Phase I, 0-1 weeks. NO ACTIVE shoulder ROM against gravity until 6 weeks after surgery

PRECAUTIONS	- Avoid weight bearing on operative upper extremity - No shoulder active range of motion (AROM) - Avoid pain during ROM exercises - No shoulder external rotation (ER) past 0° - Avoid lying on operative side - Use sling at all times except when bathing, dressing, icing or performing home exercise program (HEP) - Use pillows to support operative arm when sitting or sleeping
Emphasize	- Pain and edema control; Cryotherapy and elevation - Proper sling positioning and compliance - Protection of repair - Independent transfers, ambulation and stair negotiation - Pain-free HEP
Special Considerations	- Biceps tenodesis: AROM with neutral wrist, no resisted biceps activity for 8 weeks - Massive cuff tear: delay protocol by 2 weeks unless otherwise directed by surgeon - Subscapularis repair: no flexion beyond 90° and no ER beyond 30° for 6 weeks, Weeks 0-4: no active shoulder internal rotation (IR), Weeks 6-12: begin active IR, Weeks 12+: begin resisted IR
Assessment	- Quick Disabilities of Arm, Shoulder and Hand (Quick DASH) - American Shoulder and Elbow Surgeons Score (ASES) - Numeric Pain Rating Scale (NPRS) - Pain, Wound status, Swelling, Mental status - Passive range of motion (PROM) - Static scapular assessment (Kibler grading) - Cervical mobility - Post-anesthesia neurovascular screening - Functional status – ADLs and mobility
Treatment Recommendations	- Transfer training in and out of bed, sit to stand, and stair training while maintaining non-weight bearing status - Pain-free distal AROM: Elbow and wrist AROM - Weeks 0-1: Shoulder PROM exercises (Codman's, passive ER to neutral, Passive supine elevation using the opposite hand to 90) - Beginning at 2 weeks: Pulley exercises for flexion, as tolerated. Use cane for ER; towel to increase IR. - Scapular strengthening program, in protective range - Deltoid isometrics - Instruct in semi-reclined sleeping position, avoiding lying on operative side - ADL training - Initiate and emphasize importance of HEP
Criteria for Advancement	- Safely transfers unassisted - Independent with sling management, or caregiver independent in assisting - Independent with ADLs - Independent with home exercise program (HEP)

Phase II, 2-6 weeks. NO ACTIVE shoulder ROM against gravity until 6 weeks after surgery

PRECAUTIONS	- Sling to be worn at all times except when exercising, icing, dressing and showering - Limit shoulder PROM based on pain and MD guidelines, with emphasis on limiting ER to protect subscapularis repair if present - No shoulder AROM until cleared by MD - Avoid severe pain with exercises and functional activities - Avoid weight bearing through operative upper extremity - Avoid holding items greater than 1 lb.
Emphasize	- Control swelling - Proper donning/doffing of sling and use per MD instruction - Protect surgical repair - Patient compliance with HEP, and protection during ADLs
Special Considerations	- Biceps tenodesis: AROM with neutral wrist, no resisted biceps activity for 8 weeks - Massive cuff tear: delay protocol by 2 weeks unless otherwise directed by surgeon - Subscapularis repair: no flexion beyond 90° and no ER beyond 30° for 6 weeks, Weeks 0-4: no active shoulder IR, Weeks 6-12: begin active IR, Weeks 12+: begin resisted IR
Assessment	- Quick DASH, ASES, NPRS - Cervical mobility - Neurovascular screen - Shoulder PROM, Distal AROM - Static scapular assessment (Kibler grading)
Treatment Recommendations	- PROM shoulder elevation in scapular plane - AAROM shoulder ER with wand in scapular plane (within limits) - Scapular mobility and stability exercises progression to manual resistance - Manual scapular clocks and Codman's pendulum exercises - Distal AROM exercises (unless PROM specified by MD for elbow) - Core strengthening and Deltoid isometrics * ROM Goals (DO NOT FORCE BUT ASSESS FOR STIFFNESS) o Week 4: - Elevation in scapular plane: 90° - ER in scapular plane: 5°-15°; IR in scapular plane: to chest o Week 6: - Elevation in scapular plane: 120° - ER in scapular plane: 30°-45°; IR in scapular plane: to chest o 0-6 weeks - Abduction 0°-90° (gentle motion) - Week 6: Rotator cuff (RC) isometrics o Submaximal ER/IR rhythmic stabilization and isometrics with PT
Criteria for Advancement	- Swelling and pain controlled; tolerance of exercises without pain - Passive shoulder ER to 45° in scapular plane (remember none past 30 degrees for 6 weeks if subscapularis repair) - Passive shoulder elevation to 120° in scapular plane - Independent with HEP

Phase III, 6-12 weeks. Begin Active Range of Motion (AROM), regain full AROM, protect repair

PRECAUTIONS	- Avoid pain with ADLs and therapeutic exercise - No combined shoulder abduction and ER (pitch motion) - No lifting greater than 5 lb. - Avoid supporting full body weight on operative upper extremity
Emphasize	- Gradually restore shoulder AROM - Restore scapular and rotator cuff muscle balance and endurance - Reduce compensatory movement, e.g. overuse of upper trapezius
Special Considerations	- Biceps tenodesis: AROM with neutral wrist, no resisted biceps activity for 8 weeks - Massive cuff tear: delay protocol by 2 weeks unless otherwise directed by surgeon - Subscapularis repair: no flexion beyond 90° and no ER beyond 30° for 6 weeks, Weeks 0-4: no active shoulder IR, Weeks 6-12: begin active IR, Weeks 12+: begin resisted IR
Assessment	- Quick DASH, ASES, NPRS - Cervical mobility - Neurovascular screen - Shoulder PROM, Distal AROM - Static scapular assessment (Kibler grading)
Treatment Recommendations	- Discontinue sling - Shoulder ROM exercises, and AA/PROM using wand - Initiate AROM in all planes - Posterior capsule stretch - Stabilization exercises - Humeral head control exercises - Closed kinetic chain exercise, e.g. ball stabilization begin week 10 - Sub-maximal shoulder isometrics, e.g. flexion, extension, ER, IR - Multi-planar deltoid strengthening - General upper extremity strengthening - Core strengthening - Cervical AROM and upper trapezius stretching - Upper body ergometry if motion allows - Reeducation of movement patterns, Functional mobility training - Manual therapy as needed, e.g. scapular mobilization, soft tissue mobilization - Modalities for pain and edema as needed - Pool therapy if available - Progression of HEP
Criteria for Advancement	- Pain controlled - Shoulder AROM in plane of scapula: elevation to 150°, ER to 45° - Independent with HEP - Restore forward flexion in scapular plane to full - ER in scapular plane to 70°-90°

Phase IV, 12-16 weeks. Regain full shoulder flexibility and restore full shoulder strength

PRECAUTIONS	- Avoid scapular compensations with AROM - No painful activities
Emphasize	- Restore normal ROM and flexibility - Restore strength - Posterior capsule mobility - Reduce compensatory patterning
Special Considerations	Massive cuff tear- delay protocol by 2 weeks unless otherwise directed by surgeon
Assessment	- QuickDASH, ASES, NPRS - Shoulder AROM and PROM - Static/dynamic scapular assessment (Kibler grading) - Cervical and thoracic spine mobility - Clavicular mobility - Upper extremity and periscapular strength – MMT - Grip strength
Treatment Recommendations	- Progress shoulder ROM and flexibility to within normal limits - Manual therapy to restore shoulder girdle ROM - Address flexibility of thoracic spine - Proprioceptive Neuromuscular Facilitation (PNF) patterning - Progressive resistive exercises for UE, shoulder girdle and core - Latissimus pull downs, serratus strengthening, side lying ER - Initiate banded ER/IR - Initiate closed chain upper body exercises with gradual loading (avoid full body weight) - Progress humeral head rhythmic stabilization exercises, e.g. closed chain, upright position, overhead - Upper body ergometry and general conditioning - Functional training to address patient's goals - Progress to more advanced long term HEP
Criteria for Advancement	- Normal/near normal shoulder motion and flexibility over 90º - UE and periscapular muscle strength 4+/5 for control with functional movements - Fully independent with ADLs with minimal pain - Tolerance to all exercises without discomfort

Phase V, 16+ weeks. Return to sport and all activities

PRECAUTIONS	- Avoid high impact, e.g. contact sports - Avoid too much too soon- monitor exercise dosing - Note that expert opinion varies widely on allowable sports- consult with MD
Emphasize	- Monitor load progression and volume of exercise - Monitor for loss of strength and flexibility - Improve muscle strength and flexibility - Neuromuscular patterning - Collaboration with appropriate Sports Performance expert
Assessment	- QuickDASH, ASES, NPRS - Shoulder AROM and PROM - Static/dynamic scapular assessment (Kibler grading) - Cervical and thoracic spine mobility - Clavicular mobility - Upper extremity and periscapular strength – MMT - Grip strength
Treatment Recommendations	- Progress humeral head control exercises in a variety of overhead positions - Progress isotonic exercises to higher loads as indicated - Sustained single arm holds with perturbations - Closed kinetic chain progression exercises - Progress cardiovascular conditioning - Sport-specific multidirectional core retraining - Dynamic balance activities - Neuromuscular shoulder reeducation for control with dynamic sports-specific exercises - Progress total body multidirectional motor control exercises to meet sport-specific demands at 6 months if appropriate - Collaboration with trainer, coach or performance specialist
Criteria for Return to Sport and all activities	- Independent in long-term sport-specific exercise program - Movement patterns, strength, flexibility, motion, power and accuracy to meet demands of sport/demand symptom-free