

ELBOW PLATELET-RICH PLASMA INJECTION (PRP) INJECTION NON-OPERATIVE GUIDELINES

The following elbow PRP guidelines for the throwing athlete were developed by HSS Rehabilitation and are categorized into four phases with the goal of returning an athlete to full competition or previous level of activity. Classification and progression are mostly criteria-based often being dictated by the patients' symptoms. The first phase is focused on the acute recovery period and healing. In this phase it is important to protect the elbow from valgus strain. Phases two and three are focused on building foundational strength and stability which will allow the athlete to progress to phase three which includes plyometric exercises. With the completion of phase three the athlete will be able to start phase four which includes interval sports programs and finally return to competition or previous activity. The clinician should use their skilled judgement and decision making as the athlete advances as all progression may not be linear.

FOLLOW PHYSICIAN'S MODIFICATIONS AS PRESCRIBED

ELBOW PRP INJECTION NON-OPERATIVE GUIDELINES

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

PRECAUTIONS

- Avoid valgus elbow stress
- Avoid painful activities

BRACE MANAGEMENT

- Week 1
 - Hinge brace to be worn at all times
 - Locked 30-60°
- Week 2
 - Hinge brace to be worn at all times
 - Unlocked 0-130°
 - Brace removed after completion of second week

ASSESSMENT

- Quick Disabilities of Arm, Shoulder & Hand (Quick DASH)
- Kerlan-Jobe Orthopaedic Clinic Overhead Athlete Shoulder and Elbow Score (KJOC)
- Numeric Pain Rating Scale (NPRS)
- Static scapular assessment (Kibler Grading)
- Cervical mobility
- Thoracic mobility
- Elbow passive range of motion (PROM)/active range of motion (AROM)
- Kinetic chain assessment

TREATMENT RECOMMENDATIONS

- Elbow AROM to tolerance in brace
- AROM hand/wrist
- Row with scapular protraction and retraction
- 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 range of motion (ROM)

EMPHASIZE

- Reduction of pain and inflammation
- Restoration of full distal ROM

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Phase 2: Intermediate (Weeks 3-4)

PRECAUTIONS

- Painful activities
- No forced end range elbow flexion or extension

ASSESSMENT

- Quick DASH
- KJOC
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical mobility
- Thoracic mobility
- Shoulder PROM/AROM
- Elbow PROM/AROM
- Kinetic chain assessment

TREATMENT RECOMMENDATIONS

- Continue as above
- Posterior shoulder stretches
- Modified sleeper and cross body (as needed)
 - Caution not to progress beyond normal total arc of motion
- Wrist and forearm progression
 - Flexion, extension, pronation, supination, radial and ulnar deviation
- Throwers Ten/Advanced Throwers Ten
- Rotator cuff (RC) eccentrics
- RC resistance band exercises at 0° and progress to 90° shoulder abduction
- Scapular stabilization
 - Closed kinetic chain (CKC) quadruped single arm protraction → unstable surface → perturbations
 - Wall slide with low trap lift off
 - Dynamic hug
 - Prone T, W, Y, I
- End range stabilization using exercise blade/perturbations

CRITERIA FOR ADVANCEMENT

- Tolerance of Phase 2 exercises without elbow discomfort

EMPHASIZE

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

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Phase 3: Advanced (Weeks 5-6)

PRECAUTIONS

- Avoid painful activities

ASSESSMENT

- Quick DASH
- KJOC
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical mobility
- Thoracic mobility
- Shoulder PROM/AROM
- Shoulder manual muscle test (MMT)
- Elbow PROM/AROM
- Kinetic chain assessment

TREATMENT RECOMMENDATIONS

- Continue all shoulder exercises above
- Progress neuromuscular stabilization
 - Perturbations at end range ER 90/90
 - Wall ball stabilization with perturbations
- Plyometric progression
 - Double arm plyometrics → Single arm plyometrics → 90/90 plyometrics
 - 90/90 wall dribble
 - Eccentric catches
- Progress scapular/serratus anterior activation
 - Landmine press
 - “Plus” in plank position → unstable surface → perturbations
- End range stabilization
 - External rotation lift offs
- Towel drill
 - If an overhead athlete can hold a towel and move the arm through a throwing path as if throwing a baseball

CRITERIA FOR ADVANCEMENT

- Single arm plyometrics without discomfort
- Towel drill without discomfort
- Shoulder endurance program maintaining good arm angles

EMPHASIZE

- Advancement to plyometric and sports specific movements
- Progression of RC and scapular strength and endurance

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

PRECAUTIONS

- Monitor for symptoms during interval programs

ASSESSMENT

- Quick DASH
- KJOC
- NPRS
- Static/dynamic scapular assessment (Kibler grading)
- Cervical mobility
- Thoracic mobility
- Shoulder PROM/AROM
- Shoulder MMT
- Elbow PROM/AROM
- Kinetic chain assessment

TREATMENT RECOMMENDATIONS

- Initiate interval sports program
 - Monitor mechanics
 - Monitor workload
- Continue shoulder activation and flexibility program

CRITERIA FOR RETURN TO SPORTS PARTICIPATION

- Asymptomatic progression through interval program
- Independent and compliant with all arm care exercises

EMPHASIZE

- Restoration of full strength and flexibility
- Restoration of normal neuromuscular function
- Preparation for return to sport specific activity

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References

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