

## Zones IV- VI: Extensor Tendon Repair

These rehabilitation guidelines are presented in a criterion-based progression. 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.

### Therapy guidelines

#### Surgical Indication

This protocol is intended to provide the clinician with a guideline for the postoperative rehabilitation course of a patient who has undergone laceration and repair of Extensor tendons in Zones IV - VII

**Notes: EAM should begin at 3 – 5 days post operatively.**

Terminology:

**ICAM** refers to Immediate Controlled Motion

**RME** Relative Motion Extension Orthosis:

Custom thermoplastic orthosis positioning the involved MPJ(s) in relatively 15 – 20° more extension than the adjacent MPJ(s), PIP/DIP free.

- If the IF or SF are injured, place the IF and SF in extension
- If the MF is injured, just place the MF into extension
- If the RF is injured, place the RF and MF into extension.

**NOTE: IF patient is diabetic, a smoker or has other underlying medical conditions to have slow healing, they may need extended orthotic time to achieve a satisfactory outcome.**

**Return to work is based on:**

- Type of work
- Surgeon's approval
- Postoperative complications

## Zones IV-VI: Extensor Tendon Repair

### Phase I (day 3 – 5 to week 5 after surgery)

Rehabilitation appointments	<ul style="list-style-type: none"> <li>• 2 X in the first 10 days for orthotic management and edema control, then per therapist's discretion.</li> </ul>
Rehabilitation goals and priorities	<ul style="list-style-type: none"> <li>• Activities of daily living (ADLs) per restrictions</li> <li>• Protect healing repair</li> <li>• Scar management</li> <li>• Edema management</li> </ul>
Orthotic	<p><b><u>ICAM: at least one, but not all extensor tendons repaired (EDC, EIP and EDM)</u></b></p> <ul style="list-style-type: none"> <li>• <u>Orthosis:</u> <ul style="list-style-type: none"> <li>○ Fabricate RME orthosis</li> <li>○ Fabricate custom wrist extension orthosis                             <ul style="list-style-type: none"> <li>▪ Zone IV -VI: 20 – 25°</li> </ul> </li> <li>○ Both orthoses worn at night. May remove wrist orthosis during the daytime at 7 days post op.</li> </ul> </li> </ul> <p><b><u>NON: ICAM: all extensors repaired (EDC)</u></b></p> <ul style="list-style-type: none"> <li>• <u>Orthosis:</u> <ul style="list-style-type: none"> <li>○ Custom thermoplastic WHFO in 45 ° extension and MP's in neutral. PIP/DIPs free worn full time.</li> </ul> </li> </ul>
Suggested therapeutic exercises	<p><b><u>ICAM:</u></b></p> <ul style="list-style-type: none"> <li>• wound and edema management</li> <li>• Gentle composite finger flexion and extension within the limits of the orthoses (RME)</li> <li>• 3 weeks – if full AROM achieved in orthosis, begin to use hand for moderate – heavy tasks with the ICAM in place.</li> <li>• 4 weeks – if no MP lag is present but has wrist stiffness, may initiate PROM of wrist with digits on slack (synergistic motion – wrist extension with fingers flexion, wrist flexion with fingers extended)</li> <li>• Limit hand use to light activity only.</li> </ul> <p><b><u>NON: ICAM</u></b></p> <ul style="list-style-type: none"> <li>• wound and edema management</li> <li>• AROM of uninvolved joints</li> <li>• 4 weeks – AROM for wrist and fingers,</li> <li>• continue orthosis between exercises.</li> </ul>

Precautions	<p><b><u>ICAM:</u></b></p> <ul style="list-style-type: none"><li>• ICAM to be worn at all times.</li><li>• Wrist orthosis at night until week 4</li></ul> <p><b><u>NON-ICAM</u></b></p> <ul style="list-style-type: none"><li>• Continue full time orthotic use day and night except for exercises.</li><li>• No Lifting, pushing, and pulling more than 2 pounds with involved upper extremity</li><li>• No weightbearing with involved upper extremity</li></ul>
Progression criteria	<p><b>See therapeutic exercises above</b> progression by week post op.</p>

## Zone VI – IV: Extensor Tendon Repair

### Phase II (5 weeks to 8 weeks after surgery)

Rehabilitation appointments	<ul style="list-style-type: none"> <li>Per therapist’s discretion</li> </ul>
Rehabilitation goals and priorities	<ul style="list-style-type: none"> <li>Full AROM</li> <li>Pain free functional ADL</li> </ul>
Suggested therapeutic exercises	<p><b><u>ICAM:</u></b></p> <p><b><u>Week 5</u></b></p> <ul style="list-style-type: none"> <li>Remove RME for AROM 5X per day. Wear RME for activity.</li> </ul> <p><b><u>Week 6</u></b></p> <ul style="list-style-type: none"> <li>If no lag, initiate gentle PROM of fingers without RME in place</li> </ul> <p><b><u>Week 7</u></b></p> <ul style="list-style-type: none"> <li>If full composite wrist and finger motion achieved outside of orthosis, discontinue RME orthosis</li> </ul> <p><b><u>Week 8</u></b></p> <ul style="list-style-type: none"> <li>Gentle strengthening as needed</li> </ul> <p><b><u>NON-ICAM</u></b></p> <ul style="list-style-type: none"> <li>5 weeks - Composite wrist and finger flexion</li> <li>6 weeks – PROM wrist and fingers (not composite); discontinue orthosis</li> <li>8 weeks – gentle strengthening as needed.</li> </ul>
Precautions	<p><b><u>CAM:</u></b></p> <ul style="list-style-type: none"> <li>No full composite PROM</li> </ul> <p><b><u>NON-ICAM</u></b></p> <ul style="list-style-type: none"> <li>No full composite PROM</li> <li>No Lifting, pushing, and pulling more than 2 pounds with involved upper extremity</li> <li>No weightbearing with involved upper extremity</li> </ul>
Progression criteria	<ul style="list-style-type: none"> <li>See suggested therapeutic exercises above</li> <li>Progress if extensor lag is not present</li> </ul>

## Zone VI – IV: Extensor Tendon Repair

### Phase II (10-12 weeks after surgery)

Rehabilitation appointments	<ul style="list-style-type: none"><li>• Per therapist’s discretion</li></ul>
Rehabilitation goals and priorities	<ul style="list-style-type: none"><li>• Return to all functional activities</li><li>• Progressively return to heavy work and leisure activities</li></ul>
Suggested therapeutic exercises	<ul style="list-style-type: none"><li>• Strengthening as needed</li></ul>
Precautions	<ul style="list-style-type: none"><li>• No Restrictions</li></ul>
Progression criteria	<ul style="list-style-type: none"><li>• Progress if extensor lag is not present</li></ul>

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References

**References/ Resources**

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*These rehabilitation guidelines were developed collaboratively between UW Health and UnityPoint Health - Meriter Rehabilitation and the UW Health Orthopedic Surgeons.*

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