Return to Sport Protocol Following Shoulder Capsulolabral Repair With and Without Bankart Lesion

Immediately Post-OP:

- Sling up to 7 days: If patient is deemed eligible for accelerated protocol: D/C of sling 3 days only, then sling is only worn for sleeping and in public for 1-2 weeks if patient is not confident or pain persists. Ensure proper fit of sling
- Patient given Home Exercise Program before leaving recovery with instructions on Care and Exercises until patient is first seen in for Physical Therapy (See Attached HEP/Care Instruction Sheet)
  - Cryotherapy to control pain and swelling
  - Pendulums
  - Ball Squeezes
  - Wrist and Elbow Flexion and Extension movements
  - Picture of ADL'S under surgically repaired arm

Phase I: Protection/ ROM Phase: (Approximately weeks 1-6)

Goals:

1- To protect the surgical repair (labrum, capsule, ligaments, etc)
2- Follow Staged ROM Goals to ensure adequate progression, within protection parameters
3- Minimize pain and Inflammation
4- Initiate/ ensure scapular functioning
5- Prevent muscular inhibition
6- Educate patient on post-op precautions and limitations, progression of activities/movements, & teach patient their Home Exercise Program
7- Begin to restore strengthening with isometric exercises
8- Patient fills out initial ASES, DASH, and/or WOSI evaluation forms

Interventions to Avoid/ Precautions:

1- Passive home exercises are limited to Passive Forward Elevation and Passive External Rotation, as well as, AAROM & AFE, following Staged ROM Goals
2- Patient should not force or perform ROM/stretching exercises to the point of greatly exceeding Staged ROM Goals (especially ER in both ROM's of Abduction)
3- Patient should not perform IR behind there back, Horizontal Adduction, active reaching/activities outside the Staged ROM Goals, reaching overhead, or heavy lifting with the surgically repaired arm.
4- No supporting patient's body weight with the hand of the surgically repaired shoulder
5- Avoid sleeping of the affected shoulder

Staged ROM Goals:

Post-Op Week	Range Of Motion (ROM)
POW 1-3:	**PROM:** - PFE: 125°, - PER: (@20°-30° Abd): 10°-40°, - IR (scapular plane): 45°, **AAROM:** once PFE to 110° is met without increased pain - AAFE: limit to tolerance ***No Horizontal Add or IR behind the back**
POW 4-6:	**PROM:** - PFE: 145°- 160°, - PER (@20°-30° Abd): 40°-50°,

	- PER (@90° Abd): 45°, - IR (scapular plane): slowly progress, - Abd: limit to 90°, **AROM:** - AFE: 115°
POW 7-8:	**PROM:** - PFE: 160°- WNL, - PER: (@20°-30° Abd): 60°-80°, - PER (@90° Abd): 60°, - IR (scapular plane): 60°, - Abd: slowly progress as tolerated, **AROM:** - AFE: 155°, - Abd: slowly progress as tolerated, - AIR + AER: slowly progress as tolerated
POW 9-12:	**ROM:** - PER +AER (@20°-30° Abd): 80°-90° (by week 12), - PER + AER (@90° Abd): 75°-90° (by week 12, 110°-115° if patient is a throwing athlete), - P + A IR (@90° Abd): 30°-65° (by week 12), - AFE: must be 180°/WNL (by week 12), - P + A Abd: must be 180°/WNL (by week 12)
Key:	POW = Post-Operative Week, PFE = Passive Forward Elevation, PER = Passive External Rotation, AFE = Active Forward Elevation, AIR+ AER = Active Internal and External Rotation

Specific Interventions:

Patient Education:

1- Explain the nature/ answer any question about the surgical procedure
2- Patient should be educated on all precautions and limitations to protect the repair and ensure/ encourage proper healing of repaired tissues
3- Instruct patient on proper sling usage
4- Educate patient on minimal use of surgically repaired arm, at waist-level, for light ADL's, and work as comfortable- Ensure patient's pain level does not increase while performing these activities = excessive use of the arm

Modalities: PRN:

- Cryotherapy (ice packs, ice massage): to control pain and inflammation
- Scar Mobilization
- Kinesiotaping (basket weave): to decrease swelling and eccymosis if present

Exercises: (See attached Specific Exercise Sheets)

1- Pendulums- initially 1-3 weeks
2- Elbow and Wrist ROM exercises- No weights
3- Ball Squeezes & Deltoid isometric exercise (patient squeezes the ball and simultaneously flexes elbow, this is held for 2-3 seconds, then patient releases the ball squeeze as the slowly lower their forearm, and repeats for 10 repetitions)
4- Standing Scapular Mobility:
   a) Alternating elevation, depression, protraction, retraction (no resistance initially) in or out of sling
   b) * Clinician may begin Side-Lying scapular and shoulder Rhythmic Stabilization exercises around week 2, as tolerated*

5- Clinician driven Passive ROM stretches/ exercises: with Forward Elevation, ER (@ 20°-30° Abd), IR (plane of scapula), following Staged ROM Goals. ROM should never be forced in this phase.
   c) Also, SC & AC joint mobilization, thoracic, ribs, and cervical mobility- passive stretches and joint mobilization (P/A Mobs, MET, Mulligan, etc.)
6- Patient driven Passive ROM stretches/exercises:
   d) Passive external rotation walk around exercise: Patient is standing or sitting on rolling stool with forearm arm resting on the end corner of the table, they proceed to move around the corner of the table so as to passively bring their arm into ER, leaving the forearm in the same position until a mild stretch and little to no discomfort is felt. They hold this position for 5-10 seconds. Patient performs 5-10 repetitions, 2-3 times per day.
   e) Passive forward flexion table slides/ table step back exercises: Patient is sitting on a rolling stool, or standing with their hands resting on the table. Patient then rolls the stool or steps backward as they bend at the waist leaving their hands on the table. They hold this position for 5-10 seconds. Patient performs 5-10 repetitions, 2-3 times per day.
      1. * Once the patient is able to perform PFE to 110°, without increased pain, patient is allowed to begin supine AAROM with cane/ pulley/ other UE assist
      2. Side-lying (gravity eliminated) AFE progress to Staged ROM Goal as tolerated, siding on a table/board
      3. Standing sliding up an incline board at varying height
      4. Progress supine from AA-AROM no resistance to Staged ROM Goals
   f) Cervical modified stretches (don't involve surgically repaired UE overhead), & thoracic mobility stretches
7- Sub-maximal shoulder isometrics: IR and ER (begin week 2-3)
8- Scapular Clock Exercises: (around post-op week 2-3) See description in Specific Suggested Exercises
9- Stationary bike, Walking: (not on a treadmill) with their sling initially, for cardiovascular conditioning, LE strengthening exercises- no jumping
10- Aquatic Therapy: Gentle pain-free AAROM (no swimming strokes), once the incision has healed can be initiated

Criteria to Progress to Phase II:

1- Score >/= MDC on the ASES (9.4), DASH (10.5), &/or WOSI (339.3)
2- Reached Staged ROM Goals for POW 4-6
3- Minimal to no pain with all passive ROM and current exercises
4- No persistence of swelling/inflammation
5- No apprehension or impingement signs

Phase II: Strengthening Phase: (Approximately Weeks 6-12)

Goals:

1- Follow weekly staged ROM Goals, however, restore active and passive normal ROM and Glenohumeral joint arthrokinematics in all cardinal planes by the end of this phase
2- -Minimize shoulder pain, if present
3- Address any abnormal scapular alignment/ mobility, and demonstrate rotator cuff and scapular neuromuscular control within the weekly allowed ROM with exercises
4- Begin to increase shoulder, scapular, & core strength and endurance
5- Improve dynamic stability of the shoulder and scapula
6- Increase allowed functional activities
7- Progress exercise endurance, difficulty, and add light-moderate resistance
8- Get a baseline SFMA and Y-Balance (LE only) assessment score (at 9 weeks post-op)

Interventions to Avoid/ Precautions:

1- Do Not Exceed Staged ROM Goals, unless MD allows
2- Avoid extreme endrange forced stretching into ER at 30° or at 90° of Abduction
3- Patient continues to be restricted from heavy lifting with the surgically repair arm.
4- Avoid lifting into strictly abduction or straight coronal plane
5- Avoid positions/exercises of stressed horizontal Abduction or combined with ER (push-ups, bench press, pectoral flys)
6- Do not perform exercises of scapular plane IR such as the "Empty Can" exercise 2° possible impingement at any phase of rehabilitation
7- No heavy lifting or plyometrics should be performed in this phase

Specific Interventions:

Patient Education:

1- Educate patient on all Precautions and Limitations within this phase of rehabilitation
2- Posture awareness and scapular position needs to be emphasizes with patients
3- Patient should be instructed that they may use their UE for ADL's only through pain-free ROM
4- Patient should be educated to avoid impingement and endrange positions of ER and combined Abduction with ER

Modalities PRN:

1- Cryotherapy, moist hot packs, taping, etc

Exercises: (See attached Specific Exercises Sheets):

1- Continue any exercises from the previous phase for impairments that still persist
   a) Ensure adequate scapulothoracic, trunk, and cervical mobility is achieved/maintained
   b) Open and close-chain exercises may be performed (weight-bearing and non-weight-bearing)
   c) All exercises should be pain-free and performed without any substitutions or altered movements

2- Stretches & ROM:

   a) Horizontal Adduction/ Cross Arm Stretch, and Starry Night Stretch (unilateral or bilateral) stretches may be begun
   b) Towel/strap/pulley stretch behind the back can be begun between 7-8 weeks
   c) Dynamic Stretches: **See Sheets** (Injury prevention-> Sport & Advanced Performance)
   d) Progress AROM for forward elevation
      i. Horizontal forward dusting on the table: straight in front and/or 20° medially or laterally
      ii. Progress incline UE sliding at various angles progressing all the way up vertical toward the ceiling
      iii. Progress supine AFE to holding a small 1-2 pound weight
      iv. Resistance Band: opposite hand holding yellow resistance band reaching initially to 90° progressing to full AFE
      v. Side-lying ER with small weight or light resistance band
      vi. AFE against gravity: should be achieved in the plane of the scapula before progressing to full elevation in other planes
      vii. Wall slides and Overhead Wall Taps
      viii. Wall Slides for Serratus Anterior Activation/ strengthening: Patient faces the wall with a staggered stance, with the dominant foot against the base of the wall. The ulnar border of their forearms are against the wall and shoulders and elbows at 90°. The shoulders are elevated in the scapular plane, and patient should be instructed to lean into the wall as the arms go higher, transferring their weight from the non-dominant back foot to the forward foot. The athlete should also be given verbal cues of "bring your shoulder blades out and around as you slide up the wall" to promote normal scapular movement. They should also be instructed not to allow should shrugging to occur.

   e) Progressive, Core, Scapular & Neuromuscular Strengthening exercises:
      i. Closed-chain exercises may be begun: Quadruped initially teaching patient to maintain/stabilize scapular and shoulder position, then progressing to weight shifts-> scapular protractions-> UE reaching exercises-> planks (Prone and side-lying) -> wall push-ups-> wall push-ups Plus ***(No Push-Ups on the floor)**
         1. Quadruped-> Tripod->Two-Point (contralateral and ipsilateral) position progression
         2. Other alternative are using a physioball, or suspension training system, such as TRX™ system
      ii. Progress functional movement and patterns:
         1. Exercises to improve rotator cuff and shoulder girdle neuromuscular, progressing with unstable surfaces, manual resistance, bodyblade®, PNF patterns, etc
      iii. Core Exercises can be initiated to address any limitations:
         1. Half kneeling-> double kneeling positions, on stable and unstable surfaces, holding arms extended with/with out small weight or medicine ball, with/with out external perturbations. Progress as patient tolerates
         2. LE core exercises: LE Pilates style exercises (supine, side-lying, prone)

   f) **Strengthening/Endurance Exercises:** It is important to perform some scapular strengthening exercises bilaterally to prevent poor posture and scapular asymmetries
      i. Rotator Cuff Strengthening: to ensure proper positioning of the humeral head in the glenoid fossa, as well as, ability to perform progressively difficult functional and athletic movements without risk of re-injury or impingement

ii. Progressive light-moderate resistance band (begin with yellow and progress as tolerated) or dumbbell exercises for IR, ER, Forward reaching, scapular retraction (these exercises are performed below shoulder level and focus on maintaining scapular position/stabilization and good posture throughout the exercises, then can be progressed to shoulder height, 90/90 position, and finally overhead)
    1. High repetitions: progress to 30-60 repetitions
    2. Emphasis should be on scapular retraction, upward rotation and posterior tilt
    3. As patient progresses in the mid to later stages of this phase, exercises can be progressed to include:
        a. Sitting or standing resistance band ER at 45° of Abduction
        b. Prone Horizontal Abduction, ER, and Rows
    4. Resistances can be increased to tolerances, speed of movements, and multi-directional movements can be gradually progressed (with ability to maintain scapular stabilization)
iii. Elbow Flexion/Extension (Biceps & Triceps) strengthening may be initiated in this phase with the arm by the patient's side (arm adducted) bicep curls, and Triceps pull-downs and kick backs
iv. Throwers' Ten Program may be begun around post-op week 10, when able progress to Advanced Thrower's Ten Program (**see attached sheets**)
v. Endurance exercises should continue: Stationary bicycle, Elliptical, Treadmill walking (running may be begun at 9 weeks post-op)
vi. Aquatic therapy: may be progressed AAROM, AROM, Light strengthening initially, then progressed to include light breast stroking at approximately 9 weeks post-op
vii. Interval Golf progression: Patient may begin light chipping and putting at approximately 9 weeks post-op, progressing to half swings by 12 weeks post-op (**see attached sheet**)

Criteria to progress to Phase III:

1- Minimal to no pain with ROM, Strength, and functional exercises
2- Achieve Full ROM Goals without pain or substitutions
3- Demonstrate proper scapular position/control at rest and with all dynamic activities/exercises
4- Strength testing of 70-80% of the contralateral/ uninvolved side
5- Patient demonstrates decrease in the major dysfunctions on the SFMA, and no asymmetries on the Y-Balance (LE) assessment
6- Improves with >/= MDC on the DASH, ASES, &/or WOSI outcome forms

Phase III: Advanced Phase: (Approximately Weeks 12-24):

Goals:

1- To normalize shoulder strength, endurance, neuromuscular control, and begin exercises to improve power
2- Gradually return to all ADL's, work, fitness/recreational activities (not return to sport, however, discuss plan)
3- Administer the DASH sports/arts module
4- Begin more sport skill training
5- Begin plyometric training (phases I-II, & possibly III if patient can progress to that level in this time frame)
6- Get baseline FMS and Y-balance UE assessment scores/ or CKCUTEST if the Y-balance assessment tool is not available

Interventions to Avoid/ Precautions:

1- Do not progress advanced rehabilitation exercises (such as plyometrics or sport skill training) until the patient has full ROM and Strength, and can perform them without increased symptoms
2- Do not perform weight lifting exercises that put excessive stress on the anterior shoulder capsule, such as tricep dips, or latissimus pull-downs and military press exercises behind the head
    a. Gradually increase the stress on the anterior shoulder capsule in an appropriate manner with other exercises

Specific Interventions:

Modalities: PRN

Exercises: (See also attached Specific Exercises Sheets)

1- Continue any exercises from the previous phase for impairments that still persist
2- Stretches & ROM:
a. Continue stretches and ROM exercises of persistent restriction and to maintain ROM
b. Continue Dynamic Stretches pre-training, **Progress to Sport Specific Dynamic Stretches**
3- Strength/Endurance/Power exercises:

a. Progress strengthening, neuromuscular control and endurance exercises from previous phase
b. Normalize core and scapular stabilization
c. Progress shoulder strengthening from the previous phase with emphasis on high-speed, multi-planar, entire kinetic chain movements
    i. Patient can use resistance bands to simulate batting, or a golf or tennis swing (forehands and backhands)
d. Advanced weight lifting program to improve large prime mover muscles like the deltoid, latissimus dorsi, and pectoralis major (mid-Phase III)
    i. Begin with lighter weights at high repetitions and gradually decrease repetitions as you increase the weight over the next 10-12 weeks
    ii. Shoulder shrugs with weights
    iii. Latissimus pull-downs **in front of the body**
    iv. Incline chest press
    v. Shoulder lateral (abduction) raises: cable, dumbbell, bands
    vi. Pectoralis Flys
    vii. Rows with shoulders abducted
    viii. Dead lifts
    ix. Power cleans
    x. Incline push-ups, and push-ups plus (with scapular protraction, not shoulder elevation)
e. Plyometric Phase I, II and III progression may be begun in this phase meeting criteria listed above. Patient may begin these protocols once therapists is confident with patient's strength, endurance, and timing with the exercises listed directly above (**See attached sheets for protocols**)
    i. Early in the protocol, patient may begin with a tennis or beach ball and progression to weighted balls
    ii. Two-handed -> one-handed throws/tosses
    iii. Once Plyometric phases I-II are completed patient may begin phase I interval sport programs for Throwing and Tennis

Criteria for entering Return to Specific Sport Protocols:

1- Clearance from the surgeon to begin the Return to Sport Specific Protocol
2- No signs of any lingering shoulder instability with activities
3- Restoration or all ROM needed to participate in desired sport
4- Strength testing of >/= 90% compared to contralateral/uninvolved side
5- Adequate strength and muscle endurance of the shoulder, rotator cuff, trunk, hip, and scapular musculature needed to perform sport specific drills/ activities with minimal to no pain or difficulty
6- Patient scores an appropriate score on the DASH-Sports/Performing Arts Module Self-assessment outcome form: ("no" – "mild" difficulty on all questions), ASES and/or WOSI
7- >14 on FMS and score on the Y-Balance of equal to peers for sport and age through the Y-Balance data base, or CKCUTEST equal to normative
8- No pain with any of the previous exercises/ activities performed
9- Completing the Throwers Ten Program (if an overhead athlete) and the upper extremity plyometrics protocols
10-Passing of the functional tests listed below: Test can be over multiple sessions

a. Trunk Testing: **(See attached sheets)**
    i. Deep Neck Flexor Test
    ii. Segmental Multifidus Test
    iii. Trunk Curl-up Test
    iv. Double-Leg Lowering Test
    v. Prone Bridge Test
    vi. Endurance of Lateral Flexors (Side Bridge)
    vii. Extensor Dynamic Endurance Test
b. Upper Extremity Testing: **(See attached sheets)**
    i. Alternative Pull-up Test
    ii. Push-up Test
    iii. Backward Overhead Medicine Ball Throw Test
    iv. Sidearm Medicine Ball Throw Test
    v. Seated Shot-Put Throw Test
    vi. *If patient is a baseball or soft-ball pitcher/player
        1. Functional Throwing Performance Index (FTPI) Test- best assessed with video analysis

2. **Baseball pitchers only**- PT/ATC fills out Upper Extremity Throwing Analysis Form- to determine areas of the throwing motion that need to be addressed in the sport specific/return to baseball pitching protocol

***See Return to Specific Sport Protocol**

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