Postoperative Treatment For Anterior Labral Repair/ Capsular Plication-- Dr. Trueblood

**Indications:** Anterior instability of the glenohumeral joint ranges in severity from excessive ligamentous laxity and symptomatic subluxation of the joint to frank dislocation. Subluxation is the reversible, excessive translation of the humeral head without complete separation of the humeral head and glenoid surfaces. Dislocation occurs when the joint surfaces are completely separated and must be returned to their normal positions with an externally applied reduction maneuver. The most common scenario is a traumatic anterior dislocation when an anteriorly directed force is applied to an abducted and externally rotated arm. Patients older than 30 years old with concentrically reduced shoulders will generally receive nonoperative management first. Younger patients are more likely to redislocate (as high as 92% probability in some studies) and, depending on their activities and occupation, will sometimes be offered surgical treatment after the first dislocation. In any event, recurrent dislocation or persistent hyperlaxity of the joint provoking pain with activity will typically be addressed with surgical repair of the injured capsulolabral structures of the shoulder.

**Technique:** The glenohumeral joint is entered and explored arthroscopically. Several conventional working and viewing portals may be employed for optimal visualization while minimizing opportunities for collateral damage within the joint. The glenoid labrum and capsular ligaments are visualized and the patient’s injury thoroughly characterized. Bone loss from the anterior glenoid and Hill-Sachs lesions is quantified. The anterior glenoid labrum is elevated from the neck of the glenoid until the underlying subscapularis muscle belly is clearly visible. The glenoid neck and a thin rim of marginal glenoid face is then prepared with a ring curette and high speed burr on reverse until a bleeding surface of subchondral bone is exposed. A suture anchor is then placed at the 5:30 or 6 o’clock position and its sutures passed through the inferior labral tissue in a horizontal mattress pattern. These sutures are then brought to tension and tied on the extra-articular surface. At least two more #2 fiberwire sutures are then passed through the labrum and capsular tissues and are then impacted into the glenoid face using knotless suture anchors up to the 3 o’clock position. This maneuver is designed to both restore normal labral attachment points and recenter the humeral head on the glenoid. The shoulder is then stressed with the arthroscope in place and the Hill-Sachs lesion is visualized. An engaging Hill-Sachs is then treated with remplissage (transstendinous advancement of the rotator cuff into the Hill-Sachs) and the shoulder tested again. With or without remplissage, a subacromial decompression is performed to confirm the absence of bursal sided rotator cuff pathology. Wounds are then closed in layers and sterile dressings are applied. The patient is placed into a sling with an abduction pillow, extubated, and transferred to the recovery area. Almost all stabilization procedures are performed on an outpatient basis.
Phase I – Protect Repair and Minimize Pain (Day 1-21)

1st visit with therapy at 3-5 days after surgery for instruction in Home Exercise Program (HEP) and review of postoperative precautions:

- Remain in sling, only removing for showering and elbow/wrist ROM. Sleep with sling on operative shoulder with pillow or towel behind the elbow to minimize tension on the anterior capsular structures. To access the axilla, the patient is instructed to lean forward and let arm hang away from body wall.
- Do not lift/ carry objects or support bodyweight with the operative extremity.
- Keep incisions clean and dry for first four days after surgery. On postop day 4, patient may remove dressings and shower with arm hanging at side. Water runs off incisions and the patient is instructed to pat incisions dry with a clean towel (i.e. a different towel than is used for the rest of the patient’s body.
- Range of Motion:
  - No Passive Range of Motion (PROM)/Active Range of Motion (AROM) of shoulder
  - PROM/AROM elbow, wrist and hand only
- Motor Function:
  - Normalize scapular position, mobility, and stability with gentle isometrics for elevation, depression, protraction, and retraction.
- Cryotherapy for pain and inflammation

1st postoperative visit at 2-3 weeks--

- Pain Assessment and Medication Refills, prn.
- Physical Therapy Prescription. First visit at 4 weeks after surgery.
- Work Note: Must wear sling. May type and write but no other use of operative arm. May not drive or operate machinery.
- Expected return to work:
  - Sedentary/ Cognitive: 2 weeks
  - Light-Medium Manual: 8 weeks
  - Heavy Manual/ Overhead Work: 4 months.
Phase II – Protected PROM

Therapy 2-3x/week x 6 weeks

Precautions: No shoulder AROM or lifting/supporting weight with operative arm. Continue use of sling except for exercises.

ROM:

● Gentle PROM of shoulder.
  ○ Limit ER to 30 degrees at waist height, 30 degrees abduction, and at 90 degrees abduction.
  ○ No limits for forward elevation or abduction.
  ○ No limits for IR in any position.

● Strengthening:
  ○ Continue “scapular clock” isometrics.
  ○ Start SUBMAXIMAL rotator cuff isometrics (belly press and ER).

● Modalities prn (ex. heat first, ice after therapy).

● HEP with cane exercises.

Criteria for progression to Phase 3:

● Full flexion and internal rotation PROM
● PROM 30 degrees of external rotation at 90 degrees abduction

2nd postoperative visit at 6 weeks after surgery--

☐ Pain Assessment and Medication Refills, prn.
☐ Physical Therapy Prescription. Continue per protocol.
☐ Work Note: 10# weightlifting. No pushing or pulling. No overhead work.
☐ Expected return to work:
  ☐ Sedentary/ Cognitive: 2 weeks
  ☐ Light-Medium Manual: 8 weeks
  ☐ Heavy Manual/ Overhead Work: 4 months.

☐ Conditioning Program For:
  ● Trunk
  ● Lower extremities
  ● Cardiovascular endurance (Okay to start eliptical/ exercise bike. Avoid treadmill and running.)
Phase 3 – Initiate AROM (usually ~week 6-7)

Therapy 1-2x/ week x 6 weeks with HEP

Precautions:
- Wean from sling as tolerated
- No ballistic or jerking stretching. No manipulations.
- No lifting with affected arm
- No strengthening activities that place a large amount of stress across the anterior aspect of the shoulder in an abducted position with external rotation (i.e. no pushups, pectoralis flys, etc.)

ROM:
- Advance PROM
  - External rotation to 30-50 degrees at 20 degrees abduction, to 45 degrees at 90 degrees abduction.
  - Posterior capsule stretching
    - Cross arm stretch
    - Side lying internal rotation stretch (sleeper stretch)
  - Pec minor stretching/ mobilization.
  - Gentle Joint Mobilization
    - Scapulothoracic joint
    - GH joint (No posterior glides)
    - SC joint
    - AC joint
- Begin AROM of shoulder. No restrictions.

Strengthening:
- Scapular retraction rows with theraband.
- Begin gentle rotator cuff strengthening (open and closed chain)

Modalities prn
- HEP with cane exercises.

Advance to Phase 4 when:
- All Phase 3 exercises can be performed to limits without pain and with good mechanics.
Phase 4 - Strengthening (Usually ~ week 8)
Continue therapy 1-2x/ week with HEP performed daily.

Precautions:
Do not stress the anterior capsule with pressing/ flye exercises. Careful advancement of overhead strengthening within limits of pain.
No contact sports/activities. May jog/ run on treadmill if pain free.

ROM:
- PROM
  - External rotation to 65 degrees at 20 degrees abduction, to 75 degrees at 90 degrees abduction
- AROM to limits of PROM
- Strengthening:
  - Initiate IR isometrics in slight ER (do not perform past neutral)
  - Initiate theraband for internal and external rotation at 0° abduction (IR later in the phase)
  - Shoulder abduction
  - Shoulder flexion
  - Latissimus dorsi
  - Rhomboids
  - Biceps curl
  - Triceps kick-out over table
  - Push-ups to wall (serratus anterior)

Weeks 10-12
- PROM:
  - Continue stretching/ PROM. NO limits. Goal is 90 degrees ER at 90 degrees abduction. For throwing athletes, goal is 110-115 degrees ER at 90 degrees abduction.
- AROM to tolerance. Monitor mechanics and correct coordination problems as needed.
- Strengthening:
  - Continue internal and external rotation theraband exercises with(arm at side)
  - Theraband for rhomboids
  - Theraband for latissimus dorsi
  - Theraband for a biceps and triceps
  - Progressive dumbbell exercises for supraspinatus and deltoid
  - Progressive serratus anterior push-up-anterior flexion
  - Continue trunk and lower extremity strengthening and conditioning exercises
may add cutting and pivoting exercise
agility and acceleration training okay

○ Isotonic shoulder strengthening exercises isolating the rotator cuff
  ■ sidelying external rotation
  ■ prone arm raises at 0, 90 & 120°
  ■ prone external rotation
  ■ internal rotation at 0 & 90°

○ progress to standing strengthening exercise once able to tolerate resistance against gravity without substitution
  ○ Progress scapulothoracic/upper back musculature strengthening exercises
  ○ Dynamic stabilization exercises

● Modalities prn
● HEP

3rd postoperative visit 12 weeks after surgery--
  □ ROM assessment- specific deficit recommendations as needed.
  □ Pain assessment, prescriptions as needed. Emphasis on weaning from narcotics at this point.
  □ Work Note: No overhead lifting until 4 months after surgery. May push and pull. No contact sports or throwing.
  □ Therapy prescription: 1-2x/ week x 6 weeks. Wean to sport specific program when goals are met.
  □ Followup in 2 months.

Phase 5 – Returning to activity phase (Weeks 12-20 usually)

Goals before HEP:
Full, symmetric range of motion compared to the contralateral side.
Normal glenohumeral and scapulothoracic mechanics/ coordination during AROM.
Strength >80% contralateral in all planes.

Precautions:
  ● No throwing or ballistic movements with operative arm until 4 months postoperatively.
  ● No wide grip bench, military press, or lat pulls behind head-- “You always have to see your hands!”
  ● May chip and putt, but no driving in golf until 4 months.
  ● May volley in tennis but no serving until 4 months.
AROM/ PROM:
- Continue with ROM exercise without limits.

Strengthening:
- Continue with protected strengthening program. May add generalized upper extremity weight-lifting program using moderate weight, repetitions to fatigue but not failure. Precautions as above.
- Patients with unusually high demand, overhead lifting occupations may benefit from a formal work conditioning program. Please contact Leslie Hedge, RN, at 573-388-3026 to arrange for a referral if this is felt to be appropriate.

Final follow-up at 20 weeks.
- DASH and ASES Score
- If still substantially limited in ROM, will consider MUA/ Capsular release. Dr. Trueblood should see patient at next available visit if patient is seen in a mid-level provider’s office.
- Return to sport:
  - Pain free shoulder function without signs of instability
  - Restoration of adequate ROM for desired activity
  - Full strength as compared to the non operative shoulder
- Throwers may start interval throwing program.
- Work Note: No restrictions.