

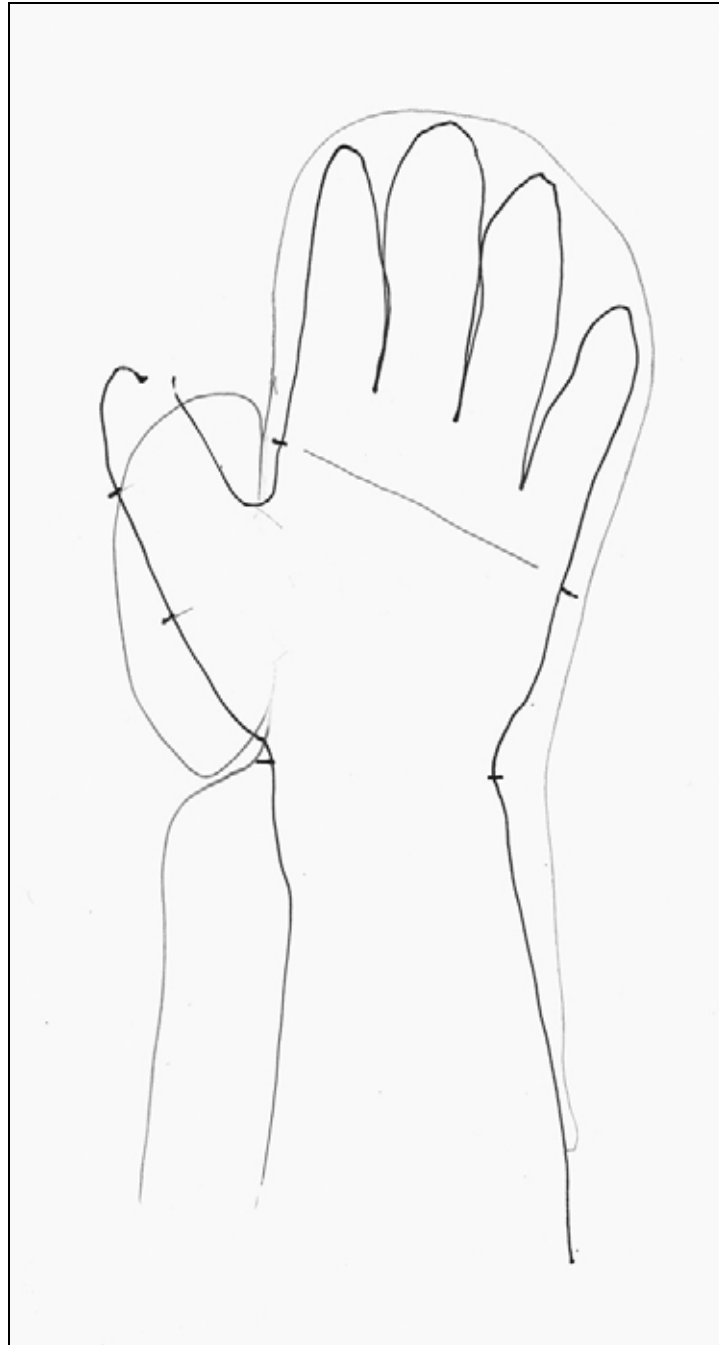
July 2006 Splint

A Dorsal-Volar Burn Hand Splint

Submitted by: Trudy Boulter, OTR, CHT
The Children's Hospital in Denver Colorado







Description of splint: This splint provides a composite, adjustable stretch for dorsal burns that may impact wrist, MP, and/or IP joints.

Materials used/needed: (use two columns with asterisk as bullet)

- | | |
|------------------------------|---------------------|
| * 1/32 or 1/8 inch aquaplast | *coflex or neoprene |
| * Velcro hook and strap | * |

Fabrication instructions:

1. Trace the patients hand and identify the following landmarks

- a. MP joint of the index and small finger
 - b. MP and IP joints of the thumb
 - c. Identify the radial and ulnar aspects of the wrist.
2. Pattern- Trace the outline of the hand until the level of the first web space. Retrace back up to approximately ¼” above the index finger MP joint. The width of the thumb component will be approximately the length of the thumb from the MP to IP joint. The length of the thumb piece is from just beyond the MP joint of the index finger to just before the radial aspect of the wrist. As you finish making the pattern for the thumb, take care to leave the width of splinting material remaining at least the width of the thumb. It is important for the pattern to fit prior to cutting out the splint. Be sure you do not have the pattern drawn with excessive ulnar deviation.
3. Trace the pattern onto the splinting material and heat just enough to cut out the splint and make the slit from the index to small finger with an xacto knife. This slit should be at an angle to accommodate for the angle of the MP joints of the hand. IT is best to keep the slit on the smaller side to avoid making this too big or the splint breaking secondary to thin of a bridge between the dorsal and volar aspect of the splint.
4. Reheat the splint, roll the splinting material away (under) on the pan portion of the splint and (back) on the dorsal aspect of the splint to provide a smooth edge.
5. if needed reheat the splint one more time and mold onto the patient. It is best to position the wrist and thumb first and the pan portion of the splint last.

Advantages: This splint works very well if you need to gradually increase the passive stretch of a dorsal burn. It allows you to control the wrist and then slowly stretch their fingers to the pan portion of the splint. As MP range of motion is gained it is a simple modification to adjust the relationship of the pan portion of the splint with the dorsal component to increase angle of the MP joints.

Disadvantages: If there is significantly limited MP flexion with the wrist in neutral the splint may migrate due to an insufficient angle to hold it in place. This can be corrected by using a coffee stirrer to keep the splint in place. The other disadvantage is the difficulty in the “just right” length of the slit to avoid it from being too small and causing pressure at the radial and ulnar MP joints or being too big. The splint will also break if there is inadequate stability with rolling of the splint material on the ulnar and radial borders between the volar and dorsal aspect of the splint.

Indications: An alternative to a volar pan splint

Total Time Required to Fabricate the Splint / Device: Approximately 25 minutes

Level of Therapist Skill / Specialization Required: Intermediate to Advanced

If you have any questions about the design of the splint or comments about the fabrication, please email Trudy at Boulter.trudy@tchden.org