

Mallet Finger Rehabilitation Protocol

Conservative Management

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There are two types of Mallet Finger deformity. The first type is called a bony mallet deformity which involves a fracture of the bone. The extensor tendon is attached to this bone. The second type is called a soft tissue mallet deformity. A soft tissue mallet deformity involves only the extensor tendon which is torn off the bone. The soft tissue mallet deformity has a worse prognosis because it is more difficult for the tendon to heal to the bone. The bony mallet deformity has a better prognosis because the bone fragment heals more reliably to the bone.

Day 1

- The therapist will fabricate a dorsal and volar static extension orthosis to maintain distal interphalangeal (DIP) joint hyperextension, with the PIP joint free.
- A lateral view x-ray of the finger in the orthosis is required to confirm proper position of the DIP joint. A lateral view x-ray is required for each orthosis fabricated.
- The orthosis is to be worn at all times. The orthosis may be removed for hygiene purposes; however, it is extremely important to maintain the DIP joint in the extended position at all times. If the joint is allowed to flex during the first 8 weeks of healing, the clock is reset and another 8 weeks will be required for proper healing.
- The therapist will instruct the correct method of removing the orthosis while maintaining DIP joint extension. The easiest method is to use the top of the table to maintain extension of the DIP joint while the orthosis is removed.
- The therapist will instruct proper skin care to prevent skin breakdown. The skin should be completely dry before re-applying the orthosis. Also switching between the volar and dorsal orthosis will help to prevent skin breakdown.
- The therapist will instruct a home exercise program (HEP) to maintain PIP and MCP joint range of motion.

4 Week Orthosis Program

- A lateral view x-ray is completed in the orthosis to confirm proper position of the DIP joint.
- The skin is evaluated for breakdown or irritation from the orthosis.

8 Week Orthosis Program

- A lateral view x-ray is completed in the orthosis to confirm proper position of the DIP joint and healing of the bone if there was a fracture.
- Active range of motion (AROM) Trial
 - While supporting the finger, gently flex the tip (DIP joint) of the finger. Do NOT force the finger to bend. Then return the finger to a straight position. Perform this exercise for 10 repetitions. Re-apply the orthosis. Repeat the exercise

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regimen 3 (three) times daily for one week. Continue orthosis wear at all times, between exercises and when sleeping.

- STOP the exercise program if the finger develops a mallet deformity (fingertip drooping) or you are unable to actively extend the finger. Re-apply the orthosis and wear it full-time for 2 (two) weeks. After two weeks, try the exercise program again. If the finger develops a mallet deformity again, then contact Dr. Holtkamp's office.
- If the first week of the AROM Trial is successful, then increase the exercise regimen to 5 (five) times daily for one week. Continue orthosis wear at all times, between exercises and when sleeping.

10 Weeks Orthosis Program

- If the AROM Trial was successful, then begin to gradually decrease the orthosis wear during the day. Remove the orthosis for one hour the first day during daily tasks. Then replace the orthosis for the remainder of the day. Increase the time out of the orthosis by one hour each day.
- Continue to wear the orthosis when sleeping.

12 Weeks Orthosis Program

- For a bony mallet deformity, the orthosis can be discontinued.
- For a soft tissue mallet deformity, continue to wear the orthosis when sleeping for another 4 weeks.
- It is acceptable to have up to 20 degrees of an extensor lag at the end of the protocol. The slight bend at the fingertip is considered functional and should not interfere with most activities of daily living.
- There may be some tenderness over the joint. This will improve with time. The healing process can take up to a full year.