

## Thumb Spica Splint Tutorial

### Type of Orthosis:

Volar wrist / thumb immobilization splint with common names of thumb spica splint, long opponens splint, and radial gutter splint. Splint options include prefabricated wrist and thumb splint or custom fabricated splint. Thermoplastic, cast, or silicone materials are commonly used.

### Common Indications:

Bennet fracture, deQuervain's tenosynovitis, scaphoid fracture, intersection syndrome, carpometacarpal (CMC) or scapho-trapezium/trapezoid (STT) arthritis or arthroplasty, extensor pollicis longus (EPL) repair, extensor pollicis brevis (EPB) repair, abductor pollicis longus (APL) repair, tendon transfers.

### Function of Orthosis:

Immobilize the wrist and thumb joint (s) to allow for rest, protection, and healing of involved body segments.

### Recommended Anatomical Position of Orthosis:

Wrist 0° to 20° extension

Thumb CMC between radial and palmar abduction

MP 5° to 10° flexion

IP included or free (depending on severity)

### Materials and Equipment Required

- Splint pan
- Splint material
- Paper towel and wax pencil (for creating splint pattern)
- Support hose or stockinette
- Tongs or Spatula
- Scissors
- Velcro and Straps

### Properties of Splinting Materials

- Memory
- Strength
- Breathability
- Drapability
- Elasticity
- Bonding

### General Procedures:

- 1) Complete *Orthotic Needs Assessment* that includes functional examination
- 2) Complete *Orthotic Fitting / Fabrication*
- 3) Complete *Orthotic Functional Assessment* to ensure the orthosis meets the client's needs
- 4) Complete *Orthotic Checkout* to include education about wearing schedule, tolerance, and device care.

### Fitting and Fabrication Instructions:

Create splint design • Select material • Heat splint pan to 135° to 180° • Make splint pattern • Heat and cut material • Form splint • Finish edges • Apply straps, padding, attachments • Evaluate fit and comfort

\*The above are general guidelines and indications. Further training is recommended.

Jacobs, M. & Austin, N. (2014). *Hand and Upper Extremity Splinting Principles and Process* (2nd ed.). Lippincott Williams & Wilkins, a Wolters Kluwer business.

Radomski, M. & Trombley, C. (2013). *Occupational Therapy for Physical Dysfunction* (7th ed.) Philadelphia: Lippincott Williams & Wilkins.