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Rehabilitation after Supraspinatus Repair with Subscapularis Repair

DISCLAIMER: The following Physical Therapy protocol is intended to be utilized by the clinician as a guideline in the treatment of this disorder. It is based on current research and has been formulated as a collaborative effort between Physicians and Physical Therapists. It is not intended to serve as a substitute for sound clinical decision making. Every patient is a unique case, and it should be anticipated that not all patients will fit into the timelines set forth in this protocol. If the Physical Therapist has any questions regarding the course of treatment, the referring physician should be contacted for further guidance.

Phase 1: Immediate Post Op 0-3 weeks after surgery

Rehabilitation Goals

- Protect surgical repair
- Reduce swelling, minimize pain
- Maintain UE ROM in elbow, hand and wrist
- Gradually increase shoulder PROM
- Minimize muscle inhibition
- Patient education

Sling

- Neutral rotation
- Use of abduction pillow in 30-45 degrees abduction
- Use at night while sleeping

Precautions

- No shoulder AROM/AAROM
- No lifting of objects
- No supporting of body weight with hands
- Avoid scapular retraction with a teres minor repair

Intervention

- Swelling Management
 - Ice, compression
- Range of motion/Mobility
 - PROM: ER<20 scapular plane, Forward elevation <90, pendulums, seated GH flexion table slide

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- AROM: elbow, hand, wrist (PROM elbow flexion with concomitant biceps tenodesis/tenotomy)
- AAROM: none
- Strengthening (Week 2)
 - Periscapular: scap retraction*, prone scapular retraction*, standing scapular setting, supported scapular setting, inferior glide, low row
 - *avoid with subscapularis repair and teres minor repair
 - Ball squeeze

Criteria to Progress

- 90 degrees shoulder PROM forward elevation
- 20 degrees of shoulder PROM ER and IR in the scapular plane
- Palpable muscle contraction felt in scapular and shoulder musculature
- No complications with Phase I

Phase II: Intermediate Post Op 4-6 weeks after surgery

Rehabilitation Goals

- Continue to protect surgical repair
- Reduce swelling, minimize pain
- Maintain shoulder PROM
- Minimize substitution patterns with AAROM
- Patient education

Sling

- Neutral rotation
- Use of abduction pillow in 30-45 degrees abduction
- Use at night while sleeping

Precautions

- No lifting of objects
- No supporting of body weight with hands

Intervention (*Continue with Phase I interventions)

- Range of motion/Mobility
 - PROM: ER<30 scapular plane, Forward elevation <90
 - AAROM: Active assistive shoulder flexion, shoulder flexion with cane, cane external rotation stretch, washcloth press
- Strengthening
 - Periscapular: Row on physioball, shoulder extension on physioball

Criteria to Progress

- 90 degrees shoulder PROM forward elevation
- 20 degrees shoulder PROM ER and IR in scapular plane
- Minimal substitution patterns with AAROM
- Pain < 4/10
- No complications with Phase II

Phase III: 7-8 weeks after surgery

Rehabilitation Goals

- Do not overstress healing tissue
- Reduce swelling, minimize pain
- Gradually increase shoulder PROM/AAROM

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- Improve scapular muscle activation
- Patient education

Sling

- Discontinue

Precautions

- No lifting of heavy objects (>10 lbs)

Intervention (*Continue with Phase I-II interventions)

- Range of motion/Mobility
 - PROM: ER to Full (by week 12) scapular plane, Forward elevation <120
 - AAROM: seated shoulder elevation with cane, seated incline table slides
- Strengthening
 - Periscapular**: Resistance band shoulder extension, resistance band seated rows, rowing, lawn mowers, robbery, serratus punches
 - **Initiate scapular retraction/depression/protraction with subscapularis and teres minor repair
 - Elbow: Biceps curl, resistance band bicep curls and triceps

Criteria to Progress

- 120 degrees shoulder PROM forward elevation
- 30 degrees shoulder PROM IR in scapular plane
- Pain < 4/10

Phase IV: Intermediate Post Op 9-10 weeks after surgery

Rehabilitation Goals

- Do not overstress healing tissue
- Gradually increase shoulder PROM/AAROM
- Initiate shoulder AROM
- Improve dynamic shoulder stability
- Progress periscapular strength
- Gradually return to full functional activities

Precautions

- No lifting of heavy objects (> 10 lbs)

Intervention (*Continue with Phase II-III)

- Range of motion/mobility
 - PROM: ER to Full (by week 12) scapular plane, Forward elevation <155, ER @ 90 ABD to Full ROM
 - AROM: elevation < 120, wall climbs, supine flexion, salutes, supine punch, supine forward elevation with elastic resistance to 90 deg
- Strengthening
 - Periscapular: Push-up plus on knees, prone shoulder extension Is, resistance band forward punch, forward punch, tripod, pointer

Criteria to Progress

- 155 degrees shoulder PROM forward elevation
- 45 degrees shoulder PROM IR in scapular plane
- 60 degrees shoulder PROM ER @ 90 ABD progressing to Full ROM
- 120 degrees shoulder AROM elevation
- Minimal to no substitution patterns with shoulder AROM
- Performs all exercises demonstrating symmetric scapular mechanics

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- Pain < 2/10

Phase V: 11-12 Weeks after surgery

Rehabilitation Goals

- Restore full PROM and AROM
- Enhance functional use of upper extremity

Intervention (*Continue with Phase II-IV interventions)

- Range of motion/mobility
 - PROM: Full
 - AROM: Full
- Stretching
 - External rotation (90 degrees abduction), Hands behind head, IR behind back with towel, side lying horizontal ADD, sleeper stretch, triceps and lats, doorjam series

Criteria to Progress

- Full pain-free PROM and AROM
- Minimal to no substitution patterns with shoulder AROM
- Performs all exercises demonstrating symmetric scapular mechanics
- Pain < 2/10

Phase VI: Strengthening Post Op 13-16 Weeks after surgery

- Rehabilitation Goals
 - Maintain pain-free ROM
 - Initiate RTC strengthening (with clearance from MD)
 - Initiate motor control exercise
 - Enhance functional use of upper extremity

Intervention (*Continue with Phase II-V interventions)

- Strengthening
 - Rotator cuff: internal external rotation isometrics, side-lying external rotation, Standing external rotation w/ resistance band, standing internal rotation w/ resistance band, internal rotation, external rotation, sidelying ABD→standing ABD, scaption and shoulder flexion to 90 degrees elevation
 - Periscapular: T and Y, "T" exercise, push-up plus knees extended, wall push up, "W" exercise, resistance band Ws, dynamic hug, resistance band dynamic hug
 - Biceps curl (begin with concomitant biceps tenodesis/tenotomy)
- Motor Control
 - Internal and external rotation in scaption and Flex 90-125 (rhythmic stabilization)
 - IR/ER and Flex 90-125 (rhythmic stabilization)
 - Quadruped alternating isometrics and ball stabilization on wall
 - PNF – D1 diagonal lifts, PNF – D2 diagonal lifts
 - Field goals

Criteria to Progress

- Clearance from MD and ALL milestone criteria below have been met
- Full pain-free PROM and AROM
- ER/IR strength minimum 85% of the uninvolved arm
- ER/IR ratio 60% or higher
- Negative impingement and instability signs

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- Performs all exercises demonstrating symmetric scapular mechanics

Phase VII: Early Return to Sport 4-6 Months after surgery

Rehabilitation Goals

- Maintain pain-free ROM
- Continue strengthening and motor control exercises
- Enhance functional use of upper extremity
- Gradual return to strenuous work/sport activity

Intervention (*Continue with Phase II-VI interventions)

- Strengthening
 - Rotator cuff: External rotation at 90 degrees, internal rotation at 90 degrees, resistance band standing external rotation at 90 degrees, resistance band standing internal rotation at 90 degrees
- Motor control
 - Resistance band PNF pattern, PNF – D1 diagonal lifts w/ resistance, diagonal-up, diagonal-down, Wall slides w/ resistance band
 - See specific return-to-sport/throwing program (coordinate with physician)

Return-to-Sport

- For the recreational or competitive athlete, return-to-sport decision making should be individualized and based upon factors including level of demand on the upper extremity, contact vs non-contact sport, frequency of participation, etc. We encourage close discussion with the referring surgeon prior to advancing to a return-to-sport rehabilitation program.

References of adaptation:

Rehabilitation Protocol for Rotator Cuff Repair. Massachusetts General Hospital. Boston, MA: 2018