OrthoIllinois REHABILITATION

# Thumb: CMC Arthroplasty

## Indiana Hand Protocol

**Precautions:**

- At 6 weeks post-op, the patient may begin using their hand for light ADLs.
- At 3-4 months post-op, is typically the time patient are permitted to return to relatively normal activity.
- At 5-6 months post-op, patient may return to racquet sports, golf, and activities demanding a tight sustained grip against a counterforce.

**Considerations:**

- The inability to flatten the palm after the procedure is typical. Often this is a concern to the patient.
- Activities such as cleaning the windows, wiping down a countertop, holding a wide diameter drinking glass, etc. can be frustrating. Patients need to understand this is to be expected to a certain degree because this positioning is maintaining stability of the CMC joint.
- The patient should be encouraged to practice functional activities and prehension activities with lightweight objects to regain dexterity and minimize frustration. To begin this when the patient begins AROM exercises is encouraged.
- Typically, AROM exercises are begun for the wrist at 10-14 days post-op when the procedure included the entire tendon as opposed to a portion of the tendon.
- It is important to monitor for post-op complications such as: infections, paresthesias, prolonged edema, and complex regional pain syndrome (albeit rare, early detection and treatment is important).
- Patients often wonder if the procedure was a good decision at 6-8 weeks post-op. By 3 months post-op, patients are feeling better about surgery. By a year post-op, most patients are particularly satisfied with their outcome.
- Encourage the patient to continue isometrics for the APB each day 15-25 reps for 6 months to a year.
- Some patients report a gradual loss of thenar strength.

**10 – 14 days post-op**

Initiation Date: 09/28/2026 Revised Date: N/A

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- Wound care:
    - Bulky compression dressing is removed. Assuming the wound is healed, the sutures are removed.
        - Note: The bulky dressing may be removed within the initial week following surgery. These authors prefer waiting to eliminate the cost associated with one therapy visit and to leave the surgical site undisturbed for the purpose of reducing edema, pain, and allow quality wound healing.
    - Once the incision site is completely closed, scar massage with lotion and manual desensitization techniques may be performed 3-4 times a day for approximately 5 minute sessions.
        - Prioritizing the gentle massage and desensitization will avoid/limit challenges with an adherent scar and hypersensitivity.
- Brace:
    - In place of the compressive dressing, an elastic stockinette or elastic bandage to the hand and wrist area is initiated.
        - For persistent edema in the thumb, 1" Coban™ may be wrapped distally to proximally around the CMC joint of the thumb.
    - Dr. Bear: The patient is fitted with a thumb stabilizer brace from DME to wear during the day and a custom-fabricated wrist and thumb static orthosis with the IP joint free at night. The thumb is positioned midway between palmar and radial abduction, with the MP joint slightly flexed
    - Dr. Foster: The patient is fitted with a custom-fabricated wrist and thumb statis orthosis with the IP join free- to be worn at night and as needed during the day. The thumb is positioned midway between palmar and radial abduction, with the MP joint slightly flexed.
        - Note: The thumb must not be positioned directly in radial abduction. This would risk stretching out the reconstruction. When 50% of the tendon is used for the reconstruction, the wrist and thumb static orthosis is worn initially during the day.
- ROM: Initiated AROM exercises for the wrist, digits, and thumb IP joint 3-4 times a day for 5-10 minute sessions.

### 3 weeks post-op

- Wound care: Dense, adherent scars may benefit from ultrasound. The ultrasound enhances the viscoelasticity of the soft tissues, thereby increasing mobility and reducing discomfort.
- Modalities:



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- Should significant pain serve as a barrier to effective exercise, TENS in an effective adjunct to the therapy regimen.
- In addition, Fluidotherapy(R) has shown to be effective in reducing pain and hypersensitivity.

- ROM:
  - For patients beginning AROM to the wrist at 10-14 days, gentle PROM exercises are begun to the wrist 3-4 times a day, 10-15 repetitions.
  - AROM exercises may be initiated to the MPJ, while stabilizing the first metacarpal (and thus, the CMC joint) with the opposite hand.

- Education:
  - This is an important time frame to begin explaining the gradual recovery of function and the gradual return to normal daily activity. Often the patients indicate they did not know there would be a gradual return to normal activity.
  - At 6 weeks post-op, the patient may begin using their hand for light ADLs.
  - At 3-4 months post-op, is typically the time patient are permitted to return to relatively normal activity.
  - At 5-6 months post-op, patient may return to racquet sports, golf, and activities demanding a tight sustained grip against a counterforce.

**4 weeks post-op**

- Brace: For those patient placed in the wrist and thumb static during the day for the initial month, they may be fitted with a custom-fabricated short opponens orthosis to wear during the day. The wrist and thumb static is continued at night.

- ROM:
  - AROM exercises are initiated to the thumb CMCJ and MPJ 4-6x/day for 10 minute sessions
  - Exercises should emphasize:
    - Thumb flexion, extension, and palmar abduction
    - Thumb circumduction (clockwise & counter-clockwise)
    - Lightly touching each finger with thumb
  - It is important to emphasize avoiding movement patterns such as lateral pinch, adduction of the thumb against index finger and wide radial abduction. This will avoid overstretching of the LTRI and accentuating the deforming forces that



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generated instability.

**5 weeks post-op**

- ROM: PROM exercises are added to the MPJ and IPJ of the thumb, with the CMC joint supported (manually or with an orthosis).

**6 weeks post-op**

- Exercises: Add isometric resistance for the APB/opponens
- Brace:
    - On rare occasion, it becomes necessary to add a custom-fabricated dynamic flexion orthosis for the MP and IP joint of the thumb. Any dynamic orthosis must be custom-fabricated to provide maximal support of the CMC joint and provide the proper alignment and dynamic traction to the MPJ and IPJ.
        - Typically, the orthosis is worn for 20-30 minute sessions 3-4x/day
    - Dr. Bear:
        - The patient is encouraged to begin weaning out of the short opponens orthosis during the day. This can be a gradual process over 2-4 weeks. To leave the orthosis off for light ADLs 3-4x/day (< 1 hour) is encouraged. Patients fitted with the wrist and thumb static orthosis at night are encouraged to do so for 8-10 weeks and gradually eliminate by 12 weeks post-op
        - The hand-based custom-fabricated orthosis or a prefabricated neoprene orthosis should be worn during the day with repetitive hand activity or activities requiring weighted resistance to the hand and/or upper extremity.
    - Dr. Foster:
        - The patient is encouraged to begin weaning out of the orthosis during the day. This can be a gradual process over 2-4 weeks. To leave the orthosis off for light ADLs 3-4x/day (< 1 hour) is encouraged.
        - A prefabricated neoprene orthosis should be worn during the day with repetitive hand activity or activities requiring weighted resistance to the hand and/or upper extremity.

**8 weeks post-op**

- Strengthening:



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- Gentle strengthening may be initiated when the patient reported concerns for hand and thumb strength

- Soft putty can help build endurance in the hand

    - The preferred method for recapturing hand and thumb strength is through normal daily activity versus a focus on using putty or a hand exerciser.

**10-12 weeks post-op**

- The patient may gradually resume normal use of their hand in all daily activity. Typically, patients are under the impression their hand should be perfectly normal by this timeframe. More commonly, it is the experience that patients begin to be confident the procedure was a favorable decision by 3 months, are pleased and able to perform most activities at 6 months and most satisfied at the 9 month to 1 year timeframe. The recovery is relatively slow, yet steadily moves in the proper direction. Helping the patient to realize the recovery is gradual and to not try to "speed up" the process is important. A great deal of patience is necessary and the therapist must serve as a realistic and supportive coach.

- Patient education is important. The basic guidelines outlined in conservative management of CMC arthritis should be reviewed once again. Simple suggestions such as using non-skid pads to remove jar lids, etc should be reinforced. Too, it is important to emphasize protecting their non-surgical hand by adhering to the joint protection principles and wearing an orthosis at night when they experience any sign of CMCJ arthritis (i.e. joint changes on x-ray, inflamed or painful CMCJ). Certainly, wearing a custom orthosis at night will be help prevent the CMCJ from collapsing against the palm of the hand and accentuating the radial translation at the base of the metacarpal. With that suggested, most patients seem to have little interest in an intervention, unless symptomatic.

**From:**

1) Indiana Hand Protocol



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