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Rotator Cuff Tendonitis/Shoulder Impingement Guidelines

The following shoulder impingement guidelines are categorized into four phases, dependent on patient presentation and symptom irritability. Classification and progression are both criteria-based and patient specific. Linear progression through phases may not be indicated.

Treatment occurs below shoulder height in phases 1 and 2, and above shoulder height in phases 3 and 4, with phase 2 typically being the longest. The clinician should balance appropriate interventions for the optimization of functional activities and achievement of patient goals, while considering symptom irritability and resolution of impairments.

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PHASE I: High to Moderate Irritability

PRECAUTIONS	▪ Avoid pain provoking activities and movements ▪ Avoid painful exercises and activities, e.g. reaching behind back, overhead. ▪ Do not immobilize the shoulder and continue to use the arm in pain-free activities.
TREATMENT RECOMMENDATIONS	▪ Patient education: o Nature of the condition o Activity modification to decrease or eliminate pain o Postural awareness ▪ Postural exercises / re-training ▪ Manual therapy- as indicated based on evaluation o Joint mobilization for pain management o PROM

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	○ AAROM, e.g. pendulums; forward flexion, internal and external rotation in scapular plane ▪ Strengthening of Peri-scapular muscles ▪ Neuromuscular training, i.e. scapular rhythm training, rhythmic stabilization ▪ Elastic therapeutic taping ▪ Home exercise program (HEP)
EMPHASIZE	▪ Patient understanding of condition ▪ Symptom reduction ▪ Activity modification
MINIMUM CRITERIA FOR ADVANCEMENT TO NEXT PHASE	▪ Reduced irritability ▪ ROM improvement confirming impingement diagnosis

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PHASE II: Moderate to Low Irritability

PRECAUTIONS	▪ Avoid premature increase in activity level ▪ Avoid pain provoking activities and movements
TREATMENT RECOMMENDATIONS	▪ Patient education and activity modification ▪ Joint mobilization – evaluation based o GH, AC, SC, ST, T/S, scapula ▪ Address soft tissue restrictions, e.g. posterior capsule, posterior cuff, levator scapulae, subscapularis, serratus anterior, latissimus dorsi, 1st rib, pectorals ▪ Postural retraining / awareness ▪ Exercises o Utilize the scapular plane o ROM exercises addressing remaining deficits o Advance peri-scapular strengthening

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- Initiate activation of rotator cuff (pain-free)

- Isometrics (advancing from short to long duration)
- Neuromuscular strengthening progression
  - Maintain GH position and lever arm
  - Bilateral UE closed chain exercises for stabilization – progressive load in plane of scapula
  - Motor control activities for normalization of scapulohumeral rhythm
  - Dynamic neuromuscular stabilization – humeral head control in FF and abduction
  - Core activation exercises, choice of exercises depend on irritability
- Kinetic cross-linking exercises e.g. contralateral proximal lower extremity strengthening

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	▪ Cardiovascular conditioning (non-irritating) ▪ Initiate two hand plyometrics later in phase ▪ Advance HEP as tolerated
EMPHASIZE	▪ Adjust exercise intensity (time, sets, reps) based on signs and symptoms ▪ Maximize ROM and flexibility
MINIMUM CRITERIA FOR ADVANCEMENT TO NEXT PHASE	▪ Full range of motion without pain below 90° ▪ Good scapular control to 90° without pain in plane of scapula

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PHASE III: Low to No Irritability

PRECAUTIONS	▪ Avoid overloading with PREs ▪ Avoid pain provocation activities and movements
TREATMENT RECOMMENDATIONS	▪ Progress isotonic exercises increasing load ▪ Advance core strengthening ▪ Single UE closed chain exercises for stabilization ▪ Cardiovascular conditioning ▪ Motor control exercises in multiplanar patterns o o Resisted/loaded PNF o o Overhead two hand plyometrics progressing to single arm o o Total body control ▪ Neuromuscular control and sequencing o Rhythmic stabilization o Proprioceptive dynamic perturbations

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	▪ Advance HEP as tolerated
EMPHASIZE	▪ Maximize ROM ▪ Develop strength in previously painful functional positions ▪ Scapulothoracic coupling in overhead positions
MINIMUM CRITERIA FOR ADVANCEMENT TO RETURN TO SPORT (IF NEEDED)	▪ Able to tolerate strengthening exercise in all planes ▪ Good scapular control above shoulder height without pain in plane of scapula ▪ Pain-free ADL's ▪ If returning to sport, consider collaboration with trainer, coach or performance specialist as irritability resolves

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PHASE IV: Return to Sport

PRECAUTIONS	▪ Avoid too much, too soon: monitor exercise dosing ▪ Do not ignore functional progressions ▪ Be certain to incorporate rest and recovery ▪ Monitor for loss of ROM/flexibility
TREATMENT RECOMMENDATIONS	▪ Progress humeral head control exercises in a variety of overhead positions ▪ Progress isotonic exercises to higher loads ▪ Closed kinetic chain progression exercises ▪ Sport-specific multidirectional core retraining o Single arm plyometrics o Overhead throwing, o Total body multidirectional motor control ▪ Collaboration with trainer, coach or performance specialist

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EMPHASIZE	▪ Self-monitoring volume and load progressions ▪ Speed, accuracy, power and quality in sport-specific activities ▪ Collaboration with appropriate Sports Performance expert
MINIMUM CRITERIA FOR ADVANCEMENT TO NEXT PHASE	▪ Independent in appropriate return to sport program ▪ Able to meet demands of sport in terms of strength, accuracy, and control