

## CLINICAL AND FUNCTIONAL OUTCOMES FOLLOWING TOTAL ARTHROPLASTY OF THE THUMB CARPOMETACARPAL JOINT USING THE TOUCH IMPLANT

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**Introduction:** Thumb carpometacarpal joint (CMCJ) osteoarthritis is a common debilitating condition. With thumb accounts for 60 percent of hand movement and experiences up to 13 times forces transmitted from the tip of the thumb making it susceptible to osteoarthritis. Thumb pain has significant impacts on individuals daily functions. Total arthroplasty of the thumb CMCJ using the TOUCH implant was done for the patients to evaluate the outcomes in the aspect of pain, thumb motion and strength.

**Methodology:** An investigation was carried out to manually extract the medical record of the 28 thumbs of 26 patients (age 43 to 66) who received the TOUCH implant between September 2018 to December 2020 to evaluate on the following: Visual Analogue Scale (VAS) for pain, Kapandji score for thumb range of motion, Jamar Pinch Gauge for pinch strength, Jamar Hydraulic Hand Dynamometer for grip strength and Quick Disabilities of the Arm, Shoulder and Hand (QuickDASH) to evaluate upper extremities disabilities.

**Results:** An average pre- and immediate post-operative VAS were 7/10 and 4/10, respectively, with an average of pain-free thumb on day 31 post-operatively. Full Kapandji score of 10/10 was achieved on day 24 post-operatively. The mean lateral pinch strength improved 93 percent 4 weeks post-operatively from 6kgf pre-operatively to 5.6kgf. The mean grip strength improved 83 percent 4 weeks post-operatively from 24.9kgf pre-operatively to 20.9kgf. The average score for QuickDASH was 41 pre-operatively and 11 on discharge, from "having alot of difficulty" to "no longer consider their upper-limb disorder a problem".

**Conclusion:** Patients reported satisfaction with excellent pain relief and good functional outcomes following the TOUCH implant total arthroplasty, enabling them to return to daily activities sooner post surgery which significantly improves their quality of life.