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General Rehabilitation Guidelines

Rotator Cuff Tear Arthropathy

Protocol after Hemiarthroplasty with Extended Coverage Humeral Prosthesis or **Reverse Shoulder Arthroplasty**



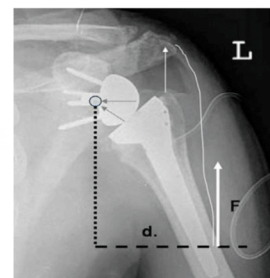
General Information

- Hemiarthroplasty for cuff tear arthropathy is an operation for pain relief. These patients often have severe limitations in shoulder function secondary to a massive rotator cuff tear. Significant gains in function during rehabilitation may not be achievable since the rotator cuff is not repaired surgically. Some patients however can retrain the shoulder muscles to elevate the arm by stabilizing the scapula and recruiting the anterior deltoid
- *Rehabilitation Considerations*
 - The anterior deltoid is released and then repaired back to the acromion. This must be protected for the first 6 weeks. Active forward elevation is not allowed until the deltoid is healed.
 - There is often some residual subscapularis muscle that is repairable at the conclusion of surgery. In some cases the pectoralis major tendon is transferred to provide some resistance to anterior shoulder subluxation and to assist with the humeral head depressor effect. Therapy must protect these repairs.
 - Compensatory scapulothoracic muscle recruitment is a typical feature of this condition. Specifically, the upper trapezius muscle "hikes up" the scapula during attempts to elevate the arm. When this occurs, a stable fulcrum for elevation cannot be achieved and the deltoid muscle is placed at a mechanical disadvantage. One of the goals of therapy is effective scapular stabilization that preferentially strengthens the retractor and depressor muscles. By creating a fixed and stable platform, scapular stabilization provides a fulcrum for the deltoid to effectively elevate the arm.
 - There is a higher risk of dislocation with the Reverse Prosthesis so passive ROM should be **PASSIVE**; this means **NO STRETCHING**. Excessive stretching may lead to dislocation.
 - **OVERALL FUNCTIONAL GOAL:** Patients to have the ability to reach behind their head so they can comb their hair without pain. (100 degrees of forward flexion, 90 degrees of abduction and 40 degrees of external rotation)

Extended Coverage Humeral Prosthesis



Reverse Total Shoulder Arthroplasty



Prehabilitation

- Instruct in application of ice and encourage use as much as tolerated within a 24 hour period for first week. If using ice packs, encourage to ice 20-30 minutes every 3-4 hours while awake
- Instruct in pendulum exercises to be performed 2-3 times per day starting immediately following surgery
 - These should be followed by cryotherapy session
- Instruct in basic progression of rehabilitation program and expectations for time course to recovery
- Arrange follow-up physical therapy appointment on 7th-10th day post-op to correspond with physician's post-operative evaluation

Outpatient Phase 1: (Hospital Discharge to Week 4)

- **ROM**
 - Continue program of passive forward elevation abduction and external rotation
 - No ER beyond 40°
 - IR in scapular plane as tolerated; no IR behind back
 - No IR in abduction, extension or cross body adduction
 - Joint mobilization of glenohumeral joint and scapulothoracic junction grades I/II as dictated by patient's tolerance.
 - Continue cervical, elbow and wrist ROM and grip strengthening
 - Postural control exercises
- **Strength**
 - Begin scapular retraction and depression but no shrugs
 - Begin and encourage aerobic conditioning such walking or stationary bike
- **Sling**
 - Continue to wear except for between exercise sessions and bathing
- **Other**
 - Incision mobilization and desensitization
 - Modalities for pain, inflammation and edema control (no e-stim)
 - Cryotherapy as needed

Outpatient Phase 2: (Weeks 5 – 8)

- **ROM**
 - Continued passive forward flexion, abduction, and external rotation in scaption
 - No ER beyond 40° until Week 7 and then progressive return to full in 10-15° increments per week
 - Grades I/II glenohumeral and scapulothoracic mobilization techniques
 - Continue cervical, elbow, wrist ROM and grip strengthening
- **Strength**
 - Light UBE for warm-up
 - Continue submaximal isometrics (no IR or extension)
 - Continue scapular retraction and depression
 - Begin biceps/triceps strengthening with elbow supported
- **Sling**
 - May discontinue use of sling in daytime but should continue to wear at night through Week 6 to protect subscapularis repair
- **Other**
 - Continue scar massage

Outpatient Phase 3: (Weeks 9 -12)

- **ROM**

- Begin program of self-assisted forward elevation and external rotation
- Grade III/IV glenohumeral and scapulothoracic mobilization techniques

- **Strength**

- Instruct in home program and begin isotonic deltoid strengthening starting with light resistance
 - Start in non-impingement position and progress through increasing degrees of abduction as tolerated
 - Assess for substitutions and focus on anterior deltoid strength in combination with scapular retraction and depression
- Advance periscapular strengthening of posterior shoulder girdle (trapezius, rhomboids, latissimus dorsi, serratus anterior)
- UBE with light resistance especially in reverse direction to promote scapular strengthening
- Closed chain scapular clocks, table top ball rolls and wall washes if tolerated
- Continue biceps and triceps strengthening
- Continue aerobic conditioning

NOTES: Hydrotherapy program is okay in phases 1 and 2 provided the limits of no active internal rotation and ER limit to 40° are kept. Should not begin prior to week 3 so wound is fully healed

- Hydrotherapy should include core body strengthening and aerobic conditioning

Outpatient Phase 4: Weeks 12 - 16)

- **ROM**

- Pain free ROM exercises. NO STRETCHING. By this time the patient should have enough strength for active elevation to 100 deg, active abduction to 90 deg

- **Strength**

- Progressive deltoid and periscapular strengthening
 - Emphasize strengthening force couples
- Continue UBE with progressive resistance
- Continue aerobic conditioning and core body strengthening