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Shoulder Arthroplasty Rehabilitation Framework

The following is a basic framework from which to work during rehabilitation following a Shoulder Arthroplasty. However, it is critical to communicate with the surgeon in order to be aware of the condition of the tissue at the time of repair, any concomitant procedures that might have been performed, etc, that might impact the progression that is appropriate for each specific patient.

Diagnosis

- **Regular Program:** After total shoulder replacement or hemiarthroplasty for most conditions not associated with rotator cuff repair or a fracture.
- **Limited Program:** After total shoulder replacement or hemiarthroplasty, which involved a rotator cuff repair, or was done for a fracture. Therapy is aimed at maintaining joint stability by achieving less motion with reasonable strength and function.

Phase I: Early Motion – 0-3 weeks post-op

Goals: Increase PROM – ~100 degrees of flexion, ER of 30 by the end of week 3, Decrease pain, Decrease muscle atrophy, Educate regarding joint protection, Provide the patient with instructions for home exercises.

Precautions: **_____ External rotation noted passively at surgery to guide the initial passive motions phase of therapy. (If not specified, ER limit of 40 degrees initially)**

- Instruct in sling or shoulder immobilizer use (i.e. use as needed for comfort, while in crowds or other vulnerable situations, etc.)
- Use arm to eat, read, etc. in front of body (anterior to plane of scapula) when comfortable
- Lift nothing heavier than a coffee cup
- Instruct in regular icing techniques or cold therapy device (use as much as possible out of 24 hours for 8-10 days)
- Ice packs for 20 - 30 minutes intervals, especially at the end of an exercise session
- Monitor for edema in forearm, hand, or finger
- Pillow under elbow when supine or sitting

Week 1:

- Pendulum exercises
  - *With the arm down at the side, the patient gently swings the hand forward and backward, then side-to-side, and then clockwise and counterclockwise*
- Passive supine forward flexion/elevation - in front of the plane of the scapula as pain allows

- Passive external rotation with elbow in neutral and up to 45 degrees of abduction
- Passive extension
- Scapular retraction, elevation in sitting or standing
- Active elbow, wrist, hand ROM - Grasping and gripping lightweight objects

Weeks 2,3: Add the following:

- Passive/well arm assisted supine forward flexion - 90 degrees by end of week 2
- Continue with Passive/Active assisted abduction, internal rotation, external rotation
    - *To amount specified on the prescription (if not specified, ER **limit** of 40 degrees for the first 4 weeks)*
- Begin Light Isometrics – Flexion, extension, abduction, adduction, and external rotation
- Use of pulley (week 3), if appropriate
- Begin aquatic therapy at 2 weeks within precautionary ROM – shoulder fully submerged – slow, active motions for flexion, elevation, ER/IR and horizontal abduction/adduction out to scapular plane, within precautionary ranges of motion

Include aerobic exercises as medical condition permits. Overall conditioning will positively influence shoulder recovery.

Phase II: Active Range of Motion and Muscle Strengthening (4-10 weeks post-op)

Goals: Improve strength, Improve ROM – 120 degrees of flexion, 40 degrees of ER, IR to sacrum by end of Phase II, Decrease pain, Increase functional activities, Scapular motion/ stabilization

Precautions: If subscapularis was taken down on the approach, NO resisted IR until 6-8 weeks post op, depending on procedure and tissue quality.

Weeks 4-10:

- Continue to work on Passive ROM as in Phase I
- Begin AROM and AAROM (using a cane), limited to pain-free arcs
- Assisted forward flexion supine using uninvolved arm to assist - progressing to active motion in a reclined position and then to sitting
- Side lying ER against gravity
- Encourage normal scapular mechanics with active motion
- Wall walking for forward flexion and elevation
- Add Theraband exercises or light dumbbell weights for flexion, extension, external rotation (may begin week 6 as appropriate for individual patient) Also, biceps, triceps, scapulothoracic strengthening (prone extension, prone T, etc.)

Continue ice, with modalities and massage as appropriate. Ice after exercise and any athletic activity.

Provide the patient with instructions for home therapy

Phase III: Final Strengthening – 10+ weeks

Goals: Maximize strength
Improve neuromuscular control
Increase functional activities

Weeks 10+:

- Continue to progress all elements from Phase II
- Continue wand and/or pulley (flexion, abduction, ER and elevation) to gradually increase range of motion
    - Goal for elevation - about 160 degrees (limited program - about 90 degrees)
    - Goal for external rotation - about 60 degrees (limited program - about 20 degrees)
    - Goal for internal rotation - thumb to approx. T12 level (limited program - about L5 level)
- Add other specific stretching as needed
- Continue to increase difficulty of theraband and dumbbell exercises as tolerated
- Increase resistance exercises – gym exercises including light seated row, light chest press, etc.
- Continue aerobic training as tolerated, and modalities as appropriate
- Continue to progress home program

NOTES:

1. With proper exercise, motion, strength, and function continue to improve even after one year.

2. The complication rate after surgery is 5 - 8%. Complications include infection, fracture, heterotopic bone formation, nerve injury, instability, rotator cuff tear, and tuberosity nonunion. Look for clinical signs, unusual symptoms, or lack of progress with therapy and report those to the surgeon.

3. The therapy plan above only serves as a guide. Please be aware of specific individualized patient instructions as written on the prescription or through discussions with the surgeon.