibility exercises
 - Self-capsular stretches (anterior, posterior and inferior)
 - Maintain ER flexibility
 - Continue isotonic strengthening program
 - Emphasize muscular balance (ER/IR)
 - Continue PNF manual resistance
 - May initiate and continue plyometrics

- Interval throwing program
- Functional progression program

PHASE IV: Return to sports (unrestricted)

Criteria to enter Phase IV:

- 1) Full nonpainful ROM
- 2) Satisfactory stability
- 3) Satisfactory strength (isokinetics)
- 4) No pain or tenderness
- 5) Satisfactory functional progression

Exercises:

- Continue capsular stretching to maintain mobility
- Continue strengthening program
 - Either Thrower's Ten or fundamental shoulder-exercise program

ER= external rotation; IR= internal rotation; PNF= proprioceptive neuromuscular facilitation; ROM=range of motion; UBE= upper body ergometer..