Jonathan Watson, MD

REHABILITATION PROTOCOL- Nonoperative anterior shoulder instability

The rehabilitation guidelines are presented in a criterion based progression program. Individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions, and precautions may also be given to protect healing tissues and the surgical repair/reconstruction. The therapist should consult the referring physician with any questions or concerns.

INDIVIDUAL CONSIDERATIONS

PHASE 1

REHAB GOALS	1. Protection of the shoulder 2. Gradual restoration of ROM 3. Minimize swelling & pain
PRECAUTIONS	1. Sling immobilization as needed until pain controlled 2. ROM precautions: Passive forward elevation 90, ER to 20 with <20 deg abduction. Avoid abduction & external rotation. Avoid active forward elevation. 3. Ice as needed for pain 4. No lifting or carrying objects
RANGE OF MOTION EXERCISES	○ Active & passive elbow, wrist, hand ROM, ball squeeze, gripping ○ Supported Codman exercises ○ No stretching at this time. Soft tissue mobilizations/techniques as tolerated
SUGGESTED THERAPEUTIC EXERCISES	○ As above ○ LE and core activities when pain tolerates ○ Closed chain- perturbations in quadruped ○ Week 4-Isometric exercises in 20-30 abduction in plane of scapula & neutral rotation. Begin with elbow supported, gradually remove support. ○ Rotator cuff co-contraction exercises within ROM precautions
CARDIOVASCULAR EXERCISE	Stationary bike, elliptical (no UE), stairmaster
PROGRESSION CRITERIA	○ Pain <2/10 at rest and <4/10 overall ○ No recurrent instability/subluxations

PHASE 2

REHAB GOALS	1. Achieve ROM goals 2. Normalize rotator cuff guarding & neuromuscular control 3. Minimize pain and swelling
PRECAUTIONS	1. ROM precautions: Passive forward elevation 155, ER to 60 with <20 deg abduction. ER at 90 deg abduction to 75, active forward elevation to 145. Avoid scapular protraction with coronal plane motion 2. Ice as needed after activity 3. No lifting or carrying objects. Avoid anterior shoulder/capsular stress
RANGE OF MOTION EXERCISES	○ Continue phase 1 exercises ○ ROM restrictions: as above ○ Glenohumeral/scapular mobilizations as needed (no anterior/inferior glides) ○ Active assist ROM
SUGGESTED THERAPEUTIC EXERCISES	○ Continue phase 1 exercises ○ Scapular retraction & PNF patterns (minimal/no resistance) ○ Active ROM & cuff strengthening within ROM limits. Begin arm at side & increase elevation & ER. If no pain and good endurance progress to dynamic isometrics, concentric/eccentric/AROM. ○ Angular reposition/rhythmic stabilization/repeated contractions ○ Closed chain- below 90 deg elevation, progress to wt bearing position from modified wt bearing
CARDIOVASCULAR EXERCISE	Continue phase 1
PROGRESSION CRITERIA	○ ROM per guidelines ○ <2/10 pain with ROM ○ No recurrent instability

PHASE 3

REHAB GOALS	○ Gradual restoration of ROM ○ Improve scapular, cuff strength ○ Minimize pain
PRECAUTIONS	○ No pushups, bench press or flys ○ Recommend full active forward elevation before progressing to elevation in other planes or resistive elevation
RANGE OF MOTION EXERCISES	○ Continue exercises from phase 2. ○ Mobilizations as needed (esp post/inf glides if lacking ER/Elevation) ○ Pec minor & sleeper stretches. Lat/forward elevation stretches as needed ○ Progress forward elevation from active assist to active, then resistive upright then prone
SUGGESTED	○ Continue exercises from phase 2

THERAPEUTIC EXERCISES	○ LE & core- progress strengthening. No power clean/dead lift/back squats. Ok for front squats ○ Elbow flexion/extension strengthening ○ Begin rotator cuff strengthening. Start <45 elevation in plane of scapula. Progress to higher levels of elevation as tolerated. ○ PNF, body blade, manual resistive exercises ○ Strengthening of scapular retractors & upward rotators ○ Wt bearing exercise w/fixed distal segment- quadruped, quadruped w/scapular protraction, quadruped to tripod. (no pushups) ○ Rhythmic stabilization at 45 abduction in scapular plane neutral rotation. Gradually increase elevation & ER.
CARDIOVASCULAR EXERCISE	Stationary bike increasing resistance, treadmill walking Week 9-stairmaster, advance to elliptical (no upper body) UBE as tolerated, aqua therapy as needed
PROGRESSION CRITERIA	○ Achievement of ROM goals ○ No pain/swelling/instability ○ Normal glenohumeral & scapulothoracic mechanics

PHASE 4

REHAB GOALS	○ Full ROM in all planes ○ No instability ○ Improvement of strength, endurance, neuromuscular control
PRECAUTIONS	Post-activity soreness should resolve within 24 hours Avoid post activity swelling
RANGE OF MOTION EXERCISES	○ Continue with flexibility exercises from previous phase ○ Gentle end range stretching ○ LE and core flexibility ○ Mobilizations as needed
SUGGESTED THERAPEUTIC EXERCISES	○ Continue phase 3 activities. Progress with resistance/load. Add eccentric loads, beginning with ER & abduction, then progress to IR & abduction. ○ thrower's exercises: ER/IR at 0 abduction (progress to IR/ER as pain tolerates), scaption ER full can, rows into ER at 90 abduction seated on stability ball, lower trap seated on stability ball, elbow flexion, elbow extension/triceps, wrist extension, wrist flexion, supination, pronation, sleeper stretch, supine horizontal adduction stretch into IR, Prone horizontal abduction neutral/full ER at 100, prone row, Diagonal pattern (D2) flexion/extension ○ Balance/proprioception- progress to unstable surface, perturbations, etc ○ Plyometrics- LE drills, UE wall dribble, plyoback/rebounder (chest pass, ER/IR ball toss & catch) Begin with unweighted balls

	○ Sport specific- med ball throws against wall, UE fitter/stepper in prone position, dribbling on wall/rebounding with one hand.
CARDIOVASCULAR EXERCISE	Continue from phase 3, add upper body ergometer if needed. Walk/jog progression
PROGRESSION CRITERIA	○ Normal kinematics of GH & ST joints ○ Full painless active & passive ROM ○ Strength 85% contralateral

PHASE 5

REHAB GOALS	Return to sport
PRECAUTIONS	Post-activity soreness should resolve within 24 hours Recommend brace usage during initial return to sport, especially contact athletes
RANGE OF MOTION EXERCISES	Continue with flexibility exercises
SUGGESTED THERAPEUTIC EXERCISES	○ Progress strengthening from phase 4 ○ Plyometrics: bilateral arm throwing patterns beginning with chest pass, progress to single arm. Overhead b/l medicine ball slams & catches. Rebounder IR/ER at 90 abduction, supine IR/ER ball catch & toss. Progress all to single arm. ○ Ok to begin sport specific overhead work for swimming, tennis, volleyball ○ Overhead athletes- Interval throwing program- Phase 1, progress to phase 2 when completed ○ Football, wrestling- ok to begin sport specific activities
CARDIOVASCULAR EXERCISE	○ Jog/run progression. Begin sprinting when able to run 2 miles without pain.
PROGRESSION CRITERIA- RETURN TO SPORT	○ Pain free, full ROM, uncompensated under fast & resisted conditions ○ 90% strength of contralateral side rotator cuff & scapular (at least 70% rotator cuff ratio). ○ Completion of throwing program/sport specific program ○ At least 90% functional closed kinetic chain tests ○ Overhead athletes with normal mechanics/form and no pain post activity ○ No sense of instability