

## GENERAL ORTHOPAEDICS

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# CAN THE SUBVASTUS APPROACH FOR TOTAL KNEE ARTHROPLASTY HELP IN ACHIEVING HIGH FLEXION IN HIGHFLEX KNEES? RESULTS OF 242 CASES AT FOUR YEARS

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## Abstract

### Objective

To evaluate the clinical and functional outcomes obtained by combination of high-flexion Freedom® Total Knee System (TKS) and mini-subvastus approach in total knee replacement patients.

### Method

This is a retrospective, observational, real world study conducted at Mumbai in India from 2011 to 2016. All patients who were above the age of 18 and operated for total knee replacement (TKR) with mini-subvastus approach using Freedom (Maxx Medical) by the

senior author were included. The Implant survivorship was the survey endpoint; primary endpoint was range of motion (ROM); and secondary endpoints were AKSS (American Knee Society Score) and WOMAC (Western Ontario and McMaster Universities Osteoarthritis) scores collected pre- and post-operatively.

## Results

184 patients with 242 knees (126 unilateral and 58 bilateral) were operated with high-flexion TKS. Average age of patients was  $70 \pm 6.2$  years. The mean ROM increased from  $99.4^\circ \pm 10.44^\circ$  ( $50^\circ$ - $120^\circ$ ) preoperatively to  $116.78^\circ \pm 8.18^\circ$  ( $88^\circ$ - $140^\circ$ ) postoperatively ( $p < 0.001$ ). Clinical and functional AKSS scores improved from  $60.83 \pm 5.12$  to  $91.16 \pm 2.19$  ( $p < 0.001$ ) and  $65.35 \pm 3.52$  to  $99.13 \pm 4.61$  ( $p < 0.001$ ) respectively. There average WOMAC pain scores improved from  $12.12 \pm 1.72$  to  $0.066 \pm 0.37$  ( $< 0.0001$ ). Moreover, post-operative WOMAC stiffness and function scores depicted significant improvement from  $4.43 \pm 0.97$  to  $0.03 \pm 0.26$  ( $p < 0.0001$ ) and  $0.03 \pm 0.26$  to  $0.18 \pm 1.21$  ( $p < 0.0001$ ) respectively at a mean follow-up of  $3.71 \pm 0.98$  years. Implant survivorship was 100%.

## Conclusion

High-flexion Freedom® TKS demonstrated a satisfactory clinical and functional improvements including high flexion when operated by the mini-subvastus approach at a mean FU of 4 years.

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