

# Swanson MP Arthroplasty (Rheumatoid or Osteoarthritis)

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## **Purpose**

The purpose is to provide early controlled mobilization of the tissues surrounding the MP arthroplasty(s) to prevent stiffness and ensure proper alignment.

## **Indications**

This protocol is to be used on the MP joint(s) that have undergone joint replacement(s) with the use of Swanson MP arthroplasty(s).

## **Contraindications**

- 1) Exposed tendon(s)
- 2) Poor bone quality (This should be discussed with the surgeon.)
- 3) Poor skin integrity

## **Preparation**

Therapy is to be performed with or without dressings.

## **Treatment Frequency**

The patient is to be seen 2-3 times weekly or as determined by the therapist and/or physician.

## **Clinical Pearls**

The silicone implant remains the gold standard for RA.

Studies have demonstrated a 10 year implant survival rate of 83% and 17 year survival rate of 63%. The fracture rate of the implant drops to 58% and 34%. However, implant fracture is not associated with decreased patient satisfaction or need for reoperation.

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## **IN THERAPY ONLY**

### **Day 3-5 Postoperative**

The bulky dressing is removed and a light dressing applied.

If edema is present, self-adhesive elastic dressing can be used over the dressings. Gentle PROM of only the MP joints can be performed, keeping the MP joints in neutral alignment. Care should be taken to avoid any resistance with the tissues. Gentle PROM of the IP joints can also be performed

with the MP joints being supported in extension. No composite flexion is performed.

### **Orthosis Fabrication**

A dorsal forearm-based orthosis is fabricated with the wrist in 20 degrees of extension. For the rheumatoid patient, the wrist can also be placed in slight ulnar deviation, if the ulnar drift of the digits is severe.

Dynamic MP traction is applied to each MP joint with a 90-degree angle of pull and slight radial deviation pull to prevent recurrence of the ulnar drift for the rheumatoid patient. The MP joints should be supported in a neutral position of extension. The dynamic traction should be relaxed enough to allow 70 degrees of MP flexion. The IP joints of the digits are left free and the finger loops should allow full IP flexion with the MP joints supported in extension.

If flexion is significantly limited in the small finger, it can be buddy taped to the ring finger.

The orthosis is to be worn at all times and removed only in therapy, or by the physician, for wound and skin care and PROM of the IP joints.

A static volar forearm-based orthosis can be fabricated for night wear. The wrist and MP joints are supported in neutral extension with control of the alignment.

During the first 2 weeks, the index finger occasionally will show signs of supination or pronation. A dynamic force couple may need to be added.

### **Therapy Exercises and Home Program**

The patient is instructed to actively flex the MP joints in the orthosis at least 10 times every hour. This is followed by IP flexion 10 times every hour with the MP joints held in extension. Static PIP orthoses can be fabricated if the patient is substituting PIP flexion for MP flexion. These are removed 3 times daily to prevent stiffness.

### **Week 2**

Begin scar remodeling once the sutures are removed and there are no open areas. Continue with edema control techniques.

### **Week 3**

Dynamic flexion traction can be added if desired MP flexion is not being achieved. The wearing time of the dynamic flexion is determined by the ROM measurements and is alternated with dynamic extension traction. Full active flexion of the digits can begin.

**Week 5**

Patient is allowed to use the hand in the orthosis for light ADLs.

**Week 6**

The daytime dynamic orthosis can be discontinued. It may be beneficial to continue to wear the daytime orthosis at night, or a nighttime hand based static orthosis can be fabricated to protect the arthroplasty(s) and prevent recurrence of ulnar drift for the rheumatoid patient.

The patient is able to begin light ADLs without the orthosis.

**Week 8**

Light resistive exercises are initiated with the use of progressively smaller objects. The patient is also instructed in joint protection techniques.

**Week 12**

The patient is allowed to resume full activities. A static night orthosis is recommended indefinitely for the rheumatoid patient.

***\*\*\*Expect approximately 70 degrees of MP flexion. A 10-15 degree extensor lag in the MP joint occurs frequently.***

**Evidence**

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