

## Extensor Tendon Repairs Zones VII & VIII

### REHABILITATION PROTOCOL

Patient Name: \_\_\_\_\_ Date: \_\_\_\_\_

Diagnosis: \_\_\_\_\_

Surgery: \_\_\_\_\_ Surgery Date: \_\_\_\_\_

#### Postoperative Rehabilitation

##### 3-5 Days Postop

- The bulky compressive dressing is removed. A light compressive dressing is applied to the hand and forearm along with the digital level edema control consisting of fingersocks or Coban™.
- A wrist immobilization splint with MP block is fitted, positioning the wrist in 30° of extension and the MP joints in full extension for continual wear.
- Active and PROM exercises are initiated to the PIP and DIP joints within the restraints of the splint.

##### 10-14 Days Postop

- Within 48 hours following suture removal, scar mobilization techniques may be initiated. This includes scar massage with lotion, as well as, Rolyan 50/50™, Otoform K™ or Elastomer™.

##### 4 Weeks Postop

- AROM exercises are initiated to the wrist and digits 10 minutes each hour. Should an extensor lag beyond 30° develop during the initial week of exercise, the exercise sessions should simply be reduced to every other hour.

Specific exercises to emphasize during this time frame include:

- Positioning the wrist in varying degrees of flexion and extension while attempting full digital extension and flexion.

- Active flexion of the digits followed by active wrist flexion – for extrinsic extensor tightness.
- Radial and ulnar deviation of the wrist in flexion and extension with the forearm positioned in both supination and pronation to maximize the excursion of the extensor tendons.
- Isolated EDC exercises with the IP joints taped into flexion to maximize excursion of the EDC.
- Composite active flexion and extension of the digits.
- NNMES may be initiated as necessary to enhance tendon excursion. It is particularly beneficial to tape the IP joints into flexion and isolate MP extension while using NNES.
- Ultrasound may be added to the therapy regimen as a deep heating modality to enhance the elasticity of the underlying adhesions and scar. Ultrasound has proven to be particularly beneficial for the dense adhesions along the dorsum of the wrist and hand.

### **6 Weeks Postop**

- Passive flexion exercises are initiated to the wrist and digits.
- Taping and/or dynamic flexion splinting is initiated to increase the composite passive flexion of the digits.
- As dynamic flexion is initiated, it is not unusual to wear the dynamic flexion splint approximately 6 hours a day.
- The wrist and MP block splint is continued between exercise sessions and at night.

### **7 Weeks Postop**

- The wearing time in the wrist and MP block splint is gradually decreased. To gradually decrease the wearing time one hour each day has proven effective. By decreasing the splint one hour each day, the patient discontinues the static extension splint by 9 weeks. Note: If an extensor lag greater than 25° is present, it is not recommended to discontinue the static extension splint.
- Progressive strengthening may be initiated to the hand and wrist.

### **10 Weeks Postop**

- The static extension splint is discontinued for night wear.
- It is not unusual to continue composite dynamic flexion splinting to resolve extrinsic extensor tightness.

### **12-14 Weeks Postop**

- Typically, range of motion plateaus by this point in therapy.

## **Considerations**

- When extrinsic extensor tightness is present, it is important to not only increase composite flexion of the digits, but to serially bring the wrist into increased flexion as well.
- Extensor tendon lacerations in the areas of Zones VII and VIII are quite challenging to manage. The extrinsic extensor tightness is typically quite severe. It is of critical importance that an aggressive dynamic flexion program which addresses not only the digits, but the wrist as well be incorporated into the therapy program. Ultrasound can be performed in complement to passive stretch of the wrist to assist with maximizing the suppleness of the underlying soft tissue structures.
- In the early weeks of therapy, if the patient is unable to achieve full active MP extension, it is recommended to position the wrist in a slight degree of wrist flexion as the patient attempts full active extension of the digits or isolated excursion of the EDC. As the patient achieves full MP extension with the wrist in slight flexion, the wrist can gradually be brought into increasing degrees of extension with the same exercise.
- With isolated wrist extensor repairs (ie. ECRL, ECRB or ECU), a wrist immobilization splint is fitted positioning the wrist in 30° of extension. Unrestricted AROM exercises are initiated by 4 weeks. PROM exercises are initiated between 5 and 6 weeks postop.