

Clinical Pearls



GET A GRIP!

Karol Young, OTD, OTR/L, CHT

Lack of end range metacarpophalangeal (MP) joint flexion limits the ability to make a full fist. When the MP joint is limited, the extrinsic flexor force transmits motion to the more flexible interphalangeal (IP) joints, resulting in a pseudo hook fist (Figure 1).

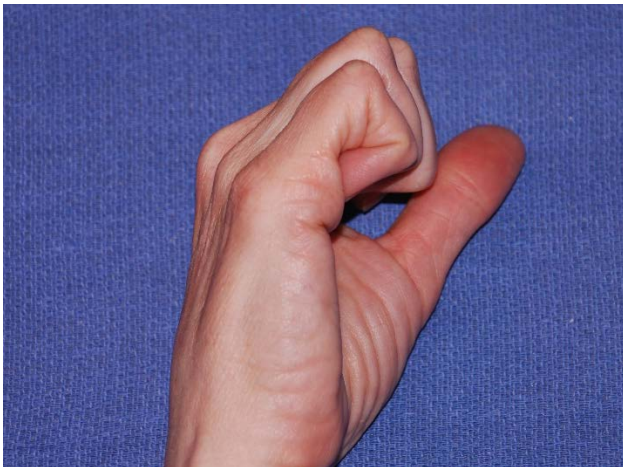


Figure 1. A pseudo hook fist commonly seen when the MP joint has limited flexion

Even after a non-complicated injury such as a closed metacarpal fracture, as the residual MP joint stiffness and soft tissue tightness resolves, the patient may continue to habitually make a pseudo hook fist. When this occurs, the patient may require assistance to re-learn the proper motor pattern for gripping. A quick addition to a pre-fabricated wrist brace can be used to regain end range MP joint flexion as well as provide MP joint positioning during motor relearning.

Choose a prefabricated wrist brace such as the Push® med Wrist Brace that fits well and clears the distal palmar crease of the hand. Fabricate finger

loops out of soft strapping material and rubber bands. See Figure 2.

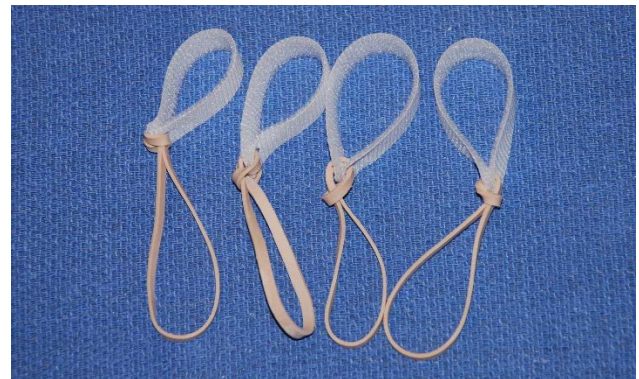


Figure 2. Finger loops fabricated from soft strapping and rubber bands

Place a large safety pin on the volar surface of the wrist brace and attach the finger loops to the safety pin (Figure 3).



Figure 3. The finger loops attached to the brace with a safety pin

GET A GRIP! (continued)

Place the brace on the patient and instruct them to relax within the brace, allowing the rubber bands to pull the MP joints into maximum flexion (Figure 4).



Figure 4. Wrist brace in place with tension assisting MP joint flexion

With the MP joints held at maximum flexion, instruct the patient to actively flex the IP joints as if making a fist. See Figure 5.



Figure 5. Active fist with MP flexion assist

Instruct the patient to use the brace with the finger loops several times a day while performing the active IP flexion exercises. Educate the patient regarding the proper positioning of the MP joints while making the full fist, ensuring the MP joints flex simultaneously with the IP joints to achieve a full fist.

Based upon the needs of the patient, adjustments may be made to the rubber band tension, placement of the safety pin, and/or the number of digits included.