

SHOULDER AND ELBOW INJURY NON-OPERATIVE GUIDELINES

The following shoulder/elbow guidelines for the patient with non-operative overuse and minor trauma injuries were developed by HSS Rehabilitation and are categorized into four phases with the goal of returning the patient to full functional activity. Classification and progression are mostly criteria-based often being dictated by the patient's symptoms. The first phase is focused on the acute recovery period and healing. Phase two is focused on building foundational strength and stability which will allow the patient to progress to phase three which may include plyometric exercise progression, if appropriate for the patient. With the completion of phase three the patient will be able to start the final phase which may include an interval sports program. This comprehensive guideline can be progressed to an advanced interval sports program based upon your therapist's discretion. Cardiovascular endurance, hip and core strength may be progressed throughout recovery. The clinician should use their skilled judgement and decision making as the patient advances, as all progression may not be linear.

FOLLOW REFERRING PROVIDER'S MODIFICATIONS AS PRESCRIBED

SHOULDER AND ELBOW INJURY NON-OPERATIVE GUIDELINES

Phase 1: Rest and Recovery (Weeks 1-2)

PRECAUTIONS

- Avoid pain provoking activities
- Avoid any painful exercises
- For patients with underlying hypermobility with or without instability avoid stretching hypermobile structures and joints

ASSESSMENT

- Quick Disabilities of Arm, Shoulder & Hand (Quick DASH)
- American Shoulder and Elbow Surgeons Shoulder Score (ASES)
- Numeric Pain Rating Scale (NPRS)
- Static scapular assessment (Kibler Grading)
- Cervical mobility
- Thoracic mobility
- Shoulder mobility
- Elbow mobility
- Wrist and hand mobility
- Kinetic chain assessment
- Postural assessment

TREATMENT RECOMMENDATIONS

- Cross body stretch
- Elbow and shoulder passive range of motion (PROM)/active assisted range of motion (AAROM)/active range of motion (AROM)
- Hand/wrist PROM/AAROM/AROM
- Soft tissue mobilization, as needed
- Row with scapular protraction and retraction
- Pain-free shoulder isometrics (submaximal contraction)
- Rhythmic shoulder stabilization
- Scapular stabilization
 - Prone row
 - Prone extension
 - Prone horizontal abduction
- Kinetic chain focus

CRITERIA FOR ADVANCEMENT

- No pain at rest or with above exercises
- Full, pain-free elbow ROM

EMPHASIZE

- Reduction of pain and inflammation
- Restoration of pain-free ROM
- Prevention of muscle atrophy

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Phase 2: Intermediate (Weeks 3-4)

PRECAUTIONS

- Maintain pain-free ROM
- Avoid painful exercise
- For patients with underlying hypermobility with or without instability avoid stretching hypermobile structures and joints

ASSESSMENT

- Quick DASH
- ASES
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical mobility
- Thoracic mobility
- Shoulder mobility
- Elbow mobility
- Wrist and hand mobility
- Manual muscle testing (MMT)
- Kinetic chain assessment
- Postural assessment

TREATMENT RECOMMENDATIONS

- Continue as above
- Posterior shoulder flexibility, cross-body and/or sleeper stretch
- Thoracic and cervical mobility exercises, as needed
- Wrist, forearm and grip strength progression
- Throwers Ten/Advanced Throwers Ten
- Diagonal proprioceptive neuromuscular facilitation (PNF) patterns
- Rotator cuff (RC) eccentrics
- RC strengthening with elastic bands starting at 0° degrees shoulder abduction

- Scapular stabilization
 - Closed kinetic chain (CKC) quadruped single arm protraction → unstable surface → perturbations
 - Wall slide with low trap lift off
 - Dynamic hug/serratus punches
 - Prone T, W, Y, I
 - Standing shoulder extension/low row with scapular retraction
- End range stabilization using exercise blade/perturbations

CRITERIA FOR ADVANCEMENT

- Tolerance of Phase 2 exercises without elbow or shoulder discomfort
- 5/5 MMT for rotator cuff musculature
- 5/5 MMT for elbow/forearm musculature

EMPHASIZE

- Progression of rotator cuff and scapular strength
- Restoration of shoulder endurance in 90/90 shoulder position
- Improved neuromuscular control
- Restoration of PNF diagonal patterning

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Phase 3: Advanced (Weeks 5-6)

PRECAUTIONS

- Avoid painful activities
- For patients with underlying hypermobility with or without instability avoid stretching hypermobile structures and joints

ASSESSMENT

- Quick DASH
- ASES
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical and thoracic mobility
- Elbow PROM/AROM
- Shoulder PROM/AROM
- MMT
- Kinetic chain assessment
- Postural assessment

TREATMENT RECOMMENDATIONS

- Continue as above
- Foam roller/trigger point ball as needed
- Progression of grip strength
- Progress RC elastic band exercises in 90/90 shoulder position
- Progress neuromuscular stabilization
 - Perturbations at end range external rotation at 90/90 shoulder position
 - Wall ball stabilization with perturbations
- Plyometric progression
 - Double arm plyometrics → Single arm plyometrics → plyometrics at 90/90 shoulder position
 - Wall dribble at 90/90 shoulder position
 - Eccentric catches
- Progress scapular/serratus activation
 - Landmine press
 - “Plus” in plank position → unstable surface → perturbations
- Towel drill

CRITERIA FOR ADVANCEMENT TO SPORTS SPECIFIC PROGRAM

- Single arm plyometrics without discomfort
- Towel drill without discomfort

CRITERIA FOR DISCHARGE FOR NON-SPORTS SPECIFIC CASES

- 5/5 MMT shoulder/elbow
- Pain-free ROM for functional activities
- Independence with advanced home exercise program

EMPHASIZE

- Advancement to plyometric and sports specific movements, if warranted
- Progression of RC and scapular strength and endurance for home exercise program

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Phase 4: Return to Sports/Performance Progression (Weeks 7-12+)

PRECAUTIONS

- Avoid painful activities
- Monitor for loss of strength and flexibility
- For patients with underlying hypermobility with or without instability avoid stretching hypermobile structures and joints

ASSESSMENT

- Quick DASH
- ASES
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical spine and thoracic spine mobility
- Elbow PROM/AROM
- Shoulder PROM/AROM
- Shoulder flexibility
- MMT
- Kinetic chain assessment

TREATMENT RECOMMENDATIONS

- Initiate interval sports program (i.e. return to throwing, etc.)
 - Monitor mechanics, including potential loss of quality with fatigue
 - Monitor workload
- Initiate hitting program if appropriate
- Continue with all upper and lower extremity flexibility exercises
- Continue with advanced shoulder and scapular strengthening exercises

CRITERIA FOR RETURN TO SPORTS PARTICIPATION

- Pain-free progression through interval sports program
- Independent with all arm care exercises
- Assess need for HSS Video Throwing Analysis program

EMPHASIZE

- Return to sport participation

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References

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