

**NON-OPERATIVE SHOULDER REHABILITATION PROTOCOL**

- **Basic shoulder program for:**
  - Scapular Dyskinesis (proximally or distally based)**
  - Glenohumeral Instability**
  - Subacromial Impingement Syndrome**
  - Partial thickness and small full thickness rotator cuff tears**
  - Glenohumeral internal rotation deficit (GIRD)**
  - Other Non-operative Disorders**
  - Pre-operative Preparation**

- **Note:** Simultaneous progression through multiple phases may be appropriate

**Phases**

- 1. PROXIMAL KINETIC CHAIN**
  - a. Optimize postural alignment
  - b. Correct proximal kinetic chain strength and flexibility deficits
  - c. Achieve lumbo-pelvic stability and improve core strength
  - d. Improve thoracic spine mobility
  - e. Improve upper quarter soft tissue mobility to accomplish a-d
- 2. SCAPULOTHORACIC**
  - a. Normalize and maintain upper quarter soft tissue mobility
  - b. Achieve independent scapular positioning
  - c. Strengthen scapular stabilizers
  - d. Restore scapulothoracic kinematics up to 90° elevation – progress in next phase
- 3. GLENOHUMERAL**
  - a. Strengthen rotator cuff in context of kinetic chain
  - b. Begin to restore normal glenohumeral kinematics
  - c. Begin to restore normal upper quarter kinematics
- 4. FUNCTION SPECIFIC**
  - a. Restore function specific glenohumeral kinematics
  - b. Restore function specific upper quarter kinematics

**Criteria for Progression**

1. Phase 1 → 2
  - a. Normal postural alignment, thoracic spine mobility and core stability
  - b. Soft tissue mobility in upper ¼ and periscapular musculature approaching normal
2. Phase 2 → 3
  - a. Functional scapular stability and mobility
3. Phase 3 → 4
  - a. Full AROM in glenohumeral and scapulothoracic joints
  - b. Ability to recruit and train rotator cuff musculature without joint pain
  - c. Joint symptoms resolved or at a tolerable level
  - d. Independent in home exercise program
4. Phase 4 and beyond
  - a. Normal activity specific upper quarter kinematics, strength, mobility, endurance and function

**Note:** The following list of exercises and treatment options is an approximate order of progression. By design and necessity, it is incomplete, to allow for individualization of the program to meet the specific needs of an individual patient and to encourage therapist creativity based on the 10 outlined principles. Not all exercises are appropriate for all patients.

### **PROXIMAL KINETIC CHAIN PHASE**

1. Correct proximal kinetic chain weaknesses in lower extremity as necessary
  - Ankle, Knee, Hip, etc
2. Postural correction
  - Instruction in neutral spine position for all exercises
  - Sternal lift with contracted abdominals
  - Foam roll for thoracic mobility
3. Soft tissue releases prn
  - Especially pec minor/major, subscapularis, latissimus dorsi
4. Core strengthening
  - Planks
  - Pelvic tilt
  - Supine alternate/double leg slides
  - Abdominal crunches
  - Supine supported marching/progression
  - Supine unsupported marching/progression
  - Swiss ball progression-foot slides
5. Posterior capsule/cuff stretch
  - Side lying scapula fixed – done at 70°, 90°, 120° elevation
  - Stand against wall 90° FF/elbow @ 90° passive horizontal add
6. Latissimus dorsi stretch
7. Prayer stretch
8. Passive pec minor stretches (foam roll or rolled towel between scapulae)
9. Passive pec major stretch (doorway → progress to corner – this will also stretch pec minor)
10. Full Kinetic Chain Movements-all done with scapular retraction at end
  - Lawnmowers
  - Grid lunges
  - Grid lunges with opposite trunk rotation dips
  - Step ups with opposite/ same side hip flexion
  - Step ups with opposite/ same side hip extension
  - Grid lunges with shoulder flexion
  - Grid lunges with shoulder punch
  - Step ups with shoulder flexion and opposite/same side hip flexion
  - Step ups with shoulder flexion and opposite/same side hip extension
  - Step down lunge punch/forward and to side
  - Step down lunge drop punch/forward and to side

**SCAPULOTHORACIC PHASE**

● **Note:** When possible do exercises in standing position to include proximal kinetic chain

1. Scapular squeeze elbows at side – progress to arms at 90° (Robbery I and II)
2. Shoulder shrugs with arms at 135° elevation if scapula in depressed position
3. Scapular clock
4. Scapular clock – closed chain
5. Isometric ball/table humeral head depression
6. Closed chain inferior humeral head glide (depression) at 90° abduction
7. Lower trap isometrics (low rows)
8. Isometric ball/wall – emphasize scapular external rotation
9. Supine serratus punch at 60°, 90°, 120° (emphasize eccentric function)
10. Scapular PNF (if P.T. available)
  - Upper ¼ pivots allows P.T. to identify specific location of weakness
11. Wall rocking
12. Weight shifting on table progression
  - Single leg balance
  - Double leg balance on bubble
  - Single leg balance on bubble
13. Weight shifting - knee to toe progression, then single arm lift
14. Single arm pull down progression
  - Single arm pull down - rotation/same side
  - Single arm pull down - hip flexion/same side
  - Single arm pull down - hip flexion/rotation same side
15. Single arm pull down progression while on bubble
16. Single arm rows progression
  - Single arm rows - rotation/same side
  - Single arm rows - bent knee/same side
  - Single arm rows - bent knee/rotation/same side
17. Single arm rows progression while on bubble
18. Push up plus progression – emphasize eccentric phase
19. Closed chain perturbations
20. “Mime wall walks” with theraband
21. Prone middle/lower trap lifts (T’s and Y’s i.e. 90° and 135° elevation)
22. Wall angels – start with isometrics at 60° and 90° - progress movement
23. Reverse corner pushups – arms below 90°
24. Scapular depressions on blocks (press up plus)
25. Bilateral ER with Theraband – emphasize scapular and head position)
26. Swiss ball weight shifting- chest/hips/feet
27. Swiss ball walk outs – chest/hips/feet
28. Rowing/bilateral arms
29. Pull downs/bilateral arms
30. Iron cross with Theraband
31. Snatch with Theraband
32. Wall wash-standing with squat – (full kinetic chain coordination)
33. Pail dumps – (full kinetic chain coordination)

**GLENOHUMERAL PHASE**

1. Cuff specific exercises (done with scapular retraction and depression, correct axial alignment)
  - Isometrics
  - Theraband IR/ER with good scapular position
  - IR/ER walkouts
  - Sidelying ER
  - Prone ER
  - Flexion, scaption, open can raises
  - PNF with theraband-standing/Swiss ball
  - Open chain perturbations
  - Body blade
2. Full kinetic chain coordination
  - Wall wash-standing with squat
  - Step up wall washes
  - Pail dumps
  - Swiss ball sitting/tubing in PNF patterns
  - Activity specific coordinated movements without resistance
  - Progress activity specific full kinetic chain movements from Phase I item #10 to:
    - e.g. throwing technique
    - swimming technique (breast, freestyle, backstroke, butterfly)
    - tennis strokes (forehand → backhand → overhead → serve)
    - diving hurdle

**FUNCTION SPECIFIC PHASE (with examples)**

1. Full range of motion strengthening
  - Activity specific strengthening progression with resistance (tubing and weights)
  - Open chain perturbations
2. Activity specific strength, agility, power, and endurance drills (work with coach &/or trainer)
  - Theraband mock throwing
  - Ball bounce/wall-single/double arm
  - Sport specific plyoball progression
  - Tennis strokes with weights
  - Swiss ball ceiling press (diving)
  - Theraband swimming prone on Swiss ball
  - Sport specific medicine ball work for swimmers, throwers, divers
  - Handstand sways and pushups for divers
  - Sport specific body blade progressions
3. Progress activity specific full kinetic chain movements from Phase I item #10 - add weight, repetitions, and plyometrics
  - Grid Lunges with shoulder flexion
  - Grid Lunges with shoulder punch
  - Step ups with shoulder flexion and opposite/same side hip flexion
  - Step ups with shoulder flexion and opposite/same side hip extension
  - Step down Lunge Punch /forward and to side
  - Step down Lunge Drop Punch/forward and to side
  - Hurdle with jump for diver