

Total Shoulder Arthroplasty Rehabilitation Protocol

General Information

- Time required for full recovery is 6 months.
- Accelerating rehabilitation for “fast healers” may inhibit results and lead to recurrent problems or complications.
- Patients may never regain full, normal motion, but patients will be encouraged to reach their maximal level of function.

Precautions

- In this procedure, the subscapularis is detached for exposure of the glenohumeral joint and then reattached after the surgery is complete. **This reattachment must be protected for 6 weeks.** During this time, strengthening activities involving internal and external rotation must be avoided.

Immobilization

- Sling should be worn for the first 48-72 hours.
- After 7 days, sling can be removed for light activity such as desk work for short periods.
- Sling should be most of the time during the day, whenever the patient is active or in an unprotected environment; it should always be worn at night for the first 6 weeks with pillow underneath arm to avoid stretching anterior repair.
- Discontinue sling completely at 6 weeks.

Phase I: 1-6 Weeks

1. Home Exercise Program
2. Restrictions:
 - a. **No active shoulder motion for 4 weeks, all planes**
 - b. **No active internal rotation for 6 weeks**
3. Modalities: Cryotherapy as much as tolerated
4. Exercise
 - a. Assisted ROM exercise 3-6 Times/Day; Either Sustained for 1 minute or Sets of 10
 - i. Elbow flexion/extension/supination/pronation
 - ii. Fist/Wrist/Finger Pumps
 - iii. Shoulder Shrugs/Retractions
 - b. Scapular Isometrics (Scapular Retraction)
 - c. Pendulum exercise without weight
 - i. Clockwise + Counterclockwise
 - ii. Side-to-side + Front & back
 - d. Flexion
 - i. Table Slides or Pulleys: pain free range of motion only
 - e. Abduction
 - i. Pulleys: pain free range of motion; <30-45 degrees
 - f. External rotation
 - i. **Pain free ROM <30° only or as directed by physician**
 - ii. Broomstick/Cane assisted only (no stretching)
 - g. Internal rotation
 - i. full passive IR as tolerated with arm at side of body

4-6 Weeks

1. Start Scar mobility

Phase II (Starting at 6 Weeks)

Criteria for Progression:

- a. Tolerates PROM
 - i. 90 degrees PROM flexion
 - ii. 90 degrees PROM abduction
 - iii. 30 degrees PROM ER
 - iv. 70 degrees PROM IR in place of scapula (30 deg abduction)
2. Discontinue sling use
3. Exercise
 - a. AROM
 - i. All planes – **limit external rotation to 30-45°**
 - b. Progressive resistive exercise
 - i. Shoulder internal/external rotation with low resistance TheraBand (limit ER to 45°)
 - ii. Scapular Stabilization and Strengthening
 - iii. Wall push-up plus, hand in neutral position
 - iv. Progress Distal extremity exercises with light resistance
 - v. Rhythmic stabilization
 1. Body Blade as available
 - 1 One-handed grip in neutral position
 - 2 Two-handed grip in front
 - 3 Opposite hand diagonal pattern
4. Grade I/II glenohumeral + scapulothoracic joint mobilization - as indicated
5. Modalities – PRN
6. Cryotherapy PRN

Phase III

Criteria for Progression

- a. Tolerates PROM/AAROM, isometric program
 - b. Achieves 140 degrees PROM flexion
 - c. Achieves 120 PROM abduction
 - d. Achieves at least 30 degrees (up to 60 degrees as tolerated) ER in plane of scapula
 - e. Achieves 70 degrees PROM IR in plane of scapula (30 at degrees abduction)
 - f. Active elevation against gravity to 100 degrees with good mechanics
1. Full PROM, Progress ER as tolerated, and advance to full AROM;
 - a. Add Stretching in forward elevation (if lacking)
 2. Exercise
 - a. Progressive resistive exercise - continue as previous, adding:
 - i. *Low resistance/high repetition:*
 1. Flexion
 2. Abduction
 3. Supraspinatus (limit to 70°)
 4. Prone fly
 5. Scapular retraction
 6. Prone extension
 7. Wall push-up plus, hands in neutral position
 8. Body Blade as available
 - 1 One-handed grip, abduction to 90°
 - 2 Two-handed grip, flexion to 90°
 9. Plyoball (1-2 pounds)
 - 1 Circles – CW and CCW, 1 minute each direction
 - 2 Squares – CW and CCW, 1 minute each direction
 - ii. Initiate IR behind back stretching
 - iii. TheraBand: Resisted shoulder IR, ER in scapular plane

- iv. Begin progressive supine active elevation strengthening of anterior deltoid
- b. Grade I/II joint mobilization - as indicated
- c. Modalities – PRN
- d. Cryotherapy as needed

Late Phase III

1. Full PROM, ER to 30° or greater as tolerated
2. Continue stretching (forward elevation, abduction, IR, ER)
3. Exercise
 - a. Progressive resistive exercise - continue as previous, adding:
 - i. Kneeling push-up
 - ii. Step-up push-up in quadruped position
 - iii. Plyoball diagonal patterns
 - b. TheraBand Resisted flexion, abduction, extension
 - c. Continue IR, ER Strengthening
 - d. Progress IR stretch behind back from AAROM to AROM as ROM allows
4. Glenohumeral joint mobilization - as indicated
5. Modalities – PRN
6. Cryotherapy PRN

Phase IV (Not to begin prior to 12 weeks)

Criteria for Progression*

- a. Tolerates AAROM/AROM/strengthening
- b. Achieves at least 140 degrees flexion supine
- c. Achieves 120 degrees AROM abduction supine
- d. Achieves 30-60 degrees AROM ER in place of scapula supine
- e. Achieves at least 70 degrees AROM IR in place of scapula supine (abduction 30 degrees)
- f. Able to achieve active shoulder elevation against gravity to 120 degrees with good mechanics

*Modified based upon underlying pathology prior to surgery

2. Goals:
 - a. Maintain nonpainful AROM,
 - b. Enhance functional use of Upper Extremity
 - c. Progress weight-bearing exercises as appropriate
3. Exercise
 - a. Transitions to Home Exercise Program 3-4x/week with Follow Up Therapy Evaluation as indicated
 - b. Progress resistive exercise - continue as previous, adding:
 - i. Body Blade diagonals – progress to single-leg stance
 - ii. Push-up plus in push-up position (with or without knee support)
 - iii. Step-ups in push-up position
4. Modalities – PRN
5. Cryotherapy - PRN

Late Phase IV (~4-6 Months)

1. Continue passive stretch to achieve ROM goals
2. Exercise
 - a. Continue with exercise program, progressing with weight & endurance as tolerated
3. Return to Recreational hobbies: Gardening, Golf, doubles tennis, etc.
4. Released to perform activities as tolerated