The incidence of postoperative trigger digits was highest in the first six months (incidence rate: 27.9/1,000 person-years, aHR: 9.65, 95% CI: 5.27 - 17.7) and then significantly decreased over time.

CONCLUSION: CTR was significantly associated with the subsequent development of trigger digits, especially in the first postoperative six months.

DISCLOSURE/FINANCIAL SUPPORT: None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.

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Development and Field-Testing of an Alternative Low-Cost Hand Splint for Burn Contracture

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INTRODUCTION: Burn scar contractures remain a common source of disability in low- and middle-income countries and often require complex reconstructive operations to restore function to the patient.1 Despite the high prevalence of burn scar contractures and subsequent release procedures, patients often face tremendous barriers to adequate physical therapy and follow-up care, which results in relapse of the contracture following a release.2,3 Static progressive splinting mechanisms are well-described for this indication4, but these splints are cost-prohibitive or unavailable to patients in low- and middle-income countries. To that end, we describe our work to develop and test an alternative low-cost static progressive hand splint designed to prevent flexion re-contracture in burn scar contracture release patients.

METHODS: The splint was created through an iterative design-and-test process through collaboration with Stanford School of Medicine in the US, Kirtipur Hospital in Nepal, and Scheer Memorial Hospital in Nepal. Splints were given
to Nepali patients who underwent burn scar contracture release of the palmar hand and would not be able to return to the hospital for long-term physical therapy after their surgery. Patients were instructed to wear the splint at night for six months and to progressively extend the splint’s ratchet mechanism as tolerated. Patients were assessed for range of motion and hand function pre-operatively, one week post-operatively, and three months post-operatively.

**RESULTS:** The initial prototype underwent multiple rounds of iterative design and feedback from patients for comfort, fit, and durability. Patients demonstrated good compliance with the splinting regimen and expressed satisfaction with the fit and durability of the device. Preliminary follow-up suggests that patients using the splint maintain post-operative range of motion without additional re-contracture.

**CONCLUSION:** We have created a hand splint to prevent flexion re-contracture following burn scar contracture release of the hand. Ongoing work includes six-month follow-up to ensure maintenance of improved range of motion and testing in other indications including Dupuytren’s contracture and stroke.

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**A Viable Alternative to Wrist Fusion: The Motec Arthroplasty**

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**BACKGROUND:** The Motec cementless modular metal-on-metal ball-and-socket wrist arthroplasty is an implant with promising intermediate results. An alternative to primary wrist fusion, total wrist arthroplasty is an option for active patients, who wish to retain their wrist function. It is indicated in cases of degenerative osteoarthritis, post-traumatic arthritis and rheumatoid (inflammatory) arthritis.

**METHODS:** Retrospective case note review of patient demographics, pre and post-operative Disabilities of the Arm Shoulder and Hand (DASH), MAYO scores, range of movement and grip strength, complications and follow-up duration. All complications in follow up were recorded across the 5 year period.

**RESULTS:** 24 implants on 22 patients over 5 years, mean age 58; 8 females and 14 male. Indications were SNAC, SLAC, inflammatory and generalized osteoarthritis. The patients showed large improvements of MAYO and DASH scores post-operatively, alongside increased in range of movement. There was just one case of implant loosening—the radial screw after a wound infection, which was revised with a longer screw. Two implants were converted to Motec fusion due to pain. One implant was dislocated and relocated. Only 6 patients were unable to return to work.

**CONCLUSION:** Similar to results of Reigstad et al, this series shows the Motec implant to be a good motion preserving alternative to total wrist fusion.

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**First Report of Bilateral Hand Allotransplantation in a Pediatric Patient**

**David Colen, MD; Lin Lin Gao, MD; Benjamin Chang, MD; L. Scott Levin, MD**

**INTRODUCTION:** In addition to restoration of function, pediatric amputees have much to gain from hand transplantation. These patients may enjoy improved psychological and social development and prove to be better substrates for transplantation compared to their adult counterparts. However, the risks of life-long immunosuppression may outweigh the benefits of transplantation. We report the first bilateral pediatric hand transplant at level of mid-forearm in a patient who is on immunosuppression for his kidney transplant.