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Reverse Total Shoulder Arthroplasty Protocol:

If the physical therapist requires assistance in the progression of a postoperative patient who has had rTSA, the therapist should consult with the referring surgeon.

***Shoulder Dislocation Precautions*:**

• No Reaching behind back. (NO combined shoulder adduction, internal rotation, and extension.)

• No glenohumeral (GH) extension beyond neutral.

*Precautions should be implemented for 12 weeks postoperatively unless surgeon specifically advises patient or therapist differently.

Surgical Considerations:

• The start of this protocol is delayed 3-4 weeks following rTSA for a revision and/or in the presence of poor bone stock based on the surgeon's assessment of the integrity of the surgical repair. In the case of a delayed start to physical therapy adjust below timeframes so that day 1 is the first day of physical therapy.

*****IF SUBSCAPULARIS REPAIR/PRESERVATION PERFORMED:**

- No ER past neutral first 6 weeks
- At 6-8 weeks can begin ER at 45-60 degrees abduction respecting the healing soft tissue
- At 8-12 weeks, can begin ER at 90 degrees abduction
- If the subscapularis was repairable, no active subscapularis (IR for 6 weeks)
- If the subscapularis was repairable, no resisted subscapularis (IR for 8 weeks)

*****IF POSTERIOR CUFF REPAIR PERFORMED, NO PASSIVE IR FOR 6 WEEKS**

Phase I – Immediate Post Surgical Phase/Joint Protection (Day 1-6 weeks):

Goals:

- Patient and family independent with:
  - o Joint protection
  - o Passive range of motion (PROM)- GENTLE
  - o Assisting with putting on/taking off sling and clothing
  - o Assisting with home exercise program (HEP)
  - o Cryotherapy
- Promote healing of soft tissue / maintain the integrity of the replaced joint.
- Restore active range of motion (AROM) of elbow/wrist/hand.
- Independent with activities of daily living (ADL's) with modifications.
- Independent with bed mobility, transfers and ambulation or as per pre-admission status.

Phase I Precautions:

- Sling is worn for 3-4 weeks postoperatively and only removed for exercise and bathing once able. The use of a sling often may be extended for a total of 6 weeks, if the current rTSA procedure is a revision surgery.
- While lying supine, the distal humerus / elbow should be supported by a pillow or towel roll to avoid shoulder extension. Patients should be advised to "always be able to visualize their elbow while lying supine."
- No shoulder AROM.
- No lifting of objects with operative extremity.
- No supporting of body weight with involved extremity.
- Keep incision clean and dry (no soaking/wetting for 2 weeks); No whirlpool, Jacuzzi, ocean/lake wading for 4 weeks.

3 Weeks to 6 Weeks:

- PROM:

o Forward flexion and elevation in the scapular plane in supine to 120 degrees MAXIMUM.

o ER in scapular plane to tolerance, respecting soft tissue constraints.

- Gentle resisted exercise of elbow, wrist, and hand.
- Isometric for deltoids (abduction/flexion/extension) in neutral
- NO ISOMETRIC ER, IR/ADDUCTION YET
- Continue frequent cryotherapy.

Criteria for progression to the next phase (Phase II):

- Tolerates shoulder PROM and isometrics; and, AROM- minimally resistive program for elbow, wrist, and hand.
- Patient demonstrates the ability to isometrically activate all components of the deltoid and periscapular musculature in the scapular plane.

Phase II –Active Range of Motion / Early Strengthening Phase (Week 6 to 12):

Goals:

- Continue progression of PROM (full PROM is not expected).
- Gradually restore AROM.
- Control pain and inflammation.
- Allow continued healing of soft tissue / do not overstress healing tissue.
- Re-establish dynamic shoulder and scapular stability.

Precautions:

- Due to the potential of an acromion stress fracture one needs to continuously monitor the exercise and activity progression of the deltoid. A sudden increase of deltoid activity during rehabilitation could lead to excessive acromion stress. A gradually progressed pain free program is essential.
- Continue to avoid shoulder hyperextension.

• In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises/activity.

• Restrict lifting of objects to no heavier than a coffee cup.

• No supporting of body weight by involved upper extremity.

Week 6 to Week 8:

• Continue with PROM program.

• At 6 weeks post op start PROM IR to tolerance (not to exceed 50 degrees) in the scapular plane.

• Begin shoulder AA/AROM as appropriate.

o Forward flexion and elevation in scapular plane in supine with progression to sitting/standing.

o ER and IR in the scapular plane in supine with progression to sitting/standing.

• Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate. Minimize deltoid recruitment during all activities / exercises.

• Progress strengthening of elbow, wrist, and hand.

• Gentle glenohumeral and scapulothoracic joint mobilizations as needed (Grade I-II).

• Continue use of cryotherapy as needed.

• Patient may begin to use hand of operative extremity for feeding and light activities of daily living including dressing, washing.

Week 9 to Week 12:

• Continue with above exercises and functional activity progression.

• Begin gentle glenohumeral IR and ER sub-maximal pain free isometrics.

• Begin gentle periscapular and deltoid sub-maximal pain free isotonic strengthening exercises. Begin AROM supine forward flexion and elevation in the plane of the scapula with light weights (1-3lbs. or .5-1.4 kg) at varying degrees of trunk elevation as appropriate. (i.e. supine lawn chair progression with progression to sitting/standing).

• Progress to gentle glenohumeral IR and ER isotonic strengthening exercises in sidelying position with light weight (1-3lbs or .5-1.4kg) and/or with light resistance resistive bands or sport cords.

Criteria for progression to the next phase (Phase III):

• Improving function of shoulder.

• Patient demonstrates the ability to isotonically activate all components of the deltoid and periscapular musculature and is gaining strength.

Phase III – Moderate strengthening (Week 12 +)

Goals:

• Enhance functional use of operative extremity and advance functional activities.

• Enhance shoulder mechanics, muscular strength and endurance.

Precautions:

• No lifting of objects heavier than 2.7 kg (6 lbs) with the operative upper extremity

• No sudden lifting or pushing activities.

Week 12 to Week 16:

• Continue with the previous program as indicated.

• Progress to gentle resisted flexion, elevation in standing as appropriate.

Phase IV – Continued Home Program (Typically 4 + months postop):

Schedule PRN, patient is on a home exercise program at this stage to be performed 3-4 times per week with the focus on:

- Continued strength gains
- Continued progression toward a return to functional and recreational activities within limits as identified by progress and outlined by surgeon and physical therapist.

Criteria for discharge from skilled therapy:

• Patient is able to maintain pain free shoulder AROM demonstrating proper shoulder mechanics. (Typically 80 – 120 degrees of elevation with functional ER of about 30 degrees.)

• Typically able to complete light household and work activities.