



## ***Scapular Dyskinesia: General Rehabilitation Guidelines***

1. • Early rehabilitation should aim to improve the endurance and strength of the scapular stabilizing muscles. Low weight, high repetition exercises promote muscle hypertrophy and improve fatigue resistance. Once more normal scapular mechanics have been restored, higher weights with lower repetitions may be used to promote power.
2. • Rotator cuff strengthening can begin once a stable scapular base has been restored
3. • Once endurance and strength have improved, exercises that promote effective energy transfer through the kinetic chain should be added
4. • Proprioceptive Neuromuscular Facilitation help promote normal scapulohumeral rhythm and improve the ability to position the scapula for stable energy transfer during functional activities.

### ***Phase 1: Muscle Strengthening and Conditioning (0-3 weeks)***

#### **• Principles**

- o Avoid exercises that cause pain
- o Use ice following exercise to alleviate inflammation and swelling

#### **• Range of Motion.**

Stretches should be done 3-5 times per day. Each stretch should be held for 10-15 seconds and repeated 3 times

- o Cross body adduction: below neck level, at neck level, above neck level
- o Sleeper stretch
- o Roll-over sleeper stretch
- o Internal rotation in abduction doorway stretch
- o Towel roll and corner stretch for pectoralis minor
- o Core body flexibility

#### **• Scapular Stabilizer Strengthening.**

With rubber tubing or light resistance with dumbbells or machines

- o Isometric scapular retraction and depression
- o Shoulder shrugs
- o Prone rowing or bench rows
- o Seated rows with scapular pinch
- o Low row

- o Push-ups with a plus: wall, table-top, floor
- o Bench with a plus
- o Chair press-ups
- o Sitting or standing flys
- o Lat pull downs

- **Scapular Positioning**

- o Closed chain scapular clocks with hand stabilized on wall at 90 degrees abduction
- ! Protraction/retraction
- ! Elevation/depression
- o Closed chain axial load ball rolls in varying degrees of abduction
- ! Start low and work to horizontal
- o Scapular punches with light weights

**Phase II: (3-8 weeks)**

- Continue posterior capsule and anterior chest wall stretching
- Continue maintenance shoulder girdle strengthening with progressive increase in weights as endurance improves
- Begin upper body ergometers beginning at low resistance and height below 90 degrees and slowly progress to height at 140 degrees flexion

- **Rotator Cuff Strengthening.** With rubber tubing or lightweight dumbbell, perform 20-30 repetitions and do 2-3 sets of each

- o Side lying internal and external rotation
- o Internal and external rotation at 0 degrees and at 90 degrees abduction
- o Abduction to 90 degrees
- o Scapular plane elevation: empty can and full can
- o Prone horizontal abduction in neutral rotation and external rotation
- o Prone horizontal scapular plane elevation in neutral and external rotation
- o Prone external rotation
- o D2 flexion and extension

- **Scapular Stabilization**

- o Closed chain scapular clocks
- o Closed chain axial load ball roll

- ! Start at low angles such as table top and progress to horizontal abduction on wall
- ! Include humeral head depressions
- o Wall wash with axial load at varying degrees of abduction
- ! Start with vertical and progress to diagonal
- o Scapular punches
- o Shoulder diagonal punches and dumps combined with scapular retraction
- ! Start with vertical and progress to diagonal
- o Plyoball chest pass and overhand toss
- o PNF exercises

**Phase III: Return to Functional Activities**

- Maintenance strengthening with increased weights
- Maintenance flexibility
- Continue UBE with increasing resistance
- o Especially reverse direction to work scapular girdle muscles
- Sport or work specific rehabilitation

**Table 1.**  
**Guidelines for Integrated Rehabilitation of Scapular Dyskinesia (According to Ben Kibler)**

Exercises	Weeks (estimate)
<b>Scapular Motion</b>	
Thoracic posture	1-3
Trunk flexion/extension/rotation	1-3
Lower abdominal/hip extensor	1-5
<b>Muscular Flexibility</b>	
Massage	1, 2
Modalities (eg, ultrasound, electronic stimulation)	1-3
Stretching (eg, active-assisted, passive, PNF)	1-8
Corner stretches (pectoralis minor)	1-3
Towel roll stretches (pectoralis minor)	1-3
Levator scapulae stretches	1-3
“Sleeper” position stretches (shoulder external rotators)	1-3
<b>Closed Kinetic Chain Cocontraction Exercises</b>	
Weight-shifting	1, 2
Balance board	1, 2
Scapular clock	1, 2
Rhythmic ball stabilization	2
Weight-bearing isometric extension	1, 2
Wall push-up	2
Table push-up	3-5
Modified to prone push-up	5-8
<b>Axially Loaded AROM Exercise</b>	
Scaption slide	2-5
Flexion slide	2-5
Abduction glide	3-5
Diagonal slides	2-6
<b>Integrated Open Kinetic Chain Exercises</b>	
Scapular motion exercises plus arm elevation	3-8
Unilateral/bilateral tubing pulls with trunk motion	4-8
Modified lawn mower series	3-6
Dumbbell punches with stride (progressive height and resistance)	6-8
Lunge series with dumbbell reaches	5-8
<b>Plyometric Sport-Specific Exercises</b>	
Medicine ball toss and catch	6-10
Reciprocal tubing plyometrics	6-10

AROM = active range of motion, PNF = proprioceptive neuromuscular facilitation