

BEACON Orthopaedics & Sports Medicine

ARTHROSCOPIC POSTERIOR AND ANTERIOR/INFERIOR CAPSULAR PPLICATION PROTOCOL

More conservative ROM protocol

At times with anterior/post/inf capsular plications, the MD will not want therapy to begin for 2-3 weeks. Please check with MD. See the patient post-op for a dressing change, review precautions, use of sling and ice, and elbow/forearm/wrist ROM, shld shrugs and squeezes, and isometrics, but no shoulder ROM in this case.

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. IF THE PATIENT IS TIGHT, HAS DIFFICULTY OBTAINING PROTOCOL ROM LIMITS, AND HAS A CAPSULAR END FEEL, EMPHASIZE STRETCHING, TALK TO MD REGARDING INCREASING ROM LIMITS BY 10-15 DEGREES, AND ADD CAPSULAR MOBILIZATIONS, LOW LOAD STRETCHING IN THE DIRECTION NEEDED.

Patient education: Do not get stitches wet. Use sling. Bend over to let arm hang to bathe under arm, get shirt on. Do not use arm for ADL’s, or carrying objects. Use ice at home 3-4 x /day. No bicep work for 7 weeks if there is a SLAP II repair. When lying down, place a pillow or towel under upper arm to increase comfort. May be more comfortable in a recliner chair the first week. Stitches out approx 7 days. May start recumbent bike in sling after 2 weeks – no jogging or any activity that will cause movement/jolt arm until 7 weeks are complete. Do not lean on your arm with your elbow or hand at or closer to body than shoulder width. Do not lean or push with involved arm.

Week 0-2

- Sling for 4 weeks during day – 5-6 weeks for sleep – use 2 padded sling to maintain a more neutral position
- Elbow/hand AROM – Elbow ROM palm down assisted by other hand if SLAP II
- Hand gripping exercises
- Shoulder shrugs/squeezes – with only scapula movement not arm
- cervical ROM, lateral flexion
- Submaximal isometrics for shoulder musculature – shoulder in neutral, elbow flexed do not pass plane of body (place a towel roll between arm and body)
- Cryotherapy, modalities as indicated – for electrical stim – take to sensory only, no muscle contraction

Week 2 add:

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

Week 3-4

- Discontinue use of sling during the day after 4 weeks completed. At night 5-6 weeks
- Table top exercises within ROM limits – scapular patterns – may slide on towel, or use a ball – depression/elevation, protraction, retraction, weight shifts with wide hand placement (wider than shoulder width to prevent posterior shoulder stress)
- Continue isometrics shoulder flexion, abduction, ER, IR, extension, adduction, and bicep/tricep NO bicep isometric with SLAP II
- Continue rhythmic stabilization (submax) in supported position, work to unsupported (if no SLAP), add 90 degrees flexion RS (not with SLAP).
- Week 4 – progress to RS with arm supported on a wall scapular plane – can put arm on ball to increase difficulty Avoid post capsule stress with weight bearing positions
- Continue gentle A/AROM & PROM exercises
- Supine wand ex to ROM limits ER/IR, wand and pulley flex/scaption to ROM limits (not with SLAP II)
- Prone ext, row to plane of body
- Sidely ER to ROM limit – keep scapula retracted
- Lower trapezius table “lift” (stand with table at side, push back on table with palm and stick chest out)
- Lower trap theraband exercise – bilateral ER with scap retraction – (hold 20 degrees of ER and pull scapula down and back – towel roll between arm and body bilaterally)
- Bicep/tricep dumbbell/theraband with arm at side (no bicep if SLAP II)
- A/AROM exercise (PAIN FREE) @ 4 weeks
 - Flexion 60-90 degrees, scaption (elevation in the scapular plane) 70-90 degrees
 - ER to 10 degrees – arm in 20° abd on a towel roll
 - IR to 20 degrees with arm in 20 degrees abd on a towel roll

Week 4 ROM:

- Flexion/Scaption 110 degrees
- ER in scapular plane to 25 degrees
- IR in scapular plane to 30 degrees
- Active elevation flexion and scaption supine to 90 degrees (not with SLAP)
- Tubing ER/IR within ROM limits with arm by side(towel roll between arm and body)- ensure good scapular stabilization with ER/IR exercises

****NOTE: Rate of progression based on evaluation of the patient – if EMPTY end feel, may need to slow ROM down, if TIGHT/CAPSULAR end feel, you may need to push ROM more quickly, add capsular mobilization inferiorly, emphasize stretching, add low load stretches – contact MD with ROM problem.**

Week 5-6

- Week 5 ROM:
 - Flexion /Abduction/Scaption to 120
 - ER at 45 & 60 degrees abduction: 40 degrees
 - IR at 45 degrees abduction: 45 degrees – (NO POSTERIOR MOBS)
 - Progress pulley to ROM limit
- Sidely ER – active, progressing to dumbbell to ROM limit – may need end range assist to attain ROM limit
- Progress ER/IR tubing to new ROM limit
- Add standing wand IR supine, and standing behind the back (add/IR, pull arm across body, elbow stays fairly straight)

At week 5 :

- add UBE gently for ROM, and progress to resistance and speed week 6-7
- Initiate active flexion, scaption and D2 PNF to ROM limit in supine, progressing to standing flexion/scaption/abduction to 90 degrees as tolerated.
- Prone scapular exercises:
 - *Horizontal abduction with palm down to plane of body (may need assist to get to plane of body)

At week 6:

- Add UBE – gently, for ROM, and progress to resistance and speed week 7
- progress ROM:
 - Start PAINFREE PROM
 - Flexion 150/Scaption/Abduction to 155 degrees
 - ER 60 degrees in 45 and 60° abduction, IR 50-55 degrees at 45 degrees abduction, IR 45- 50 degrees in 60 degrees abd
- progress weight supine elevation in the scapular plane and D2 and progress to new ROM limits.
- Prone flexion at 135 degree angle to 150 degrees (may need end ROM assist_
- Continue standing flexion/scaption – progress from 90 to 150 degrees by week 7 – avoid scapular hiking

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/Abduction 165 degrees
 - ER at 90 degrees of abduction: 70-75 degrees, continue ER stretching at 0 & 45 degrees

- IR at 90 degrees of abduction: 50 degrees at week 7, 55 degrees week 8, 60 degrees week 9
- Add cross body adduction stretch week 7, prone chicken wing stretch week 8 - 9 if needed (young/athletic population). (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
- May initiate gentle posterior capsular mobilization if needed
- May initiate jogging once 7 weeks are complete – no sprinting
- Continue to progress isotonic strengthening program
- Scapular strengthening
 - protraction/retraction manuals – in scapular plane to prevent posterior capsule stress
 - push up plus – arms in scapular plane (wider than shoulder width) – progress to quadruped & over a ball, on dyna disc (wide hand placement)
 - prone flex (at a 145° angle) to 160 degrees, continue extension to plane of body with palm forward (shoulder ER) to increase infraspinatus activation, continue horizontal abduction with neutral, add ER, progress to IR, prone row with external rotation. May need assistance to get to end ROM
 - week 8 add prone row with external rotation (watch ROM limits) – start active, then progress to weight
- 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 – may need overpressure to attain desired ROM – work to unsupported
- Continue cardiovascular activity and conditioning for trunk/LE, core stabilization exercises, elbow, wrist, forearm, and hand strength and modalities
- PRE's flexion/scaption working to 160 degrees, and abd to 90 degrees
- D2 PNF with weight, progression to tubing
- Week 8 bodyblade ER/IR with towel roll by side, and 90 degrees scaption, impulse ER/IR – may progress to impulse horizontal abd
- 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
- Core work – trunk stabilization

Week 9-10

- Progress ROM:
 - Flexion/Scaption/abduction 160 to 170 – (depending on functional need – if hx macrolaxity, may not want full ROM)
 - ER @ 0 degrees WNL, at 90 degrees of abduction to 80-90 (depending on functional need)
 - 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
 - Rhythmic stabilize activities in closed chain position in various planes
 - UE proprioceptive activities: BAPS, ball rolls, UE on stairmaster.
- Continue cardiovascular, trunk, and LE conditioning
- ER/IR with tubing at 90 degrees abduction unsupported
- add prone row with ER manual

- add D2 flex conc/ecc manual
- Add 90/90 and D2 bodyblade week 10
- Seated press up

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) No pain or impingement signs
- 2) ROM per protocol guidelines without pain or impingement
- 3) Satisfactory stability
- 4) Muscular strength (good grade or better 4/5)
- 5) Good scapulohumeral control

Week 10-12

- May initiate slightly more aggressive strengthening
- Progress isotonic strengthening exercises & weight bearing/proprioception ex (wide hand placement)
- Continue all stretching exercises
 **Progress ROM to functional demands (i.e. overhead athlete)
Goal of pitcher total motion ER to IR= 180 degrees total motion

Week 12-16

- Continue all stretching exercises as needed until functional ROM for activity level/sport is attained. Do not overstretch
- Continue strengthening exercises:
 - PNF Manual Resistance – concentrate on eccentrics
 - Endurance training
 - Initiate light plyometric program (if above criteria met). Weeks below are based on strength – use earlier week if strong and no impingement, later week if criteria not met - start 2 handed and progress to 1 handed

Week 12-14: chest, rotation, woodchop, tricep, overhead

Week 13-15: wall dribble- semicircle and 90/90, kneeling D2 and ER/IR at 90 degrees theraband plyo, and bicep theraband plyo

Week 15-16: 15' form throw to wall plyos

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

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 unrestricted participation (see return to sport criteria)
- Continue stretching and strengthening program

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%
5. Microfet criteria met (at least low average)

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
6. Microfet normal

Generally no return to contact sports for at least 6 months