Vancouver CoastalHealth
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Mary Pack Arthritis Centre
Occupational Therapy Department

HAND RESTING SPLINT PROTOCOL

PURPOSE OF THE SPLINT

- To reduce pain and swelling by providing local rest to joints of the hand and the wrist.
- To ensure proper positioning during sleep.
- To immobilize, protect and support inflamed joints and tendons.
- To reduce irritation of nerves in carpal tunnel by supporting and resting wrist in the “loose pack” position.
- To help maintain length of soft tissues and prevent contracture.

INDICATIONS FOR USE

- pain at night
- joint inflammation
- developing soft tissue contracture due to progressive deformity
- carpal tunnel syndrome
- tenosynovitis
- risk of tendon rupture

EQUIPMENT / SUPPLIES REQUIRED

- 1 roll of 6” hexcelite
- polyform or other low temp. thermoplastic for finger dividers
- stockinette (2 ½” diameter) for straps
- velcro – (1” diameter)
- tensor bandage
- heat gun
- strong shears
- electric fry pan or other heat source for water
- towels
- Nivea hand cream

SPLINT DESIGN

Considerations:

- Resting splint should be lightweight, cool to wear and easy to clean.
- Length: 2/3 length of forearm to ¼” beyond finger tips.
- Width: 2/3 circumference of arm.
- Arches: Transverse and longitudinal arches should be supported by splint.

Joint Position:

- Forearm: ¾ prone position
- Wrist: 10º to 15º Extension (Patients with carpal tunnel syndrome splinted in 5º to 10º), 5º to 10º Ulnar deviation – 2nd metacarpal in straight line with radius
- MCP's: 15º to 20º flexion, neutral deviation
- PIP's: 20º to 25º flexion
- DIP's: 10º flexion. Patients with swan neck deformity, increase MCP extension with PIP flexion.

CONSTRUCTION

Splint:

- Preheat water in fry pan to approx. 150º F.
- Cut 2 lengths of 6" hexcelite, measuring from proximal 1/3 of forearm to ¼" distal to finger tips.
- Heat material in water until malleable, remove from pan and shake water from material.
- Rub both surfaces of hexcelite with hand cream, to prevent material from sticking to patient's skin. Reheat in water if needed.
- Mould hexcelite around volar surface of forearm and wrist, wrap with tensor bandage.
- If wrist position is correct, reheat distal section of hexcelite and mould hand and thumb sections.
- When satisfied with position of wrist and hand, cut off excess material.
- Finish edges by rolling or by moulding ½" wide strips of hexcelite over edges of splint.
- Flare proximal edge away from forearm.
- Check for pressure areas especially at base of thumb, ulnar and radial styloids.

Straps:

- It is important to attach straps to splint before applying finger dividers as they help maintain hand position in splint.
- Attach 3 pieces of "loop" velcro to medial side of splint
  (1) on proximal forearm, 1" from end of splint
  (2) at wrist joint
  (3) under 2nd metacarpal at a 45º angle, strap goes over MCP joints
- Attach loop velcro to a piece of hexcelite (4cm x 6cm) using wet heat. Then using heat gun, spot heat splint at desired point of attachment and attach velcro to splint.

Dividers:

- Cut 3 rectangular pieces of thinned polyform (approx. 2cm X 2.5cm) with rounded corners.
- Dividers should extend slightly higher than the fingers, starting at mid proximal phalange and ending distal to the DIP joints.
- Avoid pressure on nodules, swollen PIP joints, and in web space between the fingers.
- Heat polyform piece, apply dry heat to splint at point of attachment and press spacer firmly onto splint.

SPLINT CHECK

- Position hand in splint and fasten straps.
- Check for pressure areas.
- Correct alignment and fit of splint as required.

USE OF SPLINT

- Instruct patient in how to don/doff the splint.
- Discuss when to wear the splint with patient. It should be worn during rest periods and at night when the patient's hand and wrist joints are painful or inflamed.
- Recommend supporting arm with a pillow at night to decrease strain on shoulder and elbow.
- Provide patient with a copy of the handout "Wear and Care of you Hand Resting Splint" OTIID-2.