

Colditz Thumb CMC Immobilization Splint

Indications:

To immobilize the thumb carpometacarpal (CMC) joint for persons with isolated CMC arthritis who have no associated scaphotrapezial arthritis. This splint supports the thumb CMC joint for persons who 1) have instability of the CMC joint, 2) need continued stabilization of the joint when returning to function after CMC arthroplasty, 3) need symptomatic control and immobilization following CMC sprain/strain injury and 4) need stabilization of the first metacarpal to allow application of mobilizing force to either the thumb MP and/or IP joints.

Instructions For Use:

1. Position the hand
 - Stabilize the person's elbow on a work surface. Ask the person to gently touch the tip of the thumb to the tip of the index finger. The person **must not pinch**, but hold the thumb in a relaxed manner. The fingers should be relaxed in slight flexion with the wrist in some extension.
2. Thoroughly heat the material in 150° F (66°C) water until pliable
3. Roll thenar web material (Figure 1)
 - Working quickly, roll the neck of the small flange together to make a complete circle before molding on the hand. This will strengthen this part of the splint while decreasing the bulk in the first web. Keep the end of the flange flat.
4. Positioning splint (Figure 2)
 - When placing the splinting material on the hand, position the pattern just proximal to the thumb MP joint. The splint must allow full MP flexion but be high enough to support the first metacarpal adequately.
 - Wrap the three flanges around the hand as shown. The flange that goes through the first web space overlaps the flange that wraps around the thenar eminence.
5. Molding the first web
 - As the material begins to harden, lift the curled material slightly away from the first web skin so that the material and skin do not touch.
6. Molding to support the first metacarpal (Figure 3)
 - As the splinting material becomes firm, apply gentle even pressure over the distal end of the first metacarpal palmarly (directly over the thenar eminence muscles) and over the proximal end of the first metacarpal dorso-radially so that both of these areas are molded snugly.
 - Do not push the first metacarpal into extension when applying pressure to the palmar aspect. Do not attempt to "reduce" the joint when applying pressure on the dorsal radial aspect of the splint.
7. Trim Ulnar border
 - Trim the ulnar border so that it ends just as it starts across the dorsum of the fifth metacarpal. This assures easy splint application and removal.

Description:

The Colditz Thumb CMC Immobilization Splint is comprised of:

- (1) Precut 1/8" NCM Clinic thermoplastic piece
- (1) 1" x 6" white loop strap
- (1) 1" x 1½" sticky back hook piece
- (2) Medium rivets

Figure 1



Figure 2



Figure 3



Instructions For Use (Continued):

8. Radial border (Figure 4)

- Check to assure that the radial edge of the splint does not press on the second metacarpal. Trim it as necessary. Also make sure that the edge does not press at the base of the first metacarpal.
- Assure that the proximal border does not impede full wrist motion. Trim if necessary. The splint does not need to cover the radial aspect of the wrist if the first metacarpal is held snugly.

9. Apply strap (Figure 5)

- Punch a hole through the overlapping flanges on the radial aspect. Attach the loop strap with the rivet.
- Apply the adhesive hook piece on the ulnar border of the splint.

10. Test pinch with and without splint

- Ask the person to pinch both with and without wearing the splint. If a person does not report a reduction of pain while pinching with the splint on, remold the splint for better fit. If a better fit cannot be established, consider whether additional joints need to be immobilized.

11. Check first web space comfort and splint fit

- Instruct the person to apply the splint by firmly pushing it down so that there is full contact around the first metacarpal palmar area. With the index finger extended and the thumb MP abducted, check to be sure that the splinting material in the first web does not press on the skin. If it does, reheat this area and remold.

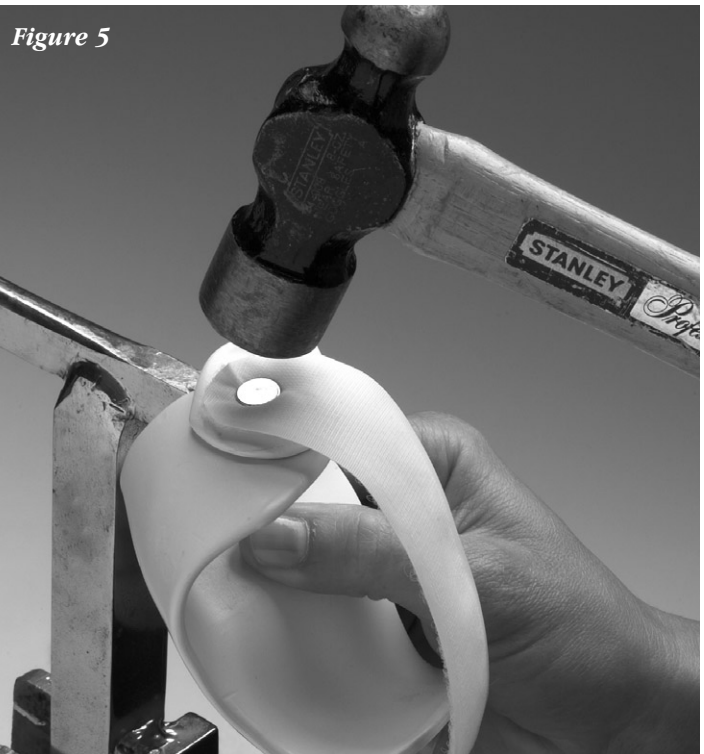
Care Instructions

1. Store at room temperature. Avoid exposure to high heat as this will soften the material and cause it to change shape.
2. Wash with cool water and mild soap.

NC22618 Small
NC22619 Medium
NC22620 Large

Reference

Colditz J: The biomechanics of a thumb CMC immobilization splint: design and fitting. *Journal of Hand Therapy*. 12:228-235, 2000.



To be used under the guidance of a
qualified medical professional.



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North Coast Medical, Inc.
Gilroy, California U.S.A.
Authorised Representative
Medica Surgical Innovations Ltd.
BB2 4PB UK