REHAB GUIDELINES
TOTAL SHOULDER ARTHROPLASTY AND HEMI-ARTHROPLASTY

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Patient: ___________________ Date of Surgery: ___________

• General Information
- Total Recovery time is between 4-6 months depending on factors such as injury severity, patient sport/activity/age and type of repair.
- Adherence to rehab protocol guidelines and restrictions is critical in avoiding re-injury or failures.
- Active duty soldiers will be on profile for a minimum of 4-6 months during recovery. Levels and types of allowed activity defined below.

• Immobilization
- External Rotation Immobilizer Sling should be worn for 8 weeks in uncontrolled environments (around dogs, kids, in crowds, etc.).
- Sling should be worn while sleeping for 6 weeks.
- Sling may be removed in controlled environments for light activity after 6 weeks.
- Discontinue sling completely at 8 weeks.

• Personal Hygiene / Showering
- Avoid getting incision/portal sites wet for 48 hours.
- Ok to begin showering 48 hours after surgery (if no wound related issues).
- Avoid baths, saunas, pools, lakes, etc for two weeks.
- DO NOT remove steristrips, allow them to fall off on their own.

Total Shoulder Arthroplasty / Hemiarthroplasty Protocol:
Phase I – Immediate Post Surgery:
Goals:
• Allow healing of soft tissue/incision
• Maintain integrity of replaced joint
• Gradually increase passive range of motion (PROM) of shoulder; restore active range of motion (AROM) of elbow/wrist/hand
• Reduce pain and inflammation
• Independent with activities of daily living (ADLs) with modifications while maintaining the integrity of the replaced joint.
Precautions:
• Sling should be worn continuously for 3-4 weeks
• While lying supine, a small pillow or towel roll should be placed behind the elbow to avoid shoulder hyperextension / anterior capsule stretch / subscapularis stretch. (When lying supine patient should be instructed to always be able to visualize their elbow. Avoidance of extension past neutral protects the subscapularis repair.) – This should be maintained for 6 weeks following surgery.
• Avoid shoulder AROM (Active Range of Motion).
• No lifting of objects
• No excessive shoulder motion behind back, especially into internal rotation (IR)
• No excessive stretching or sudden movements (particularly external rotation (ER))
• No supporting of body weight by hand on involved side
• Keep incision clean and dry (no baths, swimming, soaking for 2 weeks)
• No driving for 3 weeks

Post-Operative Day (POD) #1 (in hospital):
• Passive forward flexion in supine to tolerance
• Gentle ER in scapular plane to available PROM (as documented in operative note) – usually around 20° (Do not overdo external rotation so as to protect subscapularis repair)
• Passive IR to chest
• Active distal extremity exercise (elbow, wrist, hand)
• Pendulum exercises
• Frequent cryotherapy for pain, swelling, and inflammation management
• Patient education regarding proper positioning and joint protection techniques

Early Phase I: (out of hospital)
• Continue above exercises
• Begin scapula musculature isometrics / sets (primarily retraction)
• Continue active elbow ROM
• Continue cryotherapy as much as able for pain and inflammation management

Late Phase I:
• Continue previous exercises
• Continue progression of PROM as pain allows
• Begin assisted flexion, elevation in the plane of the scapula, ER, IR in the scapular plane

Criteria to progress to Phase (II):
If the patient has not reached the below ROM, forceful stretching and mobilization/manipulation is not indicated. Continue gradual ROM and gentle mobilization (i.e. Grade I oscillations), while respecting soft tissue constraints.
• Tolerates PROM program
• Has achieved at least 90° PROM forward flexion and elevation in the scapular plane.
• Has achieved at least 45° PROM ER in plane of scapula
• Has achieved at least 70° PROM IR in plane of scapula measured at 30° of abduction

Phase II – Early Strengthening Phase
(Not to begin before 4-6 **weeks post-surgery to allow for appropriate soft tissue healing):**

**Goals:**
- **Restore full passive ROM**
- Gradually restore active motion
- Control pain and inflammation
- Allow continue healing of soft tissue
- Do not overstress healing tissue
- Re-establish dynamic shoulder stability

Precautions:
- Sling should only be used for sleeping and removed gradually over the course of the next 2 weeks, for periods throughout the day.
- While lying supine a small pillow or towel should be placed behind the elbow to avoid shoulder hyperextension / anterior capsule stretch.
- In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises/activity against gravity in standing.
- No heavy lifting of objects (no heavier than coffee cup)
- No supporting of body weight by hand on involved side
- No sudden jerking motions

**Early Phase II:**
- Continue with PROM, active assisted range of motion (AAROM)
- Begin **active flexion**, IR, ER, elevation in the plane of the scapula pain free ROM
- AAROM pulleys (flexion and elevation in the plane of the scapula) – as long as greater than 90° of PROM
- Begin shoulder sub-maximal pain-free shoulder isometrics in neutral
- Scapular strengthening exercises as appropriate
- Begin assisted horizontal adduction
- Progress distal extremity exercises with light resistance as appropriate
- Gentle glenohumeral and scapulothoracic joint mobilizations as indicated
- Initiate glenohumeral and scapulothoracic rhythmic stabilization
- Continue use of cryotherapy for pain and inflammation.

**Late Phase II:**
- Progress scapular strengthening exercises

Criteria for progression to the next **phase (III):**
If the patient has not reached the below ROM, **forceful stretching and mobilization/manipulation is not indicated. Continue gradual ROM and gentle mobilization (i.e. Grade I oscillations), while respecting soft tissue constraints.**
- Tolerates P/AAROM, isometric program
- Has achieved at least 140° PROM forward flexion and elevation in the scapular plane.
- Has achieved at least 60° PROM ER in plane of scapula
- Has achieved at least 70° PROM IR in plane of scapula measured at 30° of abduction
- Able to actively elevate shoulder against gravity with good mechanics to 100°.

Phase III – Moderate strengthening
(Not to begin before 6 Weeks post-surgery to allow for appropriate soft tissue healing and to ensure adequate ROM):

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 3 kg.)
• No sudden lifting or pushing activities
• No sudden jerking motions

Early Phase III:
• Progress AROM exercise / activity as appropriate
• Advance PROM to stretching as appropriate
• **Continue PROM as needed to maintain ROM**
• Initiate assisted shoulder IR behind back stretch
• Resisted shoulder IR, ER in scapular plane
• **Begin** light functional activities
• Wean from sling completely
• Begin progressive supine active elevation strengthening (anterior deltoid) with light weights (0.5-1.5 kg.) at variable degrees of elevation

Late Phase III:
• Resisted flexion, elevation in the plane of the scapula, extension (therabands / sport cords)
• **Continue progressing IR, ER strengthening**
• Progress IR stretch behind back from AAROM to AROM as ROM allows
  (Pay particular attention as to avoid stress on the anterior capsule.)

Criteria for progression to the next phase (IV):
If the patient has not reached the below ROM, forceful stretching and mobilization/ manipulation is not indicated. Continue gradual ROM and gentle mobilization (i.e. Grade I oscillations), while respecting soft tissue constraints.
• **Tolerates AA/AROM/strengthening**
• **Has achieved at least 140° AROM forward flexion and elevation in the scapular plane supine.**
  • Has achieved at least 60⁺° AROM ER in plane of scapula supine
  • Has achieved at least 70° AROM IR in plane of scapula supine in 30° of abduction
  • Able to actively elevate shoulder against gravity with good mechanics to at least 120°.
Note: (If above ROM are not met then patient is ready to progress if their ROM is consistent with outcomes for patients with the given underlying pathology).

Phase IV – Advanced strengthening phase
(Not to begin before 12 Weeks to allow for appropriate soft tissue healing and to ensure adequate ROM, and **initial strength**):

Goals:
• **Maintain non-painful AROM**
• **Enhance functional use of upper extremity**
• **Improve muscular strength, power, and endurance**
• Gradual return to more advanced functional activities
• Progress weight bearing exercises as appropriate

Precautions:
• Avoid exercise and functional activities that put stress on the anterior capsule and surrounding structures. (Example: no combined ER and abduction above 80° of abduction.)
• Ensure gradual progression of strengthening

Early Phase IV:
• Typically patient is on a home exercise program by this point to be performed 3-4 times per week.
• Gradually progress strengthening program
• Gradual return to moderately challenging functional activities.

Late Phase IV (Typically 4-6 months post-op):
  Return to recreational hobbies, gardening, sports, golf, doubles tennis

Criteria for discharge from skilled therapy:
• **Patient able to maintain non-painful AROM**
  - Maximize functional use of upper extremity
  - Maximized muscular strength, power, and endurance
  - *Patient has returned to* advanced functional activities

Treatment Algorithm for progressing the Rehabilitation Program for a Patient that has had a Total Shoulder Arthroplasty.

Phase I – Immediate Post Surgical Phase
Meets Criteria for progression to phase II:
• Tolerates PROM program
• Has achieved at least 90° PROM forward flexion and elevation in the scapular plane.
• Has achieved at least 45° PROM ER in plane of scapula
• Has achieved at least 70° PROM IR in plane of scapula measured at 30° of abduction

No?, continues with Phase I activities

Phase II – Early Strengthening Phase
(Not to begin before 4-6 Weeks post surgery to allow for appropriate soft tissue healing)
Meets Criteria for progression to phase III:
• Tolerates P/AAROM, isometric program
• Has achieved at least 140° PROM forward flexion and elevation in the scapular plane.
• Has achieved at least 60+° PROM ER in plane of scapula
• Has achieved at least 70° PROM IR in plane of scapula measured at 30° of abduction
• Able to actively elevate shoulder against gravity with good mechanics to 100°.

Typically patients who have had a TSA secondary to RA or RC arthropathy may not progress to higher phases of rehab. (Proceed to discharge from therapy upon reaching stable status.)

No, continues with Phase II activities.

Yes, Phase III – Moderate strengthening
(Not to begin before 6 Weeks post surgery for patients with healthy rotator cuff, to allow for appropriate soft tissue healing and to ensure adequate ROM. Those with repaired cuff not to begin before 10-12 weeks):
Meets Criteria for progression to phase IV:
• Tolerates AA/AROM/strengthening
• Has achieved at least 140° AROM forward flexion and elevation in the scapular plane supine.
• Has achieved at least 60° AROM ER in plane of scapula supine
• Has achieved at least 70° AROM IR in plane of scapula supine in 30° of abduction
• Be able to actively elevate shoulder against gravity with good mechanics to least 120°

Typically patients who have had a TSA for a fracture will be able to complete at least the first 3 phases of rehabilitation. (Proceed to discharge from therapy upon teaching a stable status.)

Phase IV – Advanced strengthening phase
(Not to begin before 12 Weeks post surgery, to allow for appropriate soft tissue healing and to ensure adequate ROM, and initial strength):

Yes
No, continues with Phase III activities

Meets Criteria for discharge from skilled therapy:
• Patient able to maintain non-painful AROM
• Maximized functional use of upper extremity
• Maximized muscular strength, power, and endurance
• Patient has returned to advanced functional activities Typically patients who have had a TSA for OA or osteonecrosis will be able to complete all 4 phases of rehabilitation

No, continues with
Phase IV activities

Note: If Criteria for progression are not met, the patient may be ready to progress if their ROM has plateaued and is consistent with outcomes for patients with the given underlying pathology.

Yes, Discharge from therapy with home program