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PHYSICAL THERAPY PROTOCOL
REVERSE TOTAL SHOULDER ARTHROPLASTY

Procedure	**Date of Surgery:** _____ **R L B/L** Reverse Total Shoulder Arthroplasty [ ] For OA/Cuff Tear [ ] For Proximal Humerus Fracture [ ] For Revision Arthroplasty **Additional Procedures:**_____	**PLAN** **Physical Therapy for R L B/L** Shoulder 2x Per Week x 12 Weeks
General Guidelines	The intent of this protocol is to provide the physical therapist with a guideline/treatment protocol for the postoperative rehabilitation management for a patient who has undergone a Reverse Shoulder Arthroplasty (RSA). It is not a substitute for a physical therapist's clinical decision making regarding the progression of a patient's postoperative rehabilitation based on the individual patient's physical exam/findings, progress, and/or the presence of postoperative complications. If the physical therapist requires assistance in the progression of a postoperative patient who has had RSA the therapist should consult with the referring surgeon. The *scapular plane* is defined as the shoulder positioned in 30° of abduction and forward flexion with neutral rotation. ROM performed in the scapular plane should enable appropriate shoulder joint alignment. **Shoulder Dislocation Precautions:** ○ No shoulder motion behind back. (NO combined shoulder adduction, internal rotation, and extension.) ○ No glenohumeral (GH) extension beyond neutral. *Precautions should be implemented for 6 weeks postoperatively unless surgeon specifically advises patient or therapist differently. **Surgical Considerations:** The surgical approach needs to be considered when devising the postoperative plan of care. ○ Deltopectoral approach -- Unless stated otherwise by the surgeon a RSA is completed via deltopectoral approach, which minimizes surgical trauma to the anterior deltoid. ○ An incision is made from the coracoid, extending 5cm distally along the deltopectoral groove. The cephalic vein is mobilized and the deltoid is gently retracted laterally. Meticulous care is taken to protect injury to the deltoid muscle. The biceps tendon is released and later tenodesed.	

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	○ If intact, the subscapularis tendon is tenotomized allowing for exposure of the humeral head and whenever possible, repaired at the end of the case. Refer to the operative note and subscapularis management for specific restrictions] ○ **If subscapularis was repaired, internal rotation strengthening may begin at 12 weeks** **Delayed Start of Therapy:** The start of this protocol is delayed 2-4 weeks for a revision surgery. In the case of delayed start to physical therapy adjust below timeframes so that day 1 is the first day of physical therapy.	
Phase I **(Day 1–Week 6)** Immediate Post Surgery and Initiation of Range of Motion Phase	**GOALS** • Patient and family independent with: • Joint protection • Passive range of motion (PROM) • Assisting with putting on/taking off sling and clothing • Assisting with home exercise program (HEP) • Cryotherapy • Promote healing of soft tissue / maintain the integrity of the replaced joint. • Enhance PROM. • Restore active range of motion (AROM) of elbow/wrist/hand. • Independent with activities of daily living (ADL's) with modifications. • Independent with bed mobility, transfers and ambulation or as per pre-admission status. **TREATMENT RECOMMENDATIONS** • **Day 1 - 2 weeks** ○ Ensure patient is independent in bed mobility, transfers and ambulation. ○ Insure proper sling fit/alignment/use. ○ Active/Active Assisted ROM (AROM/AAROM) of cervical spine, elbow, wrist, and hand.	**PRECAUTIONS** • Sling is worn for 2 weeks postoperatively and only removed for exercise, bathing and seated in a chair with arm rests once able. The use of a sling may be extended for a total of 6 weeks, if the current RSA procedure is a revision surgery or for fracture management. • While lying supine, the distal humerus/elbow should be supported by a pillow or towel roll to avoid shoulder extension. • Patients should be advised to "always be able to visualize their elbow while lying supine." • No lifting of objects with operative extremity. No supporting of body weight with involved extremity. • May shower on post op day 1. • Outside of showering, keep the incision clean and dry. • No soaking/submerging for 2 weeks; • No whirlpool, fresh or salt water for 4 weeks.

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	○ Continuous cryotherapy for first 72 hours postoperatively, then apply as needed for pain ○ **Start home exercise program at postop day 7 (on last page)** • **2 weeks to 6 weeks:** ○ Continue all exercises as above ○ Continue to maintain precautions of combined internal rotation and extension (reaching behind back) as well as no lifting heavier than 1-2 lbs ○ Passive Range of Motion (PROM) <u>therapy assisted</u> typically begins at 1 week: ▪ Forward flexion and elevation in the scapular plane in supine is limited to 90° for 1st 4 weeks then progress as tolerated. ▪ ER in scapular plane to tolerance, respecting soft tissue constraints. ▪ No internal rotation ○ Gentle resisted exercise of elbow, wrist, and hand ○ May begin gentle pain free scapular pinches ○ **Begin to wean from sling at 2 weeks post-op (4 weeks if revision)** ○ May also begin pain free sub-max deltoid isometrics ○ May use arm for pain free waist level activities ○ Active Assisted Range of Motion (AAROM) typically begins at <u>1 weeks</u> ▪ Forward flexion and elevation in scapular plane in supine with progression to lawn chair then to standing ▪ ER in scapular plane in supine ○ Active Range of motion (AROM) typically begins at <u>3 weeks</u> ▪ Based on response to AAROM ▪ Progress from supine to lawn chair to standing ○ Manual Therapy	

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	▪ Soft tissue massage upper trapezius, pec minor, scapular stabilizers ▪ Desensitization scar tissue	
Phase II **(Weeks 6 - 8)** Restoration of Functional Motion	**GOALS** • ROM goals to be achieved by week 8 • Forward elevation 0-140° • ER 0-30° in neutral • Functional external rotation (to mouth and behind head) • Internal rotation not beyond 50° in scapular plane or back pocket (initiated at 6 weeks) • Continue progression of PROM • Restore full prosthesis appropriate AROM. • Re-establish dynamic shoulder and scapular stability. • Control pain and inflammation. **TREATMENT RECOMMENDATIONS** • Continue progression of PROM, gentle stretching allowed. • Restore full AROM • May initiate active IR, adduction and extension (to back pocket) at 6 weeks for functional activities only. No end range stretching behind the back until week 12 • Begin gradual return to all non-weight bearing and light lifting ADL's	**PRECAUTIONS** • Due to the potential of an acromion stress fracture one needs to continuously monitor the exercise and activity progression of the deltoid. A sudden increase of deltoid activity during rehabilitation could lead to excessive acromial stress. A gradually progressed, pain-free program is essential. • Continue to avoid shoulder hyperextension. • In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises/activity. • Restrict lifting of objects no more then 1-2 lbs • No weight bearing through involved upper extremity.
PHASE III **(Weeks 8 - 12)** Restoration of Functional Strength	**GOALS** Restoration of deltoid, periscapular and teres minor strength for functional activities. **TREATMENT RECOMMENDATIONS** • Strengthening typically begins at week 8-10 ○ Peri-scapular musculature	**PRECAUTIONS** • If subscapularis was repaired, internal rotation strengthening may begin at **12 weeks** • Monitor closely for acromial tenderness. Discontinue all strengthening and consult surgeon if acromial pain persists.

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	○ Gentle deltoid strengthening once demonstrate good quality of motion, without excessive compensation and minimal symptoms ○ Focused teres minor strengthening ○ Gentle (grade I and II) glenohumeral and scapulothoracic joint mobilizations as needed. Note that anatomic arthrokinematic rules do not apply for the reversed joint. • If subscapularis is repaired, may begin gentle IR strengthening at 12 weeks. • In the absence of an intact subscapularis, IR strengthening is not indicated. • May weight bear through the arm only as needed for activities of daily living.	
PHASE IV (Weeks 12+) Advanced Strengthening Phase	**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 • Prioritize posterior chain strengthening including latissimus, paraspine and rear deltoid strengthening exercises. Early Phase IV: • Typically patient is on a home exercise program by this point should be performed **only 2-3 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 • Advise patient to use judgement to avoid heavy strenuous lifting.	**PRECAUTIONS** • Avoid exercise and functional activities that put stress on the anterior deltoid. • Ensure gradual progression of strengthening • **Caution patient against daily exercise in this phase.** • **Home exercises + supervised PT should total no more than 3-4x a week to avoid deltoid fatigue and increased risk of acromial/scapular spine stress fracture.** ***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

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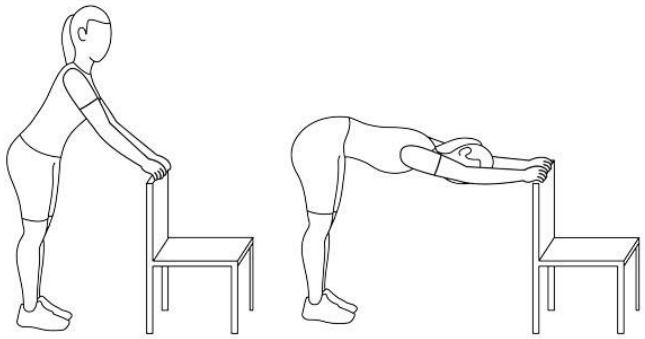
HOME EXERCISES (Start on Day 7):

Home Stretching Exercises #1 *Table Slides*	• Sit in a sturdy chair at a table, resting the hand/forearm of the injured shoulder on a towel, sheet, or paper plate to aid sliding. • Lean forward slowly, sliding your hand straight ahead to stretch the shoulder, allowing your head/trunk to lower slightly. • **Frequency**: 1 set of 10 reps. 2 times a day; 6-7 days a week 
Home Stretching Exercises #2 *Shoulder Flexion Stretch*	• Stand behind a chair or at a countertop with both hands on the back of the chair. • Back up a few steps and bend forward until you feel a stretch in front of your shoulders. Keep your back flat and your elbows softly bent. • Hold for 10 seconds and then return to your starting position. • **Frequency**: 1 set of 10 reps. 2 times a day; 6-7 days a week 

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Home Stretching Exercises #3 Supine Passive Assisted Elevation	• Start by laying comfortably on your back. • Use the well arm to support the operative arm by grabbing firmly at the elbow. • Gently lift arm up as far as comfortable. • Hold 5 seconds then lower back to your starting position. When lowering, gently push the operated arm into the other hand to reduce pain. • Gradually increased range of motion. If more comfortable, you may grab the wrist as your range of motion increases (as shown in the left picture). • **Frequency**: 1 set of 10 reps. 2 times a day; 6-7 days a week