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REVERSE TOTAL SHOULDER ARTHROPLASTY/HEMIARTHROPLASTY PROTOCOL

The intent of this protocol is to provide the therapist with a guideline for the postoperative rehabilitation course of a patient that has undergone a Reverse Shoulder Arthroplasty. It is not intended to be a substitute for appropriate clinical decision-making regarding the progression of a patient's post-operative course. The actual post-surgical physical therapy management must be based on the surgical approach, physical exam/findings, individual progress, and/or the presence of postoperative complications. If a therapist requires assistance in the progression of a postoperative patient, they should consult with Dr. Garber.

Please Note: Those patients with a concomitant repair of a rotator cuff tear and/or a RSA secondary to fracture should be progressed to the next phase based on meeting the clinical criteria (not based on the postop time frames) as appropriate in collaboration with Dr. Garber.

Phase I – Immediate Post-Surgical (0-4 weeks):

Goals:

- Allow healing of soft tissue
- Maintain integrity of replaced joint
- Gradually increase passive range of motion (*PROM*) of shoulder; restore active range of motion (*AROM*) of elbow/wrist/hand
- Diminish pain and inflammation
- Prevent muscular inhibition
- Become independent with activities of daily living (dressing, bathing, etc.) with modifications while maintaining the integrity of the replaced joint

Criteria for progression to the next phase:

- Tolerates PROM program
- at least 90 degrees PROM flexion
- at least 90 degrees PROM abduction
    - Be able to isometrically activate all shoulder, rotator cuff, and upper back musculature

Precautions:

- Sling should be worn at all times for 3 weeks – except while showering
- Sling should be used for sleeping and removed gradually over the course of the next four weeks, for periods throughout the day
- While lying supine, a small pillow or towel roll should be placed behind the elbow to avoid shoulder hyperextension / anterior capsule stretch / subscapularis stretch
- Avoid shoulder active range of motion
- No lifting of objects
- No excessive shoulder motion behind back
- No excessive stretching or sudden movements (particularly external rotation)
- No supporting of body weight by hand on involved side
- Keep incision clean and dry (no soaking for 2 weeks)
- No driving for 3 weeks

Postoperative Day #1 (in hospital):

- Passive forward flexion in supine to tolerance
- External rotation in scapular plane to available gentle PROM (as documented in Operative Note) – usually around 30 degrees. (*Attention: DO NOT produce undue stress on the anterior joint capsule and subscapularis particularly with shoulder in extension*)
- Passive internal rotation to chest
- Active distal extremity exercise (elbow, wrist, hand)
- Pendulums
- Frequent cryotherapy for pain, swelling and inflammation management
- Patient education regarding proper positioning & joint protection techniques

Postoperative Day #2-10 (out of hospital):

- **Continue above exercises**
- Assisted flexion and abduction in the scapular plane
- Assisted external rotation
- Begin sub-maximal, pain-free shoulder isometrics in neutral
- Begin scapula musculature isometrics / sets
- Begin active assisted elbow ROM
- Pulleys (flexion and abduction) – as long as greater than 90 degrees of PROM
- Continue cryotherapy as much as able for pain and inflammation management

Postoperative Day #10-21:

- **Continue previous exercises**
- Continue to progress PROM as motion allows
- Gradually progress to active assisted ROM in pain free ROM
- Progress active distal extremity exercise to strengthening as appropriate
- Restore active elbow ROM

Phase II – Early Strengthening (Weeks 3-6):

Goals:

- Continue PROM progression/ gradually restore full PROM
- Gradually restore active motion
- Control pain and inflammation
- Allow continued healing of soft tissue
- Do not overstress healing tissue
- Re-establish dynamic shoulder stability

Criteria for progression to the next phase:

- Tolerates PROM/AAROM, isometric program
- Has achieved at least 140 degrees PROM flexion
- Has achieved at least 120 degrees PROM abduction
- Has achieved at least 60+ degrees PROM external rotation in plane of scapula
- Has achieved at least 70 degrees PROM internal rotation in plane of scapula
- Be able to actively elevate shoulder against gravity with good mechanics to 100 degrees

Precautions:

- Sling should be used as needed for sleeping and removed gradually over the course of the next two weeks, for periods throughout the day
- While lying supine a small pillow role or towel should be placed behind the elbow to avoid shoulder hyperextension / anterior capsule stretch
- Begin shoulder AROM against gravity
- No heavy lifting of objects (no heavier than a coffee cup)
- No supporting of body weight by hands and arms
- No sudden jerking motions

Week 3:

- **Continue with PROM, AAROM, isometrics**
- Scapular strengthening
- Begin assisted horizontal adduction
- Progress distal extremity exercises with light resistance as appropriate
- Gentle joint mobilizations as indicated
- Initiate rhythmic stabilization
- Continue use of cryotherapy for pain and inflammation

Week 4:

- Begin active forward flexion, internal rotation, external rotation, and abduction in supine position, in pain free ROM
- **Progress scapular strengthening exercises**
- **Wean from sling completely**
- Begin isometrics of rotator cuff and periscapular muscles

Phase III – Moderate strengthening (week 6-12):

Goals:

- Gradual restoration of shoulder strength, power, and endurance
- Optimize neuromuscular control
- Gradual return to functional activities with involved upper extremity

Precautions:

- No heavy lifting of objects (no heavier than 5 lbs)
- No sudden lifting or pushing activities
    - No sudden jerking motions

Criteria for progression to the next phase:

- Tolerates AAROM/AROM
- Has achieved at least 140 degrees AROM flexion supine
- Has achieved at least 120 degrees AROM abduction supine
- Be able to actively elevate shoulder against gravity with good mechanics to least 120 degrees

Week 6:

- Increase anti-gravity forward flexion, abduction as appropriate
- Active internal rotation and external rotation in scapular plane
- Advance PROM as tolerated, begin light stretching as appropriate
- **Continue PROM as need to maintain ROM**
- Initiate assisted internal rotation behind back
- Begin light functional activities

Week 8:

- Begin progressive supine active elevation (anterior deltoid strengthening) with light weights (1-3 lbs) and variable degrees of elevation

Week 10-12:

- **Begin resisted flexion, abduction, external rotation (therabands/sport cords)**
- Continue progressing internal and external strengthening
- Progress internal rotation behind back from active assisted ROM to AROM, as ROM allows (pay particular attention as to avoid stress on the anterior capsule)

Phase IV – Advanced strengthening (weeks 12 to 6 months):

Goals:

- Maintain full non-painful AROM
- Enhance functional use of upper extremity
- Improve muscular strength, power, and endurance
- Gradual return to more advanced functional activities
- Progress closed chain exercises as appropriate

Precautions:

- Avoid exercise and functional activities that put stress on the anterior capsule and surrounding structures (example: no combined external rotation and abduction above 80 degrees of abduction)
    - Ensure gradual progression of strengthening

Criteria for progression to the next phase:

- Patient able to maintain full non-painful AROM
- Maximized functional use of upper extremity
- Maximized muscular strength, power, and endurance
- Patient has returned to more advanced functional activities

Week 12+:

- Typically patient is on a home exercise program by this point 3-4x per week
- Gradually progress strengthening program
- Gradual return to moderately challenging functional activities

4-6 Months:

- Return to recreational hobbies, gardening