

## **Factors related to long-term patient satisfaction and survivorship of the medial opening wedge high tibial osteotomy**

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### **INTRODUCTION:**

Information on long-term outcome, particularly survivorship and factors related to patient satisfaction, after medial opening wedge high tibial osteotomy (MOWHTO) is still lacking. This study aimed to evaluate long-term survivorship and patient satisfaction of MOWHTO with an average of 10-year follow-up.

### **METHODS:**

We retrospectively reviewed 88 knees of 72 patients who underwent MOWHTO performed by a single surgeon between 2005 and 2016 with a minimum of 5-year follow-up. We assessed level of patient satisfaction using a 5-point Likert-type scale at the final follow-up. We evaluated patient demographics, clinical information, and 27 pre- and postoperative radiographic parameters potentially related to long-term outcomes.

We performed Kaplan–Meier survival analysis with the end point of the need for conversion to a knee arthroplasty. In terms of patient satisfaction, we divided the patients into two groups (completely satisfied vs. very, moderately, slightly and not at all satisfied) for the analysis. We then performed multivariate logistic regression analysis to determine the association between demographics, clinical information, radiographic parameters, and long-term outcomes.

### **RESULTS:**

Among the 88 knees, four patients (five knees) died due to reasons unrelated to the osteotomy, and four knees required conversion to total knee arthroplasty. Overall survival rates were 98% and 94% at 5 and 10 postoperative years, respectively, and the mean survival time was 167.6 months (95% confidence interval [CI], 162.49–172.83). There was no significant difference between plate types (Puddu plate vs. locking plate) in terms of survivorship.

Among the 83 knees available for evaluation of patient satisfaction, 65.1% (54 knees) reported a completely satisfactory level. Multiple logistic regression analysis revealed that non-smoking (odds ratio [OR], 6.11), higher BMI (OR, 1.443), better preoperative further flexion (OR, 1.153), smaller preoperative lateral distal femoral angles (LDFA; OR, 0.696), and reduced postoperative coronal tibiofemoral (CTF) subluxation (OR, 0.644) were significant factors related to complete patient satisfaction ( $p < 0.05$ ).

**DISCUSSION AND CONCLUSION:** MOWHTO provides excellent long-term survival regardless of implant type. Smoking, body mass index, preoperative further flexion, preoperative LDFA, and the amount of postoperative CTF subluxation were independent factors related to patients' subjective satisfaction at long-term follow-up after MOWHTO.