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**Arthroscopic Posterior Capsulolabral Reconstruction
Posterior Labral Repair/Posterior Plication Protocol
(Anatomic Repair)**

I. Phase I – Immediate Postoperative Phase “Restrictive Motion”

- Goals:** Protect the anatomic repair
Prevent negative effects of immobilization
Promote dynamic stability
Diminish Pain and inflammation

ROM LIMITS SHOULD BE ADJUSTED ACCORDING TO PATIENT RESPONSE AND END FEEL. IF THE PATIENT CONSISTENTLY HAS AN EMPTY END FEEL (MAY HAVE HISTORY OF EXTREME LAXITY), SLOW THE PROTOCOL LIMITS DOWN BY 1 TO 2 WEEKS. IF THE PATIENT IS TIGHT, HAS DIFFICULTY OBTAINING PROTOCOL ROM LIMITS, AND HAS A CAPSULAR END FEEL, EMPHASIZE STRETCHING TO ROM ALLOWED BY PROTOCOL, AND ADD CAPSULAR MOBILIZATIONS IN THE DIRECTION NEEDED.

Patient education: Do not get stitches wet. Do not try to actively move/raise arm up for 4 weeks. Use sling. Bend over to let arm hang to bathe under arm, get shirt on. Do not use arm for activities of daily living or to carry objects. Use ice at home 3-4 times daily. Stitches out after 6-7 days. May start recumbent bike in sling after 2 weeks, no jogging or any jarring activity until 8 weeks post-op. Do not lean on your arm with your elbow or hand at or closer to body than shoulder width. Do not perform any pushing activities with your arm in an adducted position. No activities above the head or across the body. Do not lean or push with involved arm.

Week 0-2

- Sling for 3 weeks during day *Sling in neutral-can use 2 pads to decrease IR
- Sleep in immobilizer for 4 weeks – can remove 1 pad after 3 weeks complete
- Elbow/hand ROM
- Hand gripping exercises
- Shoulder shrugs/squeezes – with only scapula movement not arm
- cervical ROM, lateral flexion
- Passive and gentle active assistive ROM exercise
 - Flexion to 60 degrees
 - Elevation in scapular plane to 60 – 90 degrees (scaption)
 - ER/IR with arm in 20 degrees of abduction
 - ER to tolerance in 30, 45 and 90° abduction
 - IR in 20° abd to 20°

- Submaximal isometrics for shoulder musculature – **shoulder in neutral**, elbow flexed (place a towel roll between arm and body)
- Cryotherapy, modalities as indicated

Week 2 add:

- Rhythmic stabilization drills ER/IR in a supported position, elbow flexed
- Scapular PNF elevation, depression, protraction, retraction with hand contacts on scapula. Do sitting, or sidely with a bolster under forearm to prevent IR ROM

Week 3-4

Discontinue use of sling during the day after 3 weeks completed. At night 4 weeks

- Continue use of cryotherapy
- Continue gentle ROM exercises (PROM and AAROM): pulley flexion/scaption, supine wand ER exercises to ROM limits
- Week 3 ROM:
 - Flexion/Scaption to 90 degrees
 - ER in 30, 45 and 90° abduction to tolerance
 - IR in 30 degrees abduction on a towel roll to 30°
- Week 4 ROM:
 - Flexion to 90°/Scaption to 120 degrees
 - ER as above
 - IR in scapular plane to 30 degrees

Week 4 add: active assistive elevation to 90° flexion and scaption

****NOTE:** Rate of progression based on evaluation of the patient – if **empty** end feel, continue with week 4 ROM limits during week 5. If **capsular** end feel, progress ROM week 5 and add grade 3 to 4 mobilization. **NO POSTERIOR CAPSULE MOBILIZATION**

Week 5-6

Week 5 ROM:

- Flexion to 120°/Scaption to 140 degrees
- ER to tolerance at 30, 45 and 90° abduction
- IR at 45 degrees abduction: 45 degrees (NO POST. MOBS)
- Pulley scaption/abduction to ROM limits
- Add wand IR exercises – supine, and standing with add/IR cross back pull (elbows remain fairly straight)
- Initiate exercise tubing ER/IR (arm at side) – ER as tolerated, IR to 30° – towel roll between arm & body, start with light (yellow) resistance
- Initiate active flexion & elevation in the scapular plane to 90° in supine, progressing to standing flexion, scaption, abduction to 90° as tolerated
- Add rhythmic stabilization in 90 degrees of elevation in the scapular plane, and progress ER/IR rhythmic stabilization to unsupported (in neutral ER/IR position)
- Prone scapular exercises:
 - Extension to plane of body
 - Row to plane of body
 - Horizontal abduction (neutral and thumb up)
- Bicep/tricep tubing, dumbbell, arm by side

At week 6:

- Add UBE – gently, for ROM, and progress to resistance and speed week 7
- progress ROM:
 - Flexion to 140/Scaption 150 - 160 degrees
 - ER to tolerance
 - IR 50-55 degrees at 45 degrees abduction
- Add towel IR stretch
- Prone flexion (at 145° angle) to 135-140 degrees (may need assist)
- add weight to supine elevation in the scapular plane and progress to 140°, add supine D2
- Progress standing flexion/scaption from 90 to 120 degrees by week 7 – avoid scapular hiking
- Add sidely ER with dumbbell

I. **Phase II – Intermediate Phase: Moderate Protection Phase**

Goals: Gradually restore full ROM (week 10)
Preserve the integrity of the surgical repair
Restore muscular strength and balance

Week 7-9

- Gradually progress ROM:
 - Flexion/Scaption to 165 degrees
 - ER at 90 degrees of abduction to tolerance (should be 85-90 by week 8)
 - IR at 90 degrees of abduction: 45-50 degrees at week 7, 50-55 degrees week 8, 55-60 degrees week 9. Add cross body adduction stretch week 7, prone chicken wing stretch week 8 - 9 if needed. (May initiate post. mobs week 8 if capsular end feel)
 - Week 8 add hangs, lat pull stretch if elevation limited (monitor signs of impingement)
 - Week 8-9 add sidely IR self stretch
- Continue inferior capsular mobilization as needed to decrease impingement
- Continue to progress isotonic strengthening program
- May initiate jogging after 7 weeks are complete – no sprinting
- Scapular strengthening
 - protraction/retraction manuals – in scapular plane to prevent posterior capsule stress
 - push up plus – arms in scapular plane (wider than shoulder width)
 - prone flex (at a 145° angle) to 160 degrees, continue extension to plane of body, horizontal abduction with neutral, ER, progress to IR, prone row with external rotation. May need assistance to get to end ROM
- No closed chain or weight bearing exercises for posterior reconstruction
- Rhythmic stabilization with proprioception activities – in open chain only
 - Placing varied positions in 90 degree flexion, scaption, D2
- Week 8 add ER/IR exercises in 90° abduction (may need support of bolster) within ROM limits
- Continue cardiovascular activity and conditioning for trunk/LE, core stabilization exercises, elbow, wrist, forearm, and hand strength and modalities
- Increase resistance on UBE
- PRE's flexion/scaption working to 160 degrees, and abd to 90 degrees
- D2 PNF with weight, progression to tubing
- week 9 add manual resistive exercises – patient should be able to lift 2-3# through the ROM with the exercise in order to start manuals (ER, D2 PNF conc/conc, prone horiz abd palm down, then work to thumb up and down, elevation at 145 degree angle, and row
- Week 8 bodyblade ER/IR with towel roll, & 90 degrees scaption, impulse ER/IR

Week 9-10

- Progress ROM:
 - Flexion/Scaption 175 to 180
 - ER at 0° WNL, at 90° abduction to 90-120 depending on sport demand/specificity. **Goal of total motion ER to IR in a pitcher = 180°**
 - IR 60-65 degrees at 90 degrees of abd
- Progress rhythmic stabilization/proprioceptive activities:
 - Rhythmic stabilize in standing multi D2 ROM
 - Rhythmic stabilize in standing abduction/ER position
 - Week 10- Rhythmic stabilization activities in closed chain position in various planes – make sure arms are wider than shoulder width apart to prevent stress on posterior capsule
 - UE proprioceptive activities: BAPS, ball rolls, push up + - wide hand placement
- Initiate light weight bearing exercises scapular plane (hands wider than shoulder width)
- Continue cardiovascular, trunk, and LE conditioning
- ER/IR with tubing at 90 degrees abduction un-supported
- add prone row with ER manual
- add D2 flex conc/ecc manual
- add 90/90 and D2 bodyblade week 10
- Seated press up
- Lat Pull Down/Row

Week 10-12

May initiate slightly more aggressive strengthening

- Progress isotonic strengthening exercises and WB proprioception scap plane
- Continue all stretching exercises

**Progress ROM to functional demands (i.e. overhead athlete)

** Start Biodex ER/IR isokinetics in scapular plane at 10-12 weeks start submax (180,240,300 degrees/sec)

- may initiate light weight training:
 - for global instability follow Anterior and posterior instability precautions (see attached)
 - for post reconstructions, avoid push ups, and if performed, wait until week 15 and do with wide hand placement. Do not lock elbows on incline and bench press, and use wide grip on bench press. See handout for posterior precautions

III. Phase III – Minimal Protection Phase

Goals: Establish and maintain full ROM
Improve muscular strength, power and endurance
Gradually initiate functional activities

Criteria to enter Phase III:

- 1) Full non-painful ROM
- 2) Satisfactory stability
- 3) Muscular strength (good 4/5 grade or better)
- 4) No pain or tenderness

Week 12-16

- Continue all stretching exercises (capsular stretches)
- Continue strengthening exercises:
 - Throwers Ten Program of Fundamental Exercises
 - PNF Manual Resistance – concentrate on eccentrics

- Endurance training
- Initiate light plyometric program weeks below are based on strength – use earlier week if strong/no impingement – later week if above criteria not met - start 2 handed and progress to 1 handed

Week 12-13: chest, rotation, woodchop, tricep, overhead

Week 13-14: wall dribble semi-circle and 90/90, kneeling D2, and ER/IR at 90 degrees theraband plyo, and bicep theraband plyo

Week 14-15: 15' form throw to wall

Week 15 Restricted sport activities (light swimming, half golf swings)

- Initiate hitting: start with dry swings at 50%, progress to a tee, (no batting cage until week 18) See interval hitting program

Week 16-18

- Continue all exercise listed above
- Week 16-18 Microfet and Biodex test (biodex at 180 and 300°/sec)
- Initiate interval sport program (throwing, etc) if attached criteria are met and M.D. clears – see long term ITP (4 ½ months for pitchers)

IV. Phase IV – Advanced Strengthening Phase

Goals: Enhance muscular strength, power and endurance
Progress functional activities
Maintain shoulder mobility

Criteria to enter Phase IV

- 1) Full non-painful ROM
- 2) Satisfactory static stability
- 3) Muscular strength 75-80% of contralateral side
- 4) No pain or tenderness

Week 20-24

- Continue flexibility exercises
- Continue isotonic strengthening program
- PNF manual resistance patterns
- Plyometric strengthening
- Progress interval sport programs

V. Phase V – Return to Activity Phase (Month 6.5 to 9)

Goals: Gradual return to sport activities
Maintain strength, mobility and stability

Criteria to enter Phase V:

- 1) Full functional ROM
- 2) Satisfactory isokinetic test that fulfills criteria (see attached)
- 3) Satisfactory shoulder stability
- 4) No pain or tenderness

Exercises:

- Gradually progress sport activities to unrestrictive participation (see return to sport criteria)
- Continue stretching and strengthening program

POST INSTABILITY PRECAUTIONS FOR WEIGHT TRAINING

1. Avoid push ups. If performed use wide hand placement
2. Bench press: use wide hand placement, and do not lock elbows
3. Incline press: do not lock elbows

ANT INSTABILITY PRECAUTIONS FOR WEIGHT TRAINING

1. Narrow grip on bench press and keep arms in front of the plane of the body
2. Chest flies done keeping the hands in view so that the arms do not get behind the plane of the body. If you use a machine, bring the arm pads down a little, and keep arms in front of body
3. Latissimus Dorsi pull downs are done with a narrow grip, and pull the bar to the chest, not behind the body
4. Avoid the military press. Instead do an incline press with the arms slightly forward of the body when raised, and do not lower arms past the plane of the body
5. Push ups – do not lower the body past elbow height
6. Pull ups are done in front
7. Dips – keep the elbows close to the body, and do not lower all the way. (not recommended for pitchers)

CRITERIA TO INITIATE AN INTERVAL SPORT PROGRAM

1. Good tolerance to overhead motion – full, functional painfree ROM
2. Negative impingement signs
3. 85 –90% strength of external and internal rotation compared to the opposite upper extremity
4. External/Internal strength ratio at least 58-62%

DISCHARGE/CRITERIA TO RETURN TO SPORT

1. Isokinetic Testing:
External/Internal rotation ratio at least 65% dominant arm, 75% non-dominant arm
Peak Torque to body weight ratio at 300 degrees per second ER at least 14 and IR at least 20
Peak Torque to body weight at 180 degrees per second ER at least 15 and IR at least 19
ER and IR strength at least 90% of uninvolved UE
2. Completed interval sport program without symptoms
3. 5/5 MMT all shoulder and scapular groups
4. Able to perform all daily activities without restrictions
5. Clearance from MD

Generally no return to contact sports for at least 6 months