

Total Shoulder Arthroplasty With Osteotomy

Weeks 1 to 3	Weeks 4 to 6
Initial Evaluation	Evaluate
<ul style="list-style-type: none"> ➤ Posture and position of the shoulder girdle ➤ Inspect for signs of infection, and ensure integrity of the incision ➤ PROM ➤ Ensure patient understands precautions (see patient education) ➤ Typically no sling will be used 	<ul style="list-style-type: none"> ➤ Patients will typically report to outpatient therapy 4 to 6 weeks post-op ➤ Posture and position of the shoulder girdle ➤ Passive range of motion ➤ Assess RTW and functional expectations
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ Support Physician prescribed meds ➤ Discuss anticipated therapy needs (typically 2-3 x/wk x 10-12 wks) ➤ No lifting objects >5lbs for 8 weeks ➤ No supporting body weight with arm ➤ No excessive stretching or sudden movements ➤ No active or resisted IR for 6 weeks ➤ No Passive ER beyond 60 degrees or flexion/abduction beyond 160 degrees ➤ Place small pillow under upper arm when lying supine to avoid hyperextension ➤ No reaching behind back or any IR/ADD combination 	<ul style="list-style-type: none"> ➤ Discuss any needs for correction of abnormal movement patterns and posture ➤ No lifting objects more than a coffee cup ➤ Restate precautions and ensure compliance with precautions ➤ Discuss HEP compliance ➤ LONG TERM PRECAUTIONS ➤ No forceful jerking motions or repetitive impact loading (pull cord engine start, chain saw or chopping wood)
Therapeutic Exercise	Therapeutic Exercise
<ul style="list-style-type: none"> ➤ Cervical, elbow, and wrist AROM ➤ Begin pendulum exercises ➤ Scapular retraction and depression ➤ Ball squeeze with involved hand ➤ Initiate AAROM including table slides flexion and abduction and cane exercises for supine Flexion and ER within precautions (week 2) ➤ May initiate submax isometrics for deltoid and ER (week 2) ➤ May do hydrotherapy program after wound is fully healed, within ROM precautions (week 3) 	<ul style="list-style-type: none"> ➤ May add pulleys for AAROM, flexion and ABD ➤ Begin rhythmic stabilization ➤ Initiate seated wand flexion and supine press ➤ Begin horizontal adduction stretch ➤ Begin AROM without compensation or resistance (typically prone row and extension, side lying ER, supine punch, salutes and triceps press as well as seated biceps curls) (week 6)
Manual Techniques	Manual Techniques
<ul style="list-style-type: none"> ➤ PROM in scapular plane, within precautions and patient tolerance ➤ Incision mobilization and desensitization after wound healing 	<p>PROM in scapular plane, within precautions and patient tolerance</p> <p>Incision mobilization and desensitization as needed</p>
Modalities	Modalities
<ul style="list-style-type: none"> ➤ Modalities may be used as needed 	<ul style="list-style-type: none"> ➤ Modalities may be used as needed
Goals	Goals
<ul style="list-style-type: none"> ➤ Maintain integrity of subscapularis repair ➤ Diminish pain and inflammation ➤ Gradually restore PROM ➤ PROM: 90 degrees Flex and ABD, 30 degrees ER, 70 degrees IR 	<ul style="list-style-type: none"> ➤ Maintain integrity of repair ➤ Diminish pain and inflammation ➤ Independent with HEP for ROM ➤ PROM: 140 degrees Flex and ABD, 30 degrees ER ➤ AROM shoulder elevation to 100 degrees with no compensation

Weeks 6 to 12	Weeks 12 to discharge
Evaluate	Evaluate
<ul style="list-style-type: none"> ➤ Posture and position of the shoulder girdle ➤ AROM and PROM ➤ Compensatory movement patterns 	<ul style="list-style-type: none"> ➤ Assess deficits that may limit return to work or other functional goals ➤ AROM and PROM ➤ HEP independence and compliance
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ Correction of abnormal posture and movement patterns ➤ Continuation of AAROM with progressive return to full ROM ➤ Keep all lifting less than 10# 	<ul style="list-style-type: none"> ➤ Continue education regarding correction of abnormal movement patterns and posture ➤ Continuation of HEP emphasis on flexibility of posterior capsule with side lying ER and cross body adduction stretch ➤ Review long term precautions: No forceful jerking motions or repetitive impact loading (pull cord engine starting, chain saw or chopping wood)
Therapeutic Exercise	Therapeutic Exercise
<ul style="list-style-type: none"> ➤ Begin progressive 2 hand press and biceps/triceps strengthening with elbow supported (week 7) ➤ Begin isotonic rotator cuff, periscapular and deltoid strengthening with light hand weights and tubing (week 8) ➤ Initiate UBE with light resistance (week 8) ➤ Progress aquatic resistance ➤ Begin more aggressive self-stretches (wall climb, IR and ER) ➤ Initiate IR isometrics 	<ul style="list-style-type: none"> ➤ Continue UBE with progressive resistance ➤ Progressive rotator cuff and periscapular strengthening including T's, Y's and IR ➤ Proprioceptive exercises ➤ Continue with biceps/triceps strengthening ➤ Initiate push-ups with plus ➤ Begin exercises that specifically address functional goals
Manual Techniques	Manual Techniques
<ul style="list-style-type: none"> ➤ May begin IR/ER stretch in greater degrees of ABD as tolerated 	<ul style="list-style-type: none"> ➤ Manual ROM techniques as needed
Modalities	Modalities
<ul style="list-style-type: none"> ➤ Any modalities as indicated 	<ul style="list-style-type: none"> ➤ Any modalities as indicated
Goals	Goals
<ul style="list-style-type: none"> ➤ Maintain integrity of subscapularis ➤ No pain ➤ Maximize AROM while preventing compensatory movement patterns ➤ AROM supine: Flexion 140 degrees, ABD 120 degrees, ER 60 degrees, IR 70 degrees ➤ AROM seated shoulder elevation: 120 degrees 	<ul style="list-style-type: none"> ➤ Independence with HEP ➤ Understanding of long term precautions ➤ Return to work and functional activities ➤ Maximize AROM while preventing compensatory movement patterns

References:

- Sanchez-Sotelo, J. Total Shoulder Arthroplasty. The Open Orthopedics Journal. 2011 March16: (106-114)
- Bullock GS, Garrigues GE, Ledbetter L, Kennedy J. A Systematic Review of Proposed Rehabilitation Guidelines Following Anatomic and Reverse Shoulder Arthroplasty. JOSPT. 2019 April 30: (337-346)
- Massachusetts General Hospital Department of Sports Medicine. Rehabilitation Protocol for Total Shoulder Arthroplasty and Hemiarthroplasty. December 2018
- Ortho Virginia. Total Shoulder Arthroplasty with Lesser Tuberosity Osteotomy Rehabilitation Protocol. 2016

