

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

The following Lateral Elbow Tendon Repair Post-Operative Guidelines were developed by HSS Rehabilitation clinicians and are categorized into four phases with the ultimate goal for returning to full participation in all daily, occupational and sports related activities. Progression is both criteria-based and patient specific due to the unique constraints of each individual. The first phase concentrates on post-operative tissue recovery and healing while the second phase initiates the return of joint motion. The third and fourth phases are focused on strength of the entire upper extremity kinetic chain, closed-chain activities and plyometrics in preparation for return-to-high level and sport activities. Cardiovascular endurance, hip, trunk stability, and lower extremity strength should always be addressed throughout the recovery. Phases and time frames are designed to give the clinician a general sense of progression but do not replace clinical judgement.

FOLLOW SURGEON MODIFICATIONS AS PRESCRIBED.

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

Phase 1: Weeks 0-2

PRECAUTIONS

- Elbow in sling for comfort for up to two weeks
- Wrist immobilized by splint or brace per surgeon preference
- No passive range of motion (PROM) by clinician

ASSESSMENT

- Quick Disabilities of Arm, Shoulder and Hand (Quick DASH)
- Numeric Pain Rating Scale (NPRS)
- Wound status
- Edema of hand, including fingers
- Cervical mobility
- Active range of motion (AROM) of fingers
- Scapular assessment
- Postural assessment
- Functional abilities

TREATMENT RECOMMENDATIONS

- Begin gentle PROM/active-assisted range of motion (ROM) of elbow/wrist/hand to be performed by patient
- Scapular isometrics
- Light compression to reduce edema
- Cryotherapy

CRITERIA FOR ADVANCEMENT

- 80% full elbow/wrist/hand AROM

EMPHASIZE

- Protect surgical repair
- Reduce irritation
- Control edema and pain
- Familiarize with post-operative plan of care

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

Phase 2: Weeks 3-4

PRECAUTIONS

- No repetitive or maximal force gripping
- No lifting
- No progressive resistive exercises

ASSESSMENT

- Quick DASH
- NPRS
- Scar mobility
- Edema of hand, including fingers
- Cervical mobility
- AROM of fingers
- Scapular assessment
- Postural assessment
- Functional abilities

TREATMENT RECOMMENDATIONS

- Scar mobilization when completely healed
- Light PROM and stretching of wrist extensors with elbow at 90 degrees
- AROM of elbow/wrist/hand
- May begin submaximal isometrics at 3 weeks with elbow at 90 degrees of flexion
- Cryotherapy

CRITERIA FOR ADVANCEMENT

- No pain at rest
- Full pain-free AROM elbow/wrist/hand
- Well controlled edema

EMPHASIZE

- Functional activities
- Reduction of tissue irritability
- Control swelling
- Protect repair

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

Phase 3: Weeks 5-8

PRECAUTIONS

- Avoid any painful exercises
- Avoid closed chain exercises

ASSESSMENT

- Quick DASH
- NPRS
- Grip strength
- Strength of rotator cuff, scapular stabilizers, elbow/wrist/hand
- Kinetic chain assessment
- Functional abilities

TREATMENT RECOMMENDATIONS

- PROM and stretching of wrist extensors
- AROM of elbow/wrist/hand
- Isometrics with elbow in extension
- Progressive resistance exercises of elbow flexion/extension, supination/pronation, wrist flexion, ulnar/radial deviation; start with elbow in 90 degrees of flexion and progress to elbow in extension
- Rotator cuff and scapular stabilization exercises with light resistance
- Grip strengthening
- Proprioceptive neuromuscular facilitation (PNF) patterns with monitoring for compensatory movements
- Body blade or rhythmic stabilization exercises
- Cryotherapy
- May begin upper body ergometer (UBE)

CRITERIA FOR DISCHARGE

- Pain-free at rest and during exercise
- Pain-free gripping
- All upper extremity manual muscle testing graded 5/5

EMPHASIZE

- Upper extremity strength
- Upper extremity endurance
- Functional activities
- Wrist stabilization exercises

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

Phase 4: Weeks 9+

PRECAUTIONS

- Avoid painful plyometrics
- Heavy resistance as tolerated

ASSESSMENT

- Quick DASH
- NPRS
- Grip strength
- Strength of rotator cuff, scapular stabilizers, elbow/wrist/hand
- Kinetic chain assessment
- Functional abilities

TREATMENT RECOMMENDATIONS

- Soft tissue mobility as needed
- Scapular stabilization strengthening
- Advance isotonics for shoulder and elbow
- Begin shoulder external rotation (ER)/internal rotation (IR) strength at 90 degrees of shoulder abduction
- Advance wrist/forearm strengthening
- Continue PNF and eccentrics
- Advance closed-chain activities
- UBE
- Endurance progression
 - Double-hand overhead wall taps
 - Single-arm shoulder 90/90 wall taps
 - Single-arm 12 o'clock to 3 o'clock wall taps
 - Exercise blade in multiple positions
- Begin plyometrics (during 4-week period)
 - Double-hand chest pass
 - Double-hand overhead soccer pass
 - Double-hand chops
 - Single-hand IR at 0 degrees abduction
 - Eccentric catch
 - Single-hand shoulder 90/90 IR

- May begin tennis-related activities. Begin with bouncing ball on racquet and progress to volleying and ground strokes before serving
- May begin golf-related activities. Begin with chipping and putting progress to short irons and long irons before driver

CRITERIA FOR DISCHARGE

- Pain-free progression through interval sports program
- Independent with all arm care exercises

EMPHASIZE

- Initiation of interval sports program
- Return to sports participation

LATERAL ELBOW TENDON REPAIR POST-OPERATIVE GUIDELINES

References

1. Daud AZ, Yau MK, Barnett F, Judd J, Jones RE, Nawawi RF. Integration of occupation based intervention in hand injury rehabilitation: a randomized controlled trial. *J Hand Ther.* 2016 Jan 1; 29(1): 30-40.
2. Gately CT. Distal radius fractures. In: Cioppa-Mosca J, Cahill JB (eds.) *Post-Surgical Guidelines for the orthopedic clinician.* Mosby Elsevier, St. Louis; 2006: 109-115.
3. Jiang JJ, Phillips CS, Levitz SP, Benson LS. Risk Factors for complications following open reduction internal fixation of distal radius fractures. *J Hand Surg.* 2014 Dec 1; 39(12): 2365-2372.
4. Karagiannopoulos C, Michlovitz, S. Rehabilitation strategies for wrist sensorimotor control impairment: From theory to practice. *J Hand Ther.* 2016; 29(2): 154-165.
5. Karagiannopoulos C, Sitler M, Michlovitz S, Tucker C, Tierney R. Responsiveness of the active wrist joint position sense test after distal radius fracture intervention. *J Hand Ther.* 2016 Oct 1; 29(4): 474-482.
6. Mauck BM, Swigler CW. Evidence-based review of distal radius fractures. *Orthop Phys Ther Clin N Am.* 2018;49(2): 211-222.
7. Michlovitz S, Festa L. Therapy management of distal radius fractures. In Skirven, Osterman, et al (eds.) *Rehabilitation of the Hand and Upper Extremity.* Elsevier Mosby, Philadelphia, 2021. 7th edition: 832-849.
8. Milner Z, Klaic M, Withiel T, et al. Targeted sensorimotor retraining in the clinical setting: Improving patient outcomes following distal upper extremity injury. *J Hand Ther.* 2020 Nov 13; 1-7.
9. Waljee JF, Ladd A, MacDermid JC, Rozental TD, Wolfe SW, et al. A unified approach to outcomes assessment for distal radius fractures. *J Hand Surg.* 2016 Apr 1; 41(4): 565-573.

Created: 12/2021