

Zone I: Mallet Finger Injury

This protocol is intended to provide the clinician with a guideline for the conservative and postoperative rehabilitation course of a patient who has sustained a Zone I extensor tendon injury called a mallet finger. 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.

Two types of Mallet finger injuries

- Bony mallet finger: avulsion of extensor tendon at DIP with a small bony fragment attached
- Tendinous mallet finger with swan neck deformity: Disruption of the extensor tendon at zone 1 leads to DIP flexion, PIP hyperextension due to volar translation of lateral bands secondary to tendon imbalance

Zone I: Mallet Finger Injury

Phase I (initial to 6-8 weeks)	Conservative	Post-surgical (pinning)
Rehabilitation Appointments	<ul style="list-style-type: none"> As needed for orthotic management 	<ul style="list-style-type: none"> As needed for orthotic management
Rehabilitation goals and priorities	<ul style="list-style-type: none"> Activities of daily living while maintaining precautions/restrictions Immobilization of DIPJ Edema management 	<ul style="list-style-type: none"> Activities of daily living while maintaining precautions/restrictions Immobilization of DIPJ with pin in place Pin care Edema management
Suggested therapeutic exercises	<ul style="list-style-type: none"> AROM/PROM for the PIP and MP joint of involved joint as needed 	<ul style="list-style-type: none"> AROM/PROM for the PIP and MP joint of involved joint as needed
Precautions	<ul style="list-style-type: none"> Instruct in daily skin checks while maintaining full extension No aggressive gripping and pinching with involved digit 	<ul style="list-style-type: none"> Instruct in daily skin checks No aggressive gripping and pinching with involved digit No lifting, pushing, or pulling more than 5 pounds with upper extremity
Orthotic management	<ul style="list-style-type: none"> Full time immobilization of the DIP joint in extension/ slight hyperextension (with no skin blanching) If swan-neck deformity develops, splint PIP at 30 - 45° flexion via dorsal block for PIP extension. 	<ul style="list-style-type: none"> Orthotic to protect pin and maintain DIP in available extension. Adjust orthosis as needed if pin is removed prior to 6 weeks post op

Zone I: Mallet Finger Injury

Phase II (6-8 weeks)	Conservative	Post-Surgical
Rehabilitation Appointments	<ul style="list-style-type: none"> 1x/week or as needed 	<ul style="list-style-type: none"> 1x/week or as needed
Rehabilitation goals and priorities	<ul style="list-style-type: none"> Activities of daily living while monitoring for extension lag Edema management Weaning from orthosis 	<ul style="list-style-type: none"> Activities of daily living while monitoring for extension lag Edema management Weaning from orthosis
Suggested therapeutic exercises	<ul style="list-style-type: none"> AROM of all joints of the involved finger DIP blocking AROM exercises, as tolerated 	<ul style="list-style-type: none"> AROM of all joints of the involved finger DIP blocking AROM exercises, as tolerated
Precautions	<ul style="list-style-type: none"> No PROM of DIPJ No aggressive gripping and pinching with involved digit 	<ul style="list-style-type: none"> No PROM of DIPJ No aggressive gripping and pinching with involved digit
Orthotic	<ul style="list-style-type: none"> Begin to wean from full daytime orthosis at 6-8 weeks over the next 2 weeks. Instruct patient to remove orthosis 1 hour each day (first day 1 hour, second day 2 hours, third day 3 hours, etc.) over the next 2 weeks. Continue to wear orthosis at night for 2 weeks 	<ul style="list-style-type: none"> Begin to wean from full daytime orthosis at 6-8 weeks over the next 2 weeks. Instruct patient to remove orthosis 1 hour each day (first day 1 hour, second day 2 hours, third day 3 hours, etc.) over the next 2 weeks. Continue to wear orthosis at night for 2 weeks
Progression criteria	<ul style="list-style-type: none"> If extensor lag (>15 degrees) is present, continue with full-time orthosis wear and discontinue HEP until for an additional two weeks. 	<ul style="list-style-type: none"> If extensor lag (>15 degrees) is present, continue with full-time orthosis wear and discontinue HEP until for an additional two weeks

Zone I: Mallet Finger Injury

Phase II (10-12 weeks)	Conservative	Post-Surgical
Rehabilitation Appointments	<ul style="list-style-type: none"> As needed 	<ul style="list-style-type: none"> As needed
Rehabilitation goals and priorities	<ul style="list-style-type: none"> Return to all activities 	<ul style="list-style-type: none"> Return to all activities
Suggested therapeutic exercises	<ul style="list-style-type: none"> Strengthening as needed 	<ul style="list-style-type: none"> Strengthening as needed
Precautions	<ul style="list-style-type: none"> No PROM of DIPJ 	<ul style="list-style-type: none"> No PROM of DIPJ
Orthotic	<ul style="list-style-type: none"> Discontinue 	<ul style="list-style-type: none"> Discontinue
Progression criteria	<ul style="list-style-type: none"> Expected extension lag of 10-15 degrees is appropriate and good outcome. If extensor lag at any time is greater than 20 degrees, consider full time orthosis wearing for an additional 2 weeks. 	<ul style="list-style-type: none"> Expected extension lag of 10-15 degrees is appropriate and good outcome. If extensor lag at any time is greater than 20 degrees, consider full time orthosis wearing for an additional 2 weeks.

Additional Notes

- If patient presents with a tendinous mallet with hyperextension of the PIP joint, you may consider including the PIP joint in 30 degrees of flexion for the first 2 – 3 weeks for patient comfort.
- Consider taping the DIP joint in extension within the orthosis for non-operative cases. Steri-strip, bandage tape or Kinesiology tape to assist with maintenance of digit extension when performing hygiene/ changing orthosis or liner, etc.
- Orthotic time frames are from the initiation date of full-time orthotic use, NOT from date of onset.