



AUCKLAND BONE AND JOINT SURGERY

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BICEPS TENODESIS POST-OPERATIVE REHABILITATION PROTOCOL

PHASE 1 (Passive Range of Motion Phase):

Begins immediately post-op through approximately 3-4 weeks.

Goals:

1. Decrease shoulder pain and inflammatory response
2. Gradually restore shoulder PROM
3. Achieve satisfactory scapular function

Precautions:

1. Sling for everyone
2. No AROM of the elbow
3. No lifting objects at any time with operative hand/arm
4. Keep surgical incisions clean and dry

Exercises:

1. Cryotherapy/ice therapy as needed
2. Scapular exercises
3. Shoulder PROM in all planes as pain allows
4. Elbow flexion/extension PROM only
5. Forearm supination/pronation PROM only
6. Wrist/hand AROM plus grip/ball squeezes (avoid supination)
7. May return to computer based work as pain allows
8. Day 10-14 suture removal

Criteria to progress to Phase 2:

1. Surgical incisions healed
2. Full PROM of shoulder and elbow
3. Performance of all Phase 1 exercises without restriction or pain

PHASE 2 (Active Range of Motion Phase):

From 3-4 weeks post-op to 6-8 weeks post-op.

Goals:

1. Decrease shoulder pain and inflammatory response
2. Gradually restore shoulder AROM
3. Wean out of sling by the end of post-op week 3-4 (sling wear discouraged after this point except as a visible sign of vulnerability in an uncontrolled environment)
4. Return to waist-level functional activities

Precautions:

1. No massage to bicipital groove or tenodesis site (scar massage ok)
2. No lifting objects at any time with operative hand/arm

Exercises:

1. Cryotherapy/ice therapy as needed
2. Aquatic therapy: shoulders totally submerged, slow active motion within precautionary ROM with emphasis on good biomechanics, increase speed as tolerated
3. Progress shoulder motion from PROM to AAROM to AROM in all planes as pain allows
4. Elbow flexion/extension AROM (**no resistance**)
5. Forearm supination/pronation AROM (**no resistance**)
6. Posterior capsular stretching as needed (cross body adduction stretch, side lying internal rotation stretch (sleeper stretch))

Criteria to progress to Phase 3:

1. Full AROM of shoulder and elbow
2. Performance of all Phase 2 exercises without restriction or pain

PHASE 3 (Strengthening Phase):

From 6-8 weeks post-op to 10-12 weeks post-op.

Goals:

1. Normalize strength, endurance and neuromuscular control
2. Return to chest-level functional activities

Precautions:

1. Educate patient on gradually increasing shoulder activities
2. No strengthening in specific plane until near full AROM achieved in that plane

Exercises:

1. Shoulder AROM/PROM and stretching as needed to regain full ROM
2. Elbow flexion/extension with light resistance (progress as tolerated)
3. Forearm supination/pronation with light resistance (progress as tolerated)
4. Rhythmic stabilization exercises:
 - a. Shoulder IR/ER at 0°, 45° and 90° abduction
 - b. Shoulder flexion/extension/horizontal abduction/horizontal adduction at 45°, 60°, 90° and 120° elevation in scapular plane
5. Commence progressive, balanced strengthening program:
 - a. Improve muscle endurance with low resistance, high repetitions (30-50 reps)
 - b. Achieve near-full elevation in scapular plane before elevation in other planes
 - c. Exercises should be pain-free and without compensatory patterns
 - i. Use mirror for feedback
 - d. Add light resistance (theraband or light dumbbells) as patient gains control of movement with good biomechanics
 - e. Phase 3 exercises include:
 - i. Shoulder elevation in scapular plane (initially supine, progress to inclined, then upright)
 - ii. Prone rowing
 - iii. Serratus "punches"
 - iv. Side lying shoulder ER
 - v. Prone shoulder extension, prone horizontal shoulder abduction
 - vi. Standing shoulder ER and extension with theraband
 - vii. Progress to shoulder IR on light pulleys or theraband
 - viii. Biceps strengthening (elbow flexion, elbow supination)
 - ix. Aquatic therapy: increase speed of movement, progress to using hand as a "paddle" and then to webbed gloves for increased resistance as tolerated

Criteria to progress to Phase 4:

1. Satisfactory rotator cuff and scapular function for chest level activities
2. Performance of all Phase 3 exercises without restriction or pain

PHASE 4:

From 10-12 weeks post-op.

Goals:

1. Maintain full pain-free AROM
2. Return to full strenuous work activities
3. Return to full sporting and recreational activities

Precautions:

1. Avoid excessive anterior glenohumeral capsular stress
2. Avoid military press and wide gripe bench press weight lifting

Exercises:

1. Joint mobilization, shoulder PROM and stretching as needed to regain full ROM
2. Progress strengthening exercises in Phase 3 with increasing weight as tolerated
 - a. Commence isotonic strengthening if pain-free and no compensatory patterns
3. Commence overhead strengthening if satisfactory strength below 90° elevation
4. Commence progressive resistance exercises, gym machines and weight lifting for larger, primary upper extremity musculature (deltoid, lat dorsi, pec major, triceps, biceps)
 - a. Start with low weight and high repetitions (15-25 repetitions)
 - b. Avoid military press and wide grip bench press
5. Functional progression for sports and activity-specific tasks (i.e. golf, tennis...)
6. Initiate pre-injury strenuous activities and sporting competition once Dr. Boyle clears

Criteria to progress to return to overhead work and sporting activities:

1. Clearance from Dr. Boyle
2. No pain
3. Satisfactory shoulder ROM, rotator cuff strength and endurance, and scapular biomechanics for task completion

ROM = range of motion

AROM = active range of motion

IR = internal rotation

PROM = passive range of motion

AAROM = active assisted range of motion

ER = external rotation