

Shoulder Latarjet Rehabilitation Protocol

PHASE I: Generally 0 - 6 weeks post-op (Immediate Post Surgical Phase)	
PHASE I GOALS:	Protect the surgical repair & avoid a “stiff” shoulder Adherence to precautions and immobilization
PRECAUTIONS:	* NO active use of arm - must ALWAYS wear sling/immobilizer, even while sleeping* Reminder it takes 6-8 wks to form osseous union for newly reconstructed glenoid Biceps and Coracobrachialis attachments to the coracoid need to be protected
ROM GUIDELINES:	Avoid gaining ROM too quickly by adhering to the following: <ul style="list-style-type: none"> ◦ Wks 1-3: PROM Flexion 100deg, IR 45deg, ER 25deg, Abduction Tolerance ◦ Wks 4-6: PROM Flexion & Abduction Tolerance, IR 45deg at 30deg ABD, ER 45deg
SLING:	Sling/immobilizer with abduction pillow is worn for 6 weeks per ortho/PT Sleep with towel under the elbow to prevent shoulder hyperextension/wear sling
WOUND:	Post-op dressing remains intact until post-op day #3 (~72 hours after surgery) May begin showering after post-op day #3 (no need to cover incision site) * Do NOT submerge shoulder in tub or pool for 4 weeks* Suture/staple removal @ 10-14 at followup with Dr. Zacchilli. Begin scar massage after incision site sloughs/scar is formed
REHABILITATION:	*Note: Exercise prescription is dependent upon the tissue healing process and <i>individual</i> functional readiness in <i>all</i> stages. If any concerns or complications arise regarding the progress for any patient, physical therapy will contact the orthopedic surgeon. Start with the following exercises: (10-20 repetitions, 3-4 x daily)
~weeks 1-3	<p>Modified Pendulum: (May be done in the sling.) While supporting the affected arm with the unaffected hand, move the shoulder forward, backward, side to side and in clockwise and counterclockwise directions. Progress to full pendulum after 3-5 days.</p> <p>Elbow, Wrist, & Hand: Perform elbow and wrist flexion, extension, pronation, and supination while holding the shoulder in a neutral position at side. For the hand, use a foam ball, newspaper, or theraputty to squeeze repetitively.</p> <p>Gentle (“Two Finger”) Isometrics: Use the unaffected hand to provide very light, pain free resistance during shoulder flexion, adduction, extension, and abduction (<u>No rotation</u>).</p> <p>Gentle (“Two Finger”) Isometrics: add gentle, pain free resistance for IR & ER</p>

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<p>~weeks 4-6</p> <p>FOLLOW-UP:</p> <p>DOCUMENTATION:</p>	<p>Shoulder PROM: Do not force any painful motion. Flexion and elevation to tolerance Abduction in the plane of the scapula to tolerance Internal Rotation (IR) to 45 degrees at 30 degrees of abduction External Rotation (ER) in the plane of the scapula from 0-25 degrees; begin at 30-40 degrees abduction</p> <p>Shoulder PROM: Flexion and elevation to tolerance Abduction in the plane of the scapula to tolerance IR to 45 degrees at 30 degrees abduction ER to 45 deg. Begin at 30-40 degrees of abduction Joint Mobilization Grade I & II: Only if limited ROM compared to expectation for this level Scapulothoracic Mobilization: Only if limited ROM Thoracic spine Mobilization: Only if limited ROM Posterior Capsule stretching: Cross body stretch, Sleeper Stretch</p> <p>Physical Therapy: weekly; Ortho: ~6 wks post-op; Supervised rehab: 2 x per wk</p> <p>Precautions, pain level, medications and modalities Observation: (incision sites) - Signs/symptoms of infection? Site healing well? Neurovascular status: Distal pulses, motor and sensation intact? Shoulder passive ROM (forward flexion, ER with shoulder at side)</p>
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PHASE II: Generally 6-9 weeks post-op (Progressive Phase of Rehabilitation)	
<p>PHASE II GOALS:</p>	<p>PROM: Passive flexion >155deg, ER within 8-10deg of contralateral side at 20deg ABD, Passive ER >75deg at 90deg ABD AROM: >145deg Flexion Phase II exercises without pain or difficulty</p>
<p>PRECAUTIONS:</p>	<p>*NO pushups, heavy lifting, or other sports participation* *NO repetitive overhead use of shoulder*</p>
<p>ROM GUIDELINES:</p>	<p>Wks 6-9: PROM Flexion 155deg, ER within 8-10deg contralateral side at 20deg ABD, ER at least 75deg at 90deg ABD, AROM Flexion 145deg</p>
<p>SLING:</p>	<p>Wean from wearing sling/immobilizer per ortho/PT guidance</p>
<p>REHABILITATION:</p>	<p>Continue phase I exercises as needed</p>

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Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in shoulder pain or stiffness since the previous exercise session)

Note: all strengthening should be done, starting with low weights, high repetitions, and in a painless ROM

~weeks 6-9

Shoulder PROM: Progress forward flexion, elevation, & abduction in the plane of the scapula to tolerance

IR as tolerated, ER to tolerance; progress to multiple angles of abduction once >35deg at 0-40deg of ABD

Supine Active Assisted Shoulder Flexion: Lie on back with arm down at side and thumb pointed towards the ceiling. Use unaffected hand to grasp the wrist of the affected arm and slowly raise it until a point of mild discomfort (within ranges of motion described above) to patient's tolerance.

Aerobic Conditioning on Recumbent Bike

Scapular Retraction & Protraction: Gently "pinch" shoulder blades together. Hold for 5 seconds and relax. Then spread shoulder blades apart. Hold for 5 seconds and relax.

Rhythmic Stabilization: ER/IR in the scapular plane, flexion/extension, ABD/ADD

Lower Extremity Weight Lifting: May begin leg & calf press, hamstring curls, hip add/abd

Shoulder AAROM exercises: Wand, pulley, gentle towel stretch, etc.

Joint Mobilization-Glenohumeral and Scapulothracic Grade I-IV as appropriate

Shoulder AROM and AAROM exercises: Wand, pulley, towel stretch, sleeper's stretch, etc.

Progressive strengthening: ER & IR with arm at side and with 30deg shoulder ABD(use towel roll), FF & scaption to 60-90°, prone rows at 30/45/90deg ABD, ER sidelying with towel roll (30-50 reps, low resistance 1-3#)

FOLLOW-UP: Physical Therapy: bimonthly; Ortho: ~3 months post-op;
Supervised rehabilitation: 2-3 x per week as needed

DOCUMENTATION: Pain level, medications, modalities
Shoulder ROM & strength

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PHASE III: Week 10-15 (Strengthening Phase)	
PHASE III GOALS:	<p>Normalize strength, endurance, neuromuscular control</p> <p>Return to chest level functional activities</p> <p>Gradual stress to anterior joint capsule</p>
PRECAUTIONS:	<p>*NO participation in contact/collision sports until ~9 months post-op or cleared by MD*</p> <p>Do not overly stress anterior capsule with aggressive overhead activities</p>
REHABILITATION:	<p>Continue phase II exercises as needed</p> <p>Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in shoulder pain or stiffness since the previous exercise session)</p> <p>*Note: all strengthening should be done, starting with low weights, high repetitions, and in a painless ROM*</p>
~weeks 10-15	<p>Warm-up: 5-10 minutes on upper body cycle</p> <p>Continue A/PROM as needed</p> <p>Initiate biceps curls with light resistance</p> <p>Gradually strengthen pec major and minor-avoid excessive stress on anterior capsule</p> <p>Progress subscapularis strengthening with focus on both upper and lower segments</p> <ul style="list-style-type: none"> - Push up plus (wall, counter, knees on floor, floor) - Cross body diagonals with tubing - IR resistive band at 0, 45, 90deg ABD - Forward Punch
FOLLOW-UP:	<p>PT: 3 weeks</p> <p>Supervised rehabilitation: 2 x per week as needed</p>
DOCUMENTATION:	<p>Pain level & medication</p>

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PHASE IV: Week 16-20 (Overhead Activities/Return To Activity Phase)	
PHASE III GOALS:	Continue ROM as needed Maintain full non-painful AROM Return to more strenuous work/recreational activities
PRECAUTIONS:	* NO participation in contact/collision sports until ~9 months post-op or cleared by MD* Do not overly stress anterior capsule with aggressive overhead activities Avoid tricep dips, wide grip bench press, and no military press or lat pulls behind the head Do not begin throwing until cleared by PT/MD
REHABILITATION:	Continue phase III exercises as needed Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in shoulder pain or stiffness since the previous exercise session)
~weeks 16-20	Isotonic strengthening if no compensatory strategies or pain Strengthen overhead if ROM and strength below 90deg is Good Progressive return to UE wt lifting emphasizing deltoid, latissimus dorsi, pec major (15-25 reps, light weight) Push-ups without elbow past 90deg Plyometrics if cleared by PT
FOLLOW-UP:	Rehabilitation: 2 x per week as needed
DOCUMENTATION:	Pain level & medications; Shoulder ROM & strength
MISCELLANEOUS:	The recommendation is to wait until 6-9 months post-op to return to contact/collision or overhead sports. This may be adjusted slightly by the surgeon according to progress.

References:

1. Decker MJ, Tokish JM, Ellis HB, Torry MR, Hawkins RJ. Subscapularis muscle activity during selected rehabilitation exercises. *Am J Sports Med.* 2003; 31(1):126-134.
2. Hovelius L, Sandstrom B, Saebo M. One hundred eighteen Bristow-latarjet repairs for recurrent anterior dislocation of the shoulder prospectively followed for fifteen years: Study II-the evolution of dislocation arthropathy. *J Shoulder Elbow Surg.* 2006; 15(3): 279-289.
3. Banas MP, Dalldorf PG, Sebastianelli WJ, DeHaven KE. Long-term follow-up of the modified Bristow procedure. *Am J Sports Med.* 1993; 21(5): 666-671.
4. Brigham and Women's Hospital, Department of Rehabilitation Services Physical Therapy; *Anterior Stabilization of the Shoulder: Latarjet Protocol, 2009; 1-10.*