Phase 1 – Maximum Protection (0-4 weeks)

Immobilization
- Immobilization in sling for 4-6 weeks or per physician

Initial Post-Op Exercises
- Elbow, forearm, wrist, hand (grip) AROM exercises; pendulum (Codman’s) exercise; scapular squeezes; upper trap stretching; postural correction
- Remove sling 3 times per day for performance of HEP
- Cryotherapy to minimize pain and inflammation

Criteria for progression to Phase 2
- Minimal pain with phase I exercises
- Passive shoulder flexion ≥ 90°
- Passive shoulder abduction ≥ 90°
- Passive shoulder internal rotation at 45° abduction in scapular plane ≥ 70°
- Passive shoulder external rotation to 30° at 45° abduction in scapular plane (unless otherwise specified in surgical report)

Other considerations
- Limit shoulder external rotation PROM to 30° at 45° abduction in scapular plane (unless otherwise specified in surgical report) for 6 weeks post-operatively
- No shoulder internal rotation strengthening for 12 weeks post-operatively
- No excessive shoulder motion behind back, especially into IR for 6 weeks
- Limit shoulder hyperextension in supine
- No lifting or supporting body weight with affected arm

Goals for phase 1
- Minimize Pain and inflammation
- Protect integrity of repair
- Initiate shoulder PROM
- Reduce muscular inhibition
- Maintain AROM of elbow, wrist, and neck

Post-Op Physical Therapy
- 1st physical therapy visit to occur 4 weeks post-op
  - Ensure appropriate fit of sling and reinforce on proper use
  - Review initial post-operative exercises and reinforce proper performance
  - PROM
    - Goal 90° FLEX, 30° ABD, 70° IR, 30° ER at 45° ABD
    - Emphasis on early shoulder PROM and glenohumeral joint mobility

Aquatics
- Utilize aquatics for patients who are significantly painful, stiff, or guarded
  - Initiate when surgical incisions have healed
  - Initiate buoyancy assisted ROM exercises within limitations
  - Consider alternating land- and aquatic-based physical therapy visits

Manual Therapy
- Initiate pain dominant glenohumeral joint mobilization (grade 1-2)
- Initiate scar mobilization, soft tissue mobilization, lymph edema massage
- Initiate other shoulder, scapular, and cervicothoracic manual therapy techniques as needed

PROM
- Initiate manual shoulder PROM in all PROM of motion within limitations
  - Limit external rotation to 30° at 45° abduction in scapular plane (unless otherwise specified in surgical report)

AAROM
- Initiate shoulder ER AAROM with wand at 45° ABD within motion restrictions
- Initiate shoulder FLEX and ABD AAROM
  - Table slides, U.E. Ranger, physioball, wand, etc.
  - Avoid shoulder ER AAROM greater than established limit ABD in post operative report

Modalities
- Utilize cryotherapy, thermotherapy, and electric modalities as needed
Goals for phase 2

- Minimize Pain and inflammation
- Protect integrity of repair
- Restore full shoulder PROM all directions except ER (Limit ER to 30° unless otherwise specified by MD)
- Restore AROM
  - Do NOT exercise through shoulder shrug sign
- Initiate sub-maximal rotator cuff activation and neurodynamic stabilization exercises
- Should be able to perform many of their waist level ADL’s

Criteria for progression to Phase 3

- No/slight pain with flexion to ≥ 140°; abduction ≥ 120°; Internal rotation to ≥ 70° and External rotation to ≥ 60° in the plane of the scapula at 45° ABD
- Active flexion to 100° w good mechanics
  - No evidence of shoulder shrug with elevation AROM

Other considerations

- Can perform sustained end-range ER (once given confirmation from MD that subscapularis is stable and healed)
- No lifting anything heavier than a coffee cup
- No supporting body weight
- No sudden jerking motion
- Avoid hyperextension while supine

Phase 2 – Active Range of Motion (4-8 weeks)

Immobilization

- Wean out of brace

Aquatics

- Continue aquatics for patients who are significantly painful, stiff, or guarded

Stretching

- Initiate shoulder stretching exercises in all planes of motion as tolerated

Manual Therapy

- Continue pain dominant glenohumeral joint mobilization (grade 1-2)
- Initiate stiffness dominant glenohumeral joint mobilization (grade 3-4)
- Continue scar mobilization, soft tissue mobilization, lymph edema massage as needed
- Continue other shoulder, scapular, and cervicothoracic manual therapy
- Perform gentle scapulothoracic joint mobilizations as needed

PROM

- Continue manual shoulder PROM in all planes of motion as tolerated
- Initiate sustained end range stretching in all directions except ER

AAROM (5 weeks post-operative)

- Continue shoulder IR, horizontal ABD, and ER AAROM with wand
- Progress from 45° to 60° to 90° ABD
- Continue shoulder FLEX, EXT and ABD AAROM
- Table slides, wall slides, physioball, wand (standing extension), pulleys, etc.

AROM

- Initiate shoulder AROM in all planes of motion as tolerated (NO IR until 6 weeks)
- Gradually progress from gravity reduced to full gravity positions
- Gradually progress from below shoulder height to above shoulder height
- Consider single-planar and multi-planar movement patterns

Strengthening

- Initiate sub-maximal shoulder isometrics for FLEX, ABD, EXT, IR, and ER
  - (NO resisted IR until 12 weeks)
- Initiate light isotonic scapular strengthening
  - Supine press, serratus press outs, prone row, etc.
- Initiate anti-gravity flexion and abduction (i.e. flexion with 1-3# supine)
- Initiate distal extremity strengthening with light resistance
- Initiate sub-body weight closed-chain strengthening exercises
  - Wall press outs, countertop press outs, etc.
- Avoid sub-body weight suspension training exercises
  - (TRX, GTS, assisted chin or dip machine, etc.)

Neuromuscular Control

- Initiate sub-maximal glenohumeral and scapulothoracic rhythmic stabilization drills
  - Gradually progress shoulder FLEX from 100° to 90° to 60° to 30°
  - Gradually progress shoulder IR from 30° to 60° to 90° ABD; ER same once cleared

NMES

- Utilize NMES to facilitate rotator cuff and scapular activation and strengthening

Modalities

- Utilize cryotherapy, thermotherapy, and electrical modalities as needed
Phase 3 – Moderate Strengthening (8-12 weeks)

Goals for Phase 3
- Maximize functional UE use
- Minimize pain and inflammation
- Maintain full shoulder PROM and AROM
- Improve shoulder, scapular, rotator cuff and total arm strength
- Improve neurodynamic stabilization of the shoulder
- Return to advanced functional activities

Criteria for Progression to Phase 4
- Minimal pain with Phase 3 exercises
- Full, pain free shoulder PROM and AROM
- No shoulder shrug sign with strengthening exercises
- No/slight pain with flexion to ≥ 140°; abduction ≥ 120°; Internal rotation to ≥ 70° and External rotation to ≥ 60° in the plane of the scapula at 45° ABD

Other considerations
- Strengthening for outpatient who has had a rotator cuff repair in conjunction with their TSA should not start before 10-12 weeks.
- No heavy lifting or sudden pushing or jerking

Immobilization
- Wean out of brace completely

Stretching
- Continue shoulder stretching exercises as needed

Manual Therapy
- Continue stiffness dominant glenohumeral joint mobilization (grade 3-4)
- Continue other shoulder, scapular, and cervicothoracic manual therapy

PROM
- Continue manual shoulder PROM as needed to maintain ROM
- Initiate end-range sustained ER stretching once subscapularis is stable and healed

AAROM
- Initiate IR behind back (10-12 weeks)

Strengthening
- Initiate gradual progression of isotonic rotator cuff strengthening exercises
  - Gradually progress from gravity reduced to full gravity positions
  - Gradually progress from below shoulder height to above shoulder height
  - Gradually progress internal and external rotation from 30° to 60° to 90° abduction and from supported to unsupported conditions
  - Consider single-planar and multi-planar movement patterns (i.e. UE PNF diagonals)
- Progress isotonic scapular strengthening exercises
  - Progress from isolated to functional movement patterns
- Progress isotonic biceps and triceps strengthening exercises
  - Progress from isolated to functional movement patterns
- Progress closed-chain strengthening exercises
  - Gradually progress from sub-body weight to full body weight positions
  - Gradually progress from stable to unstable surfaces
- Do NOT exercise through shoulder shrug sign

Neuromuscular Control
- Progress rhythmic stabilization exercises to more functional positions and dynamic movement patterns
  - Gradually progress from mid-range to end range positions
  - Gradually progress from open-chain to closed-chain positions
- Initiate gradual progression of other neuromuscular control exercises
  - Body blade, wall dribbles, ball flips, plyoback, etc.

NMES
- Utilize NMES to facilitate rotator cuff and scapular activation and strengthening

Modalities
- Utilize cryotherapy, thermotherapy, and electrical modalities as needed
Phase 4 – Advanced Strengthening (12-20 weeks)

Goals for Phase 4
- Minimize pain and inflammation
- Full pain free AROM
- 5/5 MMT at 90° of shoulder abduction
- Return to advanced functional activities as well as gardening, sports (i.e. golf and doubles tennis)

Criteria for Return to Activity
- Minimal pain with phase 4 exercises
- Full, pain free PROM and AROM
- Successful completion of functional capacity evaluation if physical laborer

Stretching
- Continue shoulder stretching exercises as needed

Manual Therapy
- Continue stiffness dominant glenohumeral joint mobilization (grade 3-4) as needed
- Continue other shoulder, scapular, and cervicothoracic manual therapy techniques
- Continue manual shoulder PROM as needed

Strengthening
- Continue Phase 3 strengthening exercises
- Consider specific demands of occupational, sport, or desired activities
- Rotator cuff strengthening in 90° abduction and overhead

Neuromuscular Control
- Continue Phase 3 neuromuscular control exercises
- Consider specific demands of occupational, sport, or desired activities

Return to Activity
- Initiate return to activity
  - Gardening, golfing, doubles tennis (No treadmill or Swimming)
  - Suggest modifications to work, sport, or functional activities
  - Heavy loading activities and repetitive use above shoulder height should be avoided until 6 months post operative

Weight Lifting
- Initiate traditional weight lifting exercises

Work Specialty Rehabilitation Program
- Transition to work re-conditioning if physical laborer/specifc occupational demands
  - Lifting requirements, overhead tasks, repetitive tasks, tool or machine work, etc.

Modalities
- Utilize cryotherapy, thermotherapy, and electrical modalities as needed

HEP
- Establish HEP for long-term self-management
- Suggest modifications to work, sport, or functional activities
References


