ELBOW MEDIAL PAIN NON-OPERATIVE GUIDELINES

The following medial elbow pain guidelines were developed by HSS Rehabilitation and 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. 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.

Review the differential diagnosis appendix at the end of the document if in doubt of the symptom generator. The list includes subjective and objective identifiers that will assist the diagnostic process.

FOLLOW PHYSICIAN'S MODIFICATIONS AS PRESCRIBED

ELBOW MEDIAL PAIN NON-OPERATIVE GUIDELINES

Phase 1: Activity Modification (High Irritability)

PRECAUTIONS

- Avoid repetitive lifting, twisting, and manual labor, particularly of the elbow, forearm, wrist, and hand
- Minimize aggravating postures and activities

ASSESSMENT

- Quick Disabilities of Arm, Shoulder & Hand (Quick DASH)
- Numeric Pain Rating Scale (NPRS)
- Functional status
- Level of general fitness
- Posture
- Active range of motion (AROM) and passive range of motion (PROM) of forearm, elbow, wrist, and hand
- Scapular position and rhythm
- Cervical/thoracic mobility
- Neural tension, specifically in C7, C8, and T1
- Medial elbow ligamentous integrity
- Irritability of ulnar nerve
- Evaluation of soft tissue quality and flexibility from cervical spine to the hand
- Manual muscle testing (MMT) of all musculature in the involved arm
- First rib assessment to assess for thoracic outlet syndrome
- Joint mobility of the wrist, radiohumeral, ulnohumeral joints, and proximal radioulnar joint.
- Palpation
    - Pronator teres, flexor carpi radialis, palmaris longus, flexor carpi ulnaris

TREATMENT RECOMMENDATIONS

- Patient education
    - Avoid repetitive gripping, wrist flexion and forearm rotation
    - Counterforce brace for activities or during the day
        - Discuss how to wear counterforce brace: approximately 2-3 fingers distal to medial epicondyle, place pad over wrist flexor/pronator muscle belly, make a gentle fist as you tighten strap
        - Patient education to modify the strap throughout day for comfort

- Postural awareness
- Pain neuroscience education, if appropriate
- Postural exercises/awareness training
- Manual therapy- as indicated based on evaluation
    - Spinal mobilization/manipulation
    - Joint mobilization
        - Grades I or II for pain management
        - Grades III, IV, or V to emphasize joint mobility
    - Mobilization with movement
- Stretching of wrist and finger extensors and flexors
- Strengthening of periscapular and glenohumeral musculature
- Isometric strengthening of wrist and finger flexors as tolerated
- Neuromuscular training, i.e., scapular rhythm training, rhythmic stabilization
- Work or home ergonomics
    - Assess aggravating conditions and modify accordingly
- Home exercise program (HEP)
    - Rest, splint if appropriate, heat or ice
    - Patient education and activity modification
    - Wrist AROM
    - Cardiovascular conditioning
    - Spine mobility as needed

CRITERIA FOR ADVANCEMENT

- Reduced pain, disability, and irritability
- Able to grip objects with mild pain

EMPHASIZE

- Patient education regarding pain and counterforce brace usage
- Activity modification
- Independence in HEP

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Phase 2: Addressing Impairments (Moderate Progressing to Low Irritability)

PRECAUTIONS

- Avoid pain provoking activities, specifically repetitive movements
- Avoid premature or sudden increase in activity level

ASSESSMENT

- NPRS
- Scapula position and rhythm
- Postural awareness
- Cervical and thoracic mobility
- Soft tissue extensibility
- MMT of proximal musculature
- MMT of all musculature of involved arm
- Grip strength test
    - Elbow 90° of flexion (test each side 3x)
    - Elbow in extension and forearm neutral
    - Elbow in extension and forearm pronated
    - Elbow in extension and forearm supinated
- Comparable sign for test/retest

TREATMENT RECOMMENDATIONS

- Reinforce patient education and activity modification
- Address soft tissue restrictions locally and proximally at the shoulder/spine
- Postural retraining
- Manual therapy- as indicated based on evaluation
    - Spinal mobilization/manipulation
    - Mobilization with movement
- Exercise recommendations
    - ROM exercises addressing deficits throughout involved upper extremity
    - Advance periscapular strengthening
        - Utilize scapular plane for exercise progression
- Motor control activities for normalization of scapulohumeral rhythm
- Core activation exercises, choices of exercises depend on irritability levels

- Initiate activation of elbow/wrist musculature utilizing isometric, isotonic, or eccentric training based on patient tolerance
    - Start with short duration and advance to long duration/intensity
- Advance HEP
    - Modified ADL's and gym or recreational activities based on level of irritability
    - Graded return to sports activities
    - Limit load and intensity of activity based on patient tolerance
    - Cardiovascular conditioning

CRITERIA FOR ADVANCEMENT

- Full AROM with mild to no pain in all planes
- Pain free self-care and daily activities
- Mild or no paresthesias throughout upper extremity
- Mild pain with gripping and rotation tasks

EMPHASIZE

- Patient education regarding pain provocation
- Address motor control and periscapular strength deficits with graded progression

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Phase 3: Restoration of Function (Low to No Irritability)

PRECAUTIONS

- Monitor exercise dosage to prevent flare-ups

ASSESSMENT

- Quick DASH including Sports Module, if appropriate
- NPRS
- AROM/PROM
- Local and proximal MMT
- Cervical and thoracic mobility
- Soft tissue quality and flexibility
- Scapulothoracic coupling
- Appropriateness for progression to independent home/gym program or Performance Services
- Quality of movement during sport-specific activity as applicable
- Objective tests, e.g., isokinetic testing or hand-held dynamometry, Upper Quarter Star Excursion Test, Closed Kinetic Chain Upper Extremity Stability Test, Shot Put Test

TREATMENT RECOMMENDATIONS

- Isotonic and eccentric forearm, wrist, and hand exercises
- Progress core strengthening
- Neuromuscular control and sequencing in multiplanar patterns
    - Resisted/loaded PNF
    - Overhead two hand plyometrics progressing to single arm
    - Rhythmic stabilization
    - Exercise blade perturbations
    - Closed chain stabilization with scapular control
- Kinetic cross-linking exercises, e.g., contralateral proximal lower extremity strengthening
- Cardiovascular conditioning

CRITERIA FOR DISCHARGE (OR ADVANCEMENT TO PHASE 4 IF RETURNING TO SPORT)

- Able to tolerate strengthening exercise in all planes
- Good scapular control above shoulder height without pain in plane of scapula
- Pain-free ADLs

EMPHASIZE

- Return to pain-free ADLs
- General strength and conditioning

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Phase 4: Return to Sport (if applicable)

PRECAUTIONS

- Monitor exercise dosing

ASSESSMENT

- Quick DASH including Sports Module
- Quality of movement during sport-specific activities
- Strength and cardiovascular endurance
- Overall fitness level
- Posture
- Cervical and thoracic mobility
- Soft tissue quality and flexibility
- Scapulothoracic coupling
- Objective tests, e.g., isokinetic testing or hand-held dynamometry, Upper Quarter Star Excursion Test, Closed Kinetic Chain Upper Extremity Stability Test, Shot Put Test

TREATMENT RECOMMENDATIONS

- Advanced recreational/sport skills
- Single arm sport-specific plyometric drills
- Closed kinetic chain progression exercises
- Increase endurance and activity tolerance
- Progress total body multidirectional motor control and strengthening exercises to meet sport-specific demands
- Collaboration with trainer, coach or performance specialist

CRITERIA FOR DISCHARGE/RETURN TO SPORT

- Independent in appropriate return to sport home or gym exercise program
- Movement patterns, strength, flexibility, motion, power and accuracy to meet demands of sport
- Pain-free sporting activities

EMPHASIZE

- Safe return to sport
- Training of skills in specific performance tasks

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