Ulnar Shortening Osteotomy

This protocol is intended to provide the clinician with a guideline for the postoperative rehabilitation course of a patient who has undergone ***ulnar shortening osteotomy surgery***. General time frames are given for reference to the average, but individual patients will progress at different rates depending on their age, comorbidities, pre-surgical range of motion, strength, health/functional status, rehabilitation compliance, learning barriers and complications. Specific time frames, restrictions and precautions are given to protect healing tissues and surgical reconstruction.

Incision between ECU and FCU, along distal ulna. Approximately 3-4 cm proximal to the sigmoid notch a compression plate is clamped to the ulna. Then an osteotomy is performed, and the plate is screwed to the ulna.

Best to send the surgeon an in-basket if you have questions about orthosis position or exercise progression.

Postoperative Guidelines

Surgical Indication

Indicated for chronic:

- Positive ulnar variance, causing ulnar impaction syndrome
- Ulnocarpal instability
- TFCC Injury

Return to Work

The timeline for returning to work can vary depending on the type of work performed, various accommodations that may be available within your work environment, and any postoperative complications. Your surgeon will discuss the timeline for returning to work after consideration of these factors.

Important to remember this surgery is performed to eliminate pain. Avoid aggressive stretching and strengthening; patient needs to stay within pain-free range of motion and exertion.

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Phase I (7-14 days after surgery)

Rehabilitation appointments	• Physician appointment at 10-14 days post op • One Rehabilitation appointment immediately following physician 10-14 days post op appt.
Rehabilitation goals and priorities	• Instruct on post-operative precautions • Protect in custom orthosis • Wound healing • One-handed Activities of daily living (ADLs)
Suggested therapeutic exercises	• ***If TFCC repair with Osteotomy, follow TFCC repair guidelines*** • AROM to shoulder, elbow, fingers, and thumb • Gentle short-arc AROM for wrist, progressing to mid-range motion, 25 repetitions, 3-4 times per day • Edema management • Scar mobilization once incisions fully healed
Precautions	• No lifting/pushing/pulling/gripping
Orthoses	• Custom short arm orthosis positioning wrist and forearm in neutral, allowing full elbow flexion / extension • Ensure no pressure on ulnar styloid process by proactively creating “bump out” in thermoplastic material prior to applying thermoplastic material. • Orthosis removed for hygiene and exercises only.

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Phase II (4 weeks post-operative)

Rehabilitation appointments	• Once a week
Rehabilitation goals and priorities	• Protect in custom orthosis • Progress pain-free ROM
Suggested therapeutic exercises	• Use of heat prior to exercises • Progress to full AROM for wrist flexion/extension, held at end range for 30 seconds • Continue scar and edema management
Precautions	• No lifting/pushing/pulling
Orthosis	• Custom muenster orthosis positioning wrist and forearm in neutral, allowing full elbow flexion/extension • Orthosis removed for hygiene and exercises only.

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Phase III (6 weeks post-operative)

Rehabilitation appointments	• Depending on pain and ROM, frequency varies from twice per week to twice per month
Rehabilitation goals and priorities	• Encourage light functional use of hand • Progress pain-free ROM
Suggested therapeutic exercises	• Initiate gentle AROM for forearm, 3-4 times per day, 25 slow repetitions • If difficulty with active forearm rotation, best to have the patient start working toward forearm supination while the elbow is fully flexed. This position promotes proximal / dorsal translation of the radius for increased forearm rotation. Conversely, forearm pronation may be best performed with elbow extended to -30 degrees. • Progress to AAROM for wrist, 3-4 times per day, 25 slow repetitions • Continue scar management
Precautions	• No lifting/pushing/pulling
Orthosis	• Consider off-the-shelf wrist-hand orthosis (eg: Titan) • Orthosis off for light ADL • Consider wrist widget or Modabber to support during forearm ROM

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Phase IV (8-12 weeks post-operative)

Rehabilitation appointments	• 2-4 times per month
Rehabilitation goals and priorities	• Functional, pain-free AROM for forearm and wrist • Gradual increase in strength
Suggested therapeutic exercises	• Progress to AAROM for forearm, 3-4 times per day, 25 slow repetitions • Hand strengthening: exerciser with rubber bands or resistive putty • Light weights (1-3 pounds) for elbow and wrist, incrementally increased • Only isometrics in neutral position for forearm strengthening (no torque)
Precautions	• No sports or manual labor until 12 weeks and MD approval • No lifting >10#, no sustained grip with counter resistance (hammering, drilling, digging, tennis, golf racquetball) without MD approval
Orthosis	• Gradually wean from orthosis • Continue modabber or wrist widget as needed during specific tasks

References

1 Cannon, N. M. (2020). *Diagnosis and treatment manual for physicians & therapists: Upper extremity treatment guidelines*. Hand Rehabilitation Center of Indiana.

2 Takeisnik, J. and Ruby, L.K. (1998). Arthritis deformity: Resection arthroplasty and fusion. In: Cooney, W.P., Lindscheid. R.L., Dobyns, J.H. (eds.), *The Wrist: Diagnosis and Operative Treatment (792-800).* S. Louis: Mosby

3 Green, D. P., Hotchkiss, R.N., Pederson, W.C. (1999). *Green's Operative Hand Surgery (4th ed.)*. New York:

These rehabilitation guidelines were developed collaboratively between UW Health and Unity Joint Health - Wichita Rehabilitation and the UW Health Orthopedic Surgeons.

Content is for informational purposes only and does not replace the guidance, diagnostic or treatment options or educational materials your healthcare provider gives you. Call your health provider immediately if you think you may have a medical emergency. Always seek the advice of your health provider prior to starting any new treatment and contact them immediately with any medical emergency.