EXTENSOR TENDON REPAIR
ZONES II, III, IV

INDICATIONS
- Lacerations to the central slip, lateral bands and/or triangular ligament
- Rupture of the central slip in association with a PIP joint volar dislocation
- Avulsion of the central slip insertion that includes a bony fragment of the middle phalanx

POSTOPERATIVE REHABILITATION

3 Days Postop
The bulky compressive dressing is removed. A light compressive dressing is applied to the hand and forearm, along with digital level edema control.

A gutter splint is fitted positioning the PIP and DIP joints in full extension for continual wear.

10 – 14 Days Postop
Within 48 hours following suture removal, scar mobilization techniques are initiated. This may include scar massage with lotion, along with Elastomer™, Rolyan 50/50™ or Otoform K™.

4 Weeks Postop
AROM exercises are initiated with emphasis on blocking to the PIP and DIP joints, composite ROM exercises, and isolated IP extension with the MP joint blocked in flexion. Exercises should be performed 6 – 8 times a day for 10 minute sessions.

The gutter splint is continued between exercise sessions and at night.

6 Weeks Postop
PROM exercises are initiated to the digit assuming the extensor lag is less than 10°.

The extension gutter splint is continued between exercise sessions and at night.

7 Weeks Postop
Taping and/or dynamic flexion splinting may be initiated as needed to increase PROM. It is important to watch for the development of an extensor lag and reduce the dynamic splinting if a lag develops.

The wearing time in the gutter splint should gradually be reduced. To reduce the wearing time one hour each day should effectively discontinue the splint within 7 -10 days, during the day.

8 Weeks Postop
The gutter splint is discontinued during the day, assuming the extensor lag is 10° or less.

Gentle strengthening may be initiated as necessary.

9 Weeks Postop
The extension gutter splint is discontinued for night wear.

CONSIDERATIONS
For older patients or those individuals who form dense scars, it is well advised to progressively decrease the splint wearing time as early as the fifth week to avoid a residual limitation in passive flexion.

Longitudinal lacerations of the extensor tendons in Zones II, III, and IV that have been repaired can begin AROM exercises upon suture removal. An extension gutter splint is recommended between exercise sessions.

To ensure the patient maintains the MP joint in flexion while attempting the IP joint extension exercise, a MP blocking splint in flexion may be fabricated to isolate active IP joint extension.

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EXTENSOR TENDON REPAIRS
ZONES V & VI

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 digital level edema control consisting of fingersocks or 1" Coban™.

A wrist immobilization with MP splint is fabricated, positioning the MP joints in 0° of extension and the wrist in 20° of extension. The splint is worn at all times.

AROM 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, along with the use of Elastomer™, Otoform K™ or Rolyan 50/50™.

4 Weeks Postop

AROM exercises are initiated to the wrist and digits 10 minutes each hour. Isolated EDC exercises are emphasized along with using Velcro™ trappers to assist with isolating MP joint flexion and extension. It is equally important to emphasize composite flexion and extension of the digits and wrist, along with simultaneous wrist and finger flexion to resolve or prevent extrinsic extensor tightness. And finally, it is important to isolate the EIP and EDQM when the index and small fingers are involved.

NMES may be initiated as necessary to enhance tendon excursion. It is particularly effective when isolating the EDC with the IP joints taped in flexion.

Scar retraction is initiated to minimize adherence of the dorsal scar to the underlying soft tissue structures. A piece of Dycem may be used to stabilize the skin proximal to the area of adherence. As the patient attempts to isolate the MP joints, scar mobilization can be performed to the adhered area.

Ultrasound may be initiated as a deep heat to facilitate tendon excursion and to minimize scar adherence.

For persistent edema, an edema glove such as an Isotoner™ may be beneficial for resolving the remaining edema.

The wrist immobilization splint with MP block is continued between exercise sessions and at night.

6 Weeks Postop

PROM exercises are initiated to the wrist and digits. It is critical to ensure that any residual extrinsic extensor tightness is resolved at this time. It is equally important to monitor for an extensor lag and to modify the exercise program accordingly.

Taping and/or dynamic flexion splinting may be initiated as necessary to increase passive flexion. Wearing a dynamic flexion splint 3 - 4 times a day for 45 minute sessions should prove adequate for recapturing passive flexion.

The wrist and MP extension splint is continued between exercise sessions and at night.

7 Weeks Postop

The wearing time in the wrist and MP extension splint may be gradually decreased. To decrease the wearing time by one hour each day should result in discontinuing the splint during the day within 7 - 10 days. Note: If an extensor lag is present beyond 15°, the splint should be continued between exercise sessions.

Gentle progressive strengthening may be initiated to the hand and wrist.

EXTENSOR TENDON REPAIRS – ZONES V & VI [continued]

CONSIDERATIONS

When MP joint extension lags are greater than 20° it is recommended that the exercise sessions be decreased to 4 - 6 times a day to rebalance the extension in comparison to the flexion.

It is critical to re-evaluate range of motion with each therapy appointment in order to ensure the patient is regaining flexion, while maintaining excellent extension. The range of motion measurements provide vital information for maintaining a well-balanced therapy program.

For single digit tendon lacerations, it is possible to simply include an adjacent digit in the splint. In instances where two or more digits have incurred tendon laceration, it is recommended to include all four digits in the splint.