Shoreline Orthopaedics

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Total Shoulder Arthroplasty/Hemiarthroplasty Protocol

The intent of this protocol is to provide the clinician with guidelines of the postoperative rehabilitation of someone undergoing total shoulder arthroplasty or hemiarthroplasty. It is not intended to be a substitute for special instructions from Dr. Paff, or clinical decision making regarding the progression of a patient's postoperative course. The actual postsurgical physical therapy management must be based on surgical approach, physical exam/findings, individual progress, and/or the presence of postoperative complications.

Phase I: Immediate Post-Surgical Phase: Typically 0-4 weeks; 2 PT visits
Goals:
- Allow healing of soft tissue
- Maintain integrity of replaced joint
- Gradually increase shoulder passive range of motion, restore elbow/wrist/hand active range of motion
- Reduce pain and inflammation
- Reduce muscle inhibition
- Independent with activities of daily living (ADL's) while maintaining integrity of replaced joint

Precautions:
- Sling should be worn for the first 7-10 days and then worn as needed for comfort
- While lying supine, a small pillow or towel roll should be placed behind the elbow to avoid shoulder hyperextension, anterior capsule stretch, or subscapularis stretch
- Avoid shoulder AROM into abduction or flexion past 90°
- No lifting of objects
- No internal rotation (IR) behind the back or resisted internal rotation
- No supporting of body weight by hand on the involved side
- No excessive stretching or sudden movements (especially into external rotation [ER])

Post-Operative PT Visit #1: Typically 8-10 days post-operatively
- Supine passive forward flexion to 90° (hand to top of head)
- Passive IR to chest
- Active distal extremity exercises (elbow/wrist/hand)
- Pendulums
- Scapular sub-max isometrics (primarily retraction)
- Frequent cryotherapy for pain, swelling, and inflammation management
- Patient education regarding proper positioning and joint protection techniques

Post-Operative PT Visit #2: Typically 2-3 weeks post-operatively
- Continue previous exercises
- Passive ER to neutral with arm by side
- Active-assisted exercises into flexion as tolerated - table slides to wall slides/walks
- Begin sub-maximal shoulder isometrics in neutral (avoid IR)
- Continue distal extremity AROM
- Continue PROM
- Continue cryotherapy as much as able for pain and inflammation management

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Total Shoulder Arthroplasty/Hemiarthroplasty Protocol (page two)

Phase I (cont'd)
Criteria for progression to the next phase:
- Tolerates PROM program
- Achieves at least 90° of flexion
- Achieves at least 0° of external rotation
- Achieves at least 70° of internal rotation measured at 30° abduction

Phase II: Early Strengthening Phase: Typically 4-6 weeks: 2-3x per week
Goals:
- Restore full shoulder PROM
- Gradually restore shoulder AROM
- Control pain and inflammation
- Allow continued healing of soft tissue
- Re-establish dynamic shoulder stability

Precautions:
- While lying supine, a small pillow or towel roll should be placed behind the elbow to avoid shoulder hyperextension, anterior capsule stretch, or subscapularis stretch
- In presence of poor shoulder mechanics, avoid repetitious shoulder AROM exercises/activity against gravity in standing
- No lifting of heavy objects (heavier than a coffee cup)
- No supporting of body weight by hand on the involved side
- No sudden jerking movements

Early Phase II: (typically 4-5 weeks)
- Continue with PROM/AAROM/Isometrics (slow progression of PROM into external rotation and abduction with arm externally rotated)
- Scapular strengthening
- AAROM pulleys flexion and abduction (as long as PROM >90 degrees)
- Begin assisted horizontal adduction
- Gentle glenohumeral and scapulohumeral mobilizations as indicated
- Initiate glenohumeral and scapulohumeral rhythmic stabilization
- Continue cryotherapy as much as able for pain and inflammation management

Late Phase II: (typically 6 weeks)
- Begin active flexion, internal rotation, external rotation, abduction in pain free range of motion
- Progress scapular strengthening
- Continue cryotherapy as much as able for pain and inflammation management

Criteria for progression to the next phase:
- Tolerates PROM/AROM/isometric program
- Achieves at least 140° of flexion PROM
- Achieves at least 120° of abduction PROM
- Achieves at least 60° of external rotation PROM in plane of scapula
- Achieves at least 70° of internal rotation PROM measured in plane of scapula at 30° abduction
- Able to actively elevate the arm to 90° with good mechanics in supine

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Total Shoulder Arthroplasty/Hemiarthroplasty Protocol (page three)

Phase III: Moderate Strengthening Phase: Typically 6-12 weeks: 2-3x per week
Goals:
- Restore shoulder AROM
- Optimize neuromuscular control
- Gradual return to functional activities with involved extremity

Precautions:
- No heavy lifting of objects (>5lbs)
- No sudden lifting or pushing activities
- No sudden jerking

Early Phase II: (typically 6-10 weeks)
- Continue PROM as needed to maintain ROM
- Advance PROM to stretching as appropriate (wand)
- Progress AROM exercises/activity as appropriate
- Initiate assisted shoulder internal rotation behind the back stretch
- Resisted shoulder internal and external rotation in scapular plane
- Begin light functional training
- Begin progressive supine active elevation strengthening (ant deltoid) with light weights (1-2lb) as tolerated
- Continued distal upper extremity strengthening and scapular strengthening

Late Phase III: (typically 10-12 weeks)
- Resisted flexion, abduction, extension (weights/theraband) in standing and/or prone
- Continue progression internal and external rotation strengthening

Criteria for progression to the next phase:
- Tolerates PROM/AROM/strengthening
- Achieves at least 120° of flexion AROM
- Achieves at least 120° of abduction AROM
- Achieves at least 60° of external rotation AROM in plane of scapula
- Achieves at least 70° of internal rotation AROM measured in plane of scapula at 30° abduction

(Note: Patients that are rotator cuff deficient, goals and criteria must be more functionally based. Flexion and abduction should ideally be near 90 degrees with 30 degrees of external rotation and 70 degrees of internal rotation. Patient should be able to reach their hand to the top of their head to perform personal hygiene.)

Phase IV: Advanced Strengthening Phase: Typically 10-12 weeks to MMI: 1x per week
Goals:
- Maintain non-painful AROM
- Enhance functional use of the upper extremity
- Improve muscular strength, power, endurance
- Gradual return to more advanced functional activities
- Progress closed chain exercises as appropriate

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Total Shoulder Arthroplasty/Hemiarthroplasty Protocol (page four)

Phase IV: (cont'd)
Precautions:
- Avoid exercises that put excessive stretch on anterior capsule (90-90 position)
- Ensure gradual strengthening

Early Phase IV: Typically patients are on a HEP performed 3-4 days per week with PT progression 1 visit per week
- Gradually progression strengthening program
- Gradual return to moderately challenging functional activities

Late Phase IV:
- Return to recreational hobbies including, gardening, sports, golf, tennis, etc.

Criteria for discharge:
- Maintain non-painful AROM
- Maximized functional use of the upper extremity
- Maximum strength, power, endurance
- Return to activities/work