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**TOTAL SHOULDER REPLACEMENT OR HEMIARTHROPLASTY
WITH SUBSCAPULARIS TENOTOMY**

**Adjunctive exercises

Staged ROM Goals

	PFE	PER at 20° abd	PER at 90° abd	AFE
POD 1	75°	0-20°	NA	NA
POW 1	100°	20	NA	NA
POW 3	120°	20°	NA	NA
POW 6	140°	30°	30	90°
POW 9	WNL	WNL	60°	120°+

Phase I (Protective Phase)

- Goals: Maintain stable prosthesis
Minimize pain and inflammatory response
Achieve staged ROM goals
Establish stable scapula
Initiate pain free rotator cuff and deltoid strengthening

Days 1 to 3

- i. Elbow, wrist and hand AROM (EWH)
- ii. Supine passive forward elevation in plane of scapula (PFE) to tolerance
 1. 5-10 reps, 2 x day
 2. Supine PFE by family member or using opposite arm
- iii. Supine passive external rotation (PE) to tolerance
 1. T-stick in 0- 20° flexion and 20° abduction
 2. 5-10 reps, 2x day
- iv. Codman's pendulum exercises
- v. C-spine AROM
- vi. Ice
- vii. Positioning full time in sling
- viii. Cautions:
 1. Assure normal neurovascular status
 2. No lifting of involved arm

3. Shoulder extension is limited. Elbow not to go behind midline of body
4. Protect the subscapularis repair

Weeks 1 to 3

- i. Continue EWH
- ii. Shoulder shrugs and retractions (no weight)
- iii. Continue PFE
- iv. Continue T-bar PER at 20° abduction
- v. Isometrics, keeping elbow flexed to 90° (sub maximal, pain free)
- vi. **Manual scapula strengthening
- vii. **Pain control modalities PRN / Polar Care
- viii. **Aquatics PROM, AROM activities (pain free)
- ix. Complications/Cautions:
 1. If pain level is not dissipating, decrease intensity and volume of exercises
 2. Continue to limit shoulder extension past midline of body
 3. Protect the subscapularis

Weeks 3 to 6

- i. Heat/Ice PRN to help obtain motion
- ii. **D/C sling as comfortable at week 6**
- iii. Achieve staged PROM goals in FE
- iv. Achieve staged PROM goals in ER at 20° abduction
- v. Theraband scapula retractions
- vi. Progressive serratus anterior strengthening (isolated)
- vii. AAFE (pullys) to start at 4 weeks
- viii. Continue isometric abduction
- ix. **Pain control modalities PRN
- x. **Aquatics AAROM→ AROM
- xi. **Trunk stabilization/strengthening
- xii. Cautions:
 1. Do not initiate dynamic rotator cuff strengthening
 2. Assure normal scapulohumeral rhythm with AAFE
 3. Protect the subscapularis

Phase II (Progressive Strengthening)

Goals: Maintain stability of prosthesis
 Achieve staged ROM goals
 Eliminate shoulder pain
 Improve strength, endurance and power

Weeks 6 to 9

- i. Theraband ER strengthening (pain free, elbow by side) week 7 or after. Very light with high repetitions.
- ii. **No IR strengthening until 12 weeks.**
- iii. Continue self stretching all planes to obtain PROM WFL
- iv. Advance scapula strengthening
 - v. AAFE→ AFE as tolerated
- vi. ****Mobilizations PRN**
- vii. ****Aquatics**
- viii. ****Trunk stabilization/strengthening**
- ix. Cautions:
 - 1. Strengthening program should progress only without signs of increasing inflammation
 - 2. Strengthening program should emphasize high repetitions, very light resistance and should be performed a maximum of 2 x day

Weeks 9 to 12

- i. Continue stretches PRN for PROM WFL
- ii. Advance theraband strengthening of cuff and scapula below shoulder level. May begin IR strengthening at 12 weeks.
- iii. Initiate isotonic dumbbell exercises for deltoid, supraspinatus, up to 2 lbs max (once nearly full AFE achieved)
- iv. ****Mobilizations PRN**
- v. ****Trunk stabilization/strengthening**
- vi. Cautions:

Phase III (Return to activity/Advanced conditioning)

Goals: Maintain stability of prosthesis
 Normalize strength, endurance and power for age
 Return to full ADL's and recreational activities

Months 3 to 6

- i. Begin IR strengthening
- ii. Light PFN or manual resistance for cuff/deltoid/scapula (rhythmic stabilization or slow reversal hold) in pain free and comfortable range
- iii. Stretching PRN
- iv. Continue deltoid/cuff/scapula strengthening with the following progressions *if needed*:
 - 1. Decreasing amounts of external stabilization provided to shoulder girdle
 - 2. Integrate functional patterns
 - 3. Increase speed of movements

4. Integrate kinesthetic awareness drills into strengthening activities
5. Decrease in rest time to improve endurance
6. Transition to maintenance deltoid/cuff/scapula strengthening program
7. Once met D/C strength criteria
8. Upon obtaining 85% of normal active ROM and MMT of a least 4/5 for rotator cuff and deltoid, modified sports activities are allowed (short irons and putting for golf, and ground strokes in tennis)

Discharge/Return to sport criteria

1. PROM WFL for ADL's/work/sports
2. MMT 5/5 shoulder girdle
3. Successful return to functional activities