NORTHSIDE HOSPITAL
ORTHOPEDIC INSTITUTE
SPORTS MEDICINE

Large-Massive Rotator Cuff Repair Rehabilitation Guideline Northside Hospital Sports Medicine

The rotator cuff serves as a dynamic stabilizer for the glenohumeral joint, and can require surgical repair after acute or chronic overuse injuries. These injuries can lead to pain and decreased functional capacity at the shoulder joint. This rehab guideline will focus upon procedures that have addressed large tears (3-5cm), or massive tears (>5 cm). This guideline is intended to be used in conjunction with the therapist and surgeon's collaborative input. Northside Hospital Sports Medicine Network uses a criterion-based rehabilitation guideline to ensure the optimal level of success with return to sport. Each individual will be treated uniquely based upon the observations of the sports medicine team. It is vital that a multi-factorial approach is used during rehabilitation to decrease risk of re-injury. Safety of the patient is the number one priority.

Pre-operative Instructions

- Schedule post-op PT visit for 3-4 weeks after surgery
- Complete immobilization x 4 weeks (Zhang 2013, Uezono 2014)
- Sling usage 6 weeks based off of surgeon's recommendations
- Complete home exercise program as outlined in handout

Timelines are estimated based upon current literature and patient progress in formal physical therapy. Concomitant procedures may delay the timeframes listed below.

Subscapularis Precautions (12 weeks)

Repair of the subscpaularis following disruption due to traumatic or forces external rotation and abduction.

- No ER past 30 degrees
- No cross body adduction
- No active IR or IR behind the back
- No supporting of body weight with affected side (ie. pushing self up from a chair)

Phase 1: Immediate Postoperative Phase (Week 0-4)

- Initial visit 2-4 weeks post-operatively
  - No formal PT required in first 4 weeks
- GOALS:
  - Max protection of surgical repair
    - Pendulums only if proper education and monitoring employed to avoid active muscle contraction
  - Patient education on post-op restrictions and maintaining appropriate posture
  - Minimize shoulder pain and inflammatory response
  - ROM:
    - Wrist/hand AROM as tolerated
    - Elbow PROM as tolerated

Phase 2: Early Postoperative Phase (Week 4-6)

- Visit frequency 1-2x/week
  - Consider # of insurance visits, progress towards goals, concomitant procedures
- GOALS:
  - PROM
    - AVOID PAIN WITH PROM
    - Pendulums only if proper education and monitoring employed to avoid active muscle contraction
    - Forward elevation limited to 120 degrees
      - Forward bow with hand supported on surface
      - Avoid pulleys (Murphy 2013)
    - ER in the scapular plane to 30 degrees
      - Supine w/ wand assistance
  - Scapular mobilizations
  - Posterior glenohumeral mobilization grades 2-3
  - May begin elbow AROM
- STRENGTHENING:
  - Scapular stabilization (scapular clocks)
    - Progress to light manual resistance
  - Supine serratus punch
- CRITERIA TO PROGRESS TO PHASE 3
  - Appropriate healing of surgical repair by adhering to precautions and immobilization guidelines
  - Staged ROM goals achieved but not significantly exceeded
  - Minimal to no pain with PROM

Phase 3: Intermediate Postoperative Phase (Week 6-12)

- Visit frequency 1-2x/week
  - Consider # of insurance visits, progress towards goals, concomitant procedures
- GOALS:
  - Full PROM by week 9
    - WNL All planes, except IR
    - Introduce pulleys in week 6
    - Introduce abduction, horizontal abduction PROM in week 6
    - Introduce gentle IR stretching in week 10
  - Introduce AAROM in week 6
    - Supine cane forward flexion in scapular plane → Incline cane forward flexion → Standing cane forward flexion
    - Towel wipes on table (forward flexion, scaption, abduction)
    - Towel vertical wall slides → wall walks → wall walks with lift off and eccentric lowering
  - Introduce AROM in week 8
    - Forward flexion per patient tolerance
      - Avoid compensatory shrug
    - Achieve full AROM all planes by week 10-12
      - Adhere to subscapularis precautions as appropriate
- STRENGTHENING:
  - Isometrics (sub-maximal and sub-painful) in week 6
    - ER → IR → Abduction → Extension
    - Subscap precautions
      - ER → abduction → IR/extension once precautions lifted
  - Isometric walk-outs vs band in week 8
  - Begin light UBE in week 8 → moderate resistance in week 10
  - Prone PRE's for scapular stabilizers (rows, shoulder extension, scapular retraction) below shoulder level in week 8
    - Add horizontal abduction (T's) and Low Trap (Y's) in week 10
  - Closed chain UE activities in week 8
    - Serratus punches
    - Quadruped weight shifts
  - Proprioceptive exercises in week 8
    - Supine ABCs
      - Eyes closed
    - Ball on wall
  - Sidelying ER with weight or manual resistance in week 9

  - Dynamic resistance with PNF patterns and manual techniques in week 10
    - ER isometrics to fatigue in supine (multiple positions)
  - Light theraband exercises in week 10
    - Shoulder IR/ER
      - Adhere to subscapularis precautions
    - Horizontal abduction/adduction
    - Diagonal patterns
- CRITERIA TO PROGRESS TO PHASE 4
  - Staged AROM goals achieved with minimal to no pain and without substitution patterns
  - Appropriate scapular posture at rest and dynamic scapular control during ROM and strengthening exercises
  - Strengthening activities completed with minimal to no pain

Phase 4: Late Postoperative Phase (Week 12-16)

- Visit frequency 1-2x/week
  - Consider # of insurance visits, progress towards goals, concomitant procedures
- GOALS:
  - AROM:
    - Full AROM in all planes with no compensatory patterns
  - Strength
    - 5/5 rotator cuff strength
    - 80% IR/ER handheld dynamometry testing
- STRENGTHENING:
  - Initiate progressive dumbbell program (high reps/low weight)
    - Scaption
    - Diagonal patterns
    - Bent row
    - Prone ER with 90 deg abduction
  - Functional strengthening
    - ABCs vs band in standing (scaption & abduction)
    - Overhead ball stability in quadruped position
      - Manual perturbations
    - Overhead ball taps on wall
      - Progress to arcs out towards 90 deg abduction
    - Isometric bilateral shoulder ER vs band
      - Complete forward flexion (touchdowns)

- Progress closed chain UE activities
  - Push up with a plus
  - Swiss ball activities (High-level athletes ONLY)
    - Stir the pot
    - Rollouts
  - Plank BOSU weight shifts
- <u>CRITERIA TO PROGRESS TO PHASE 5</u>
  - Staged AROM goals achieved with minimal to no pain and without substitution patterns
    - 5/5 rotator cuff strength
    - 80% IR/ER handheld dynamometry testing

<u>Phase 5: Return to Sport Postoperative Phase (Week 16-24)</u>

- Visit frequency 1-2x/week
  - Consider # of insurance visits, progress towards goals, demands of sport
- <u>GOALS:</u>
  - AROM
    - May begin more aggressive stretching techniques if needed
- <u>STRENGTHENING:</u>
  - Progress overhead PRE's with weight
  - Progress closed chain programming
    - Plank walks with LE sliders
    - Plank DB pull throughs
    - Plank rows w/ DB
    - Crawling → Crawling with trailing weight
  - Introduce speed aspect to training
  - Progress prone exercise program with weight
    - Add isometric holds to fatigue
  - Begin light toss or volley
  - 2-handed plyometrics → 1-handed plyometrics
  - Continue with sport specific training program
  - Initiate return to throwing program with physician approval
  - Return to full activity

- CRITERIA TO RETURN TO SPORT
    - Good stability and confidence during sport specific activities
    - Good neuro-muscular control during dynamic activities
    - Completion of throwing progression
    - Full functional ROM
    - 5/5 scapular and rotator cuff strength
    - 80% IR/ER handheld dynamometry testing
    - Physician clearance

Once athlete has been cleared to return to sport through criteria outlined above it is imperative that the athlete completes a sport specific build up with their team. Education must occur with the team ATC or coaching staff to ensure a safe gradual return to full activity level

If not fully confident on specifics of how to gradually return athlete to full sport activity, contact author below to discuss.

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