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Total Shoulder Arthroplasty Rehabilitation Guideline

This rehabilitation program is designed to return the individual to their activities as quickly and safely as possible. It is designed for rehabilitation following total shoulder arthroplasty. Modifications to this guideline may be necessary dependent on physician specific instruction, location of repair, concomitant injuries or procedures performed. This evidence-based total shoulder arthroplasty guideline is criterion-based; time frames and visits in each phase will vary depending on many factors- including patient demographics, goals, and individual progress. This guideline is designed to progress the individual through rehabilitation to full sport/ activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following total shoulder replacement.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

General Guidelines/ Precautions:

- PROM only 4 weeks, AAROM at 4 weeks, no strengthening for 10 weeks
- **Avoid ER beyond 30°** to protect subscapularis repair in first 4 weeks
- Avoid excessive extension beyond 0 degrees
- Sling to be worn at all times except while doing exercises for 6 weeks, unless directed by MD
- **If extensive work was done on rotator cuff** during TSA follow physicians special instructions and/or rotator cuff guideline
- Avoid light activities with wrist and hand for 2 weeks other than prescribed exercises
- Expect return to moderate functional activities gradually at 3 months post-op
- Expect return to more challenging activities (i.e. golfing and racquet sports) 4-6 months

Updated 03/10/2019

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Phase	Suggested Interventions	Goals/ Milestones for Progression
Pre-op *Patient Education* Expected visits: 1-2	*Discuss:* Anatomy, existing pathology, post-op rehab schedule, wearing of sling , and expected progressions *Instruct on Pre-op exercises*: Strength and ROM progressions as tolerated. *Education in*: • Donning and doffing immobilizer • Dressing technique • Home exercise program s/p surgery • Planning for assistance at home	*Goals of Phase:* 1. Improve ROM and strength prior to surgery 2. Educate patient on restrictions and timelines of restrictions following surgery 3. Educate patient in preparations for home and assistance post surgery. 4. Educate patient in HEP 5. Educate patient in donning/doffing immobilizer

Acute Care Stay	*Immediate Post-operative instructions:*
	Patient and family/coach education and training in an individual or group setting for:
	• Safety with mobilization and transfers
	• HEP
	• Donning/doffing immobilizer
	• Dressing techniques
	• Instruct in precautions:
	  ○ no active motion of surgical shoulder
	  ○ sling to be worn except when performing exercises
	  ○ no support of body weight with involved hand
	  ○ Keep incisions clean and dry
	Exercises
	• PROM flexion and scaption to tolerance
	• PROM ER to 20-30 deg (in scapular plane), IR to chest wall
	• Pendulum exercises if balance allows and patient able to understand how to complete correctly; per surgeon preference
	• AAROM elbow flexion, AROM elbow extension
	• AROM wrist flexion, extension
	• AROM hand opening and closing, gripping
		Goals of Phase:
		1. Instruct in HEP
		2. Assess and provide education on mobility, dressing and self cares
		3. Educate patient on restrictions
		
		Suggested Criteria to Advance to Next Phase:
		Functional goals:
		1. SBA transfers
		2. SBA bed mobility
		3. SBA Ambulation household distances with Appropriate AD
		4. CGA stair negotiation with appropriate AD
		6. min A for bathing
		7. min A for dressing
		8. min A for donning UE splint
		9. SBA for shower transfer with appropriate modification
		10. SBA for toilet transfer with appropriate modification

Phase I	*Specific Instructions:*	*Goals of Phase:*

Maximum Protection Phase Weeks 0-2 Expected visits: 1-4	• No active motion of surgical shoulder • No passive ER beyond 30 degrees • Avoid excessive shoulder extension beyond 0 degrees • Sling to be worn except when performing exercises • No support of body weight with involved hand • Keep incisions clean and dry *Suggested Treatments:* Modalities: Cryotherapy, E-stim, • avoid heat for 2 weeks Range of Motion: • Shoulder PROM • Elbow, wrist and hand AROM • C-spine AROM *Exercise Examples:* • Shoulder PROM: Flexion and scaption as tolerated in **pain free ranges**, ER no greater than 30° (or as directed by MD), IR to chest wall • Elbow, wrist, and hand AROM exercises with no resistance • C-spine AROM, upper trapezius relaxation, scapular retraction • Pendulum exercises if okayed by MD *Other Activities: Walking program*	1. Reduce pain and edema 2. Initiate early PROM with goal of 90 degrees flexion and 30 degrees of ER in scapular plane 3. Educate patient on restrictions *Suggested Criteria to Advance to Next Phase:* 1. Tolerates PROM to involved shoulder acceptable pain levels
Phase II *Protected Motion Phase* Weeks 2-4 Expected visits: 2-6	*Specific Instructions:* • Continue to wear the sling • No carrying or lifting of objects • No reaching with involved arm • PROM 0-4 weeks *Suggested Treatments:* Modalities Indicated: Cryotherapy, E-stim ROM: Continue PROM Manual Therapy: Soft tissue mobilization, scapular mobilization, light GH mobilization Grade I for pain control. *Exercise Examples:* • PROM: Flexion, scaption, ER, and IR in pain-free ROM • Scapular stabilization • Elbow, wrist & hand strengthening	*Goals of Phase:* 1. Minimal pain with daily activities with involved UE. 2. Fully healed incision 3. Minimal to no edema 4. PROM 90-120 degrees flexion, 30 degrees ER in scapular plane *Suggested Criteria to Advance to Next Phase:* 1. Tolerates PROM to involved shoulder acceptable pain levels 2. Tolerates a trial of AAROM to involved shoulder with acceptable pain levels.

Phase III *Motion and Muscle Activation Phase* Weeks 4-8 Expected visits: 8-12	*Specific Instructions:* • Wean from sling as tolerated and as directed by physician (6-8 weeks) • Avoid overhead activities • 4 weeks initiate AAROM as tolerated • 6 weeks begin AROM as tolerated *Suggested Treatments:* ROM: AAROM and **at 6 weeks** progress to AROM as tolerated- Flexion, abduction, ER, IR, Extension, Adduction, Hz abduction, Hz adduction Manual Therapy: Soft tissue mobilization, Scar mobilization, Light GH mobs, Scapular mobilization. *Exercise Examples:* • Rhythmic stabilization, reverse codman's • At 4 weeks, **submaximal Pain Free Isometrics** • At 4 weeks, begin AAROM exercises (cane, wand, etc.) • 6 weeks, AROM in all planes with focus on reducing compensation patterns and scap/humoral rhythm • Functional reaching patterns PNF diagonals • Thoracic mobility • Ball stabilization drills on the wall • Pulleys and UBE with no resistance	*Goals of Phase:* 1. Active flexion 100- 120 degrees, ER to 45-60°, IR reach to belt line 2. Grade 3/5 strength for flexion and abduction in the scapular plane 3. Resume use of involved UE with light ADL's *Suggested Criteria to Advance to Next Phase:* 1. Minimal pain with AROM or isometrics 2. No compensation in movement patterns of AROM
Phase IV *Moderate Strengthening* Weeks 8-12 Expected visits: 6-12	*Specific Instructions:* • Continue previous exercises • Use of involved UE with most ADL's *Suggested Treatments:* ROM: Continue to progress with AROM in all planes Strength: **At 10 weeks**, Initiate light resistance exercises(1-2#'s) as tolerated (or as directed by MD) Manual Therapy: Joint mobilizations continued if Impingement signs or ROM is lacking *Exercise Examples:* • Light resistance exercises as tolerated into cardinal and functional planes avoiding compensation patterns • Continue Rhythmic stabilization and alternating isometric stability drills • Functional movement patterns with slight resistance avoiding pain and/or compensation patterns	*Goals of Phase:* 1. Active flexion 130-160, IR to thoracic spine, ER to 80 deg understanding not every patient will obtain this based on diagnosis/co-morbidities 2. 4/5 grade strength for flexion, abduction, ER 3. Return to all ADL's with minimal pain *Suggested Criteria to Advance to Next Phase:* 1. No pain with ADL's or light recreational or work activities 2. Discharge if patient is not returning to advanced movement or high velocity activities (i.e. golfing, throwing, racquet sports, heavy yard work, physically demanding job)

	• Progress scapular strength • Aquatic therapy	
Phase V *Advanced Movement and High Velocity* Months 3-6 Expected Visits: 0-4	*Specific Instructions:* • Avoid high velocity throwing or swinging activities until 4-6 months, as directed by MD *Suggested Treatments:* • Continue ROM exercises as needed • Progress resistance exercises as needed • Rx consists of monitoring HEP, giving cues, and modifying as needed *Exercise Examples:* • Initiate light throwing activities • Progress to moderate resistance exercises • Body weight supported exercises on shoulder • Sport replicating motions at progressive velocities and resistance as tolerated	***Suggested Criteria for Discharge:*** 1. Return to advanced functional activities with no restrictions. 2. Strength and ROM within 90% other UE

**NOTE: Progression of functional activities should be performed only as pain and proper biomechanics and movement patterns allow.

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