

Introduction

- There remains a paucity of literature examining surface replacing arthroplasty (SRA) in the treatment of pathologies of the MCP joint.
- The objective of this study was to assess the results of MCP arthroplasty utilizing the SRA prosthesis for various surgical indications.

Methods

- Retrospective review of 76 primary MCP arthroplasties with the SRA prosthesis in 34 patients.
- Etiologies examined:
 - Inflammatory Arthritis (n=61)
 - Osteoarthritis (n=10)
 - Post-Traumatic Arthritis (n=5)
- Average Age: 55 years
- Average BMI: 25 kg/m²

Figure 1

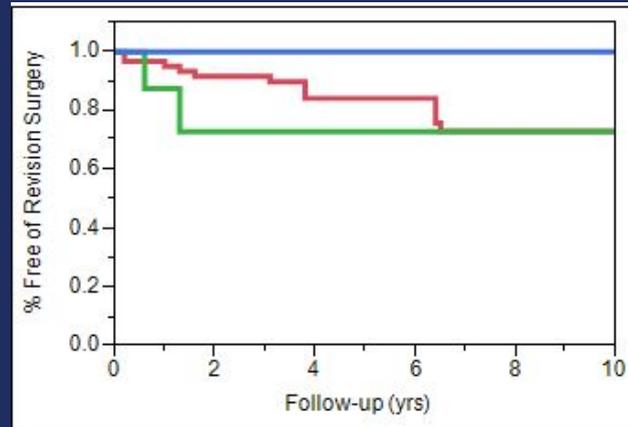


Figure 1. Kaplan Meier survival analysis of inflammatory arthritis (red), osteoarthritis (green) and post-traumatic arthritis (blue).

Figure 2



Figure 2. Example of an SRA implant.

Results

- 15 revision surgeries performed at a mean 3.1 years postoperatively
 - 13 in inflammatory arthritis cohort
 - 2 in osteoarthritis cohort
- Overall, the 2, 5, and 10-year survival rates were 90%, 84%, and 74%, respectively.
- The 5-year survival rates for the inflammatory arthritis, OA, and post-traumatic arthritis groups were 84%, 73%, and 100% (p=0.32), respectively (**Figure 1**).
- Postoperative complications included 3 dislocations (4%)
 - No difference in postoperative dislocation when stratified by etiology
- 33 patients (43%) had recurrent ulnar deviation
 - Patients with inflammatory arthritis had higher rates of ulnar deviation (p<0.01).
- In unrevised patients, at a mean 7.0 years (2-12) follow-up, preoperative to postoperative pain levels significantly improved (p<0.01).
- MCP total arc of motion slightly improved from 38° preoperatively to 51° postoperatively (p=0.22),
- No significant change in grip or pinch strength (p>0.19).
- Total arc of motion was slightly decreased in the post-traumatic group (45°), compared to the OA (50°) and inflammatory arthritis (60°) groups (p=0.66).

Conclusions

- MCP arthroplasty utilizing the SRA prosthesis is associated with reasonable midterm survival, low complications, predictable pain relief, and slight improvements in motion.
- There is a high rate of recurrent ulnar deviation in patients with inflammatory arthritis.
- SRA implants have the potential to be considered as an alternative prosthesis, especially in patients with post-traumatic arthritis or osteoarthritis.

Figure 3

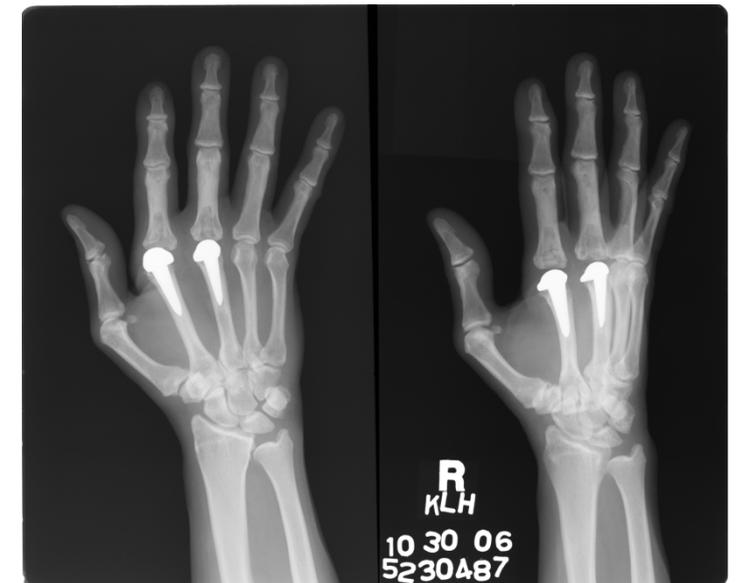


Figure 3. Post-operative images of Surface Replacing Arthroplasty of digits 2 and 3 for inflammatory arthritis