

## Introduction

Medial opening-wedge high tibial osteotomy (MOWHTO) is an effective treatment for addressing medial osteoarthritis and varus malalignment of the knee, boasting survival rates ranging from approximately 84.0% to 97.1% at 5 and 10 years postoperatively. Traditionally, total knee arthroplasty (TKA) has been favoured for older patients, while HTO was predominantly reserved for younger cohorts. This study evaluates the clinical and radiological outcomes of MOWHTO in patients older than 60 years, challenging the notion that advanced age is a contraindication for HTO and proposing that age alone should not deter consideration of MOWHTO, especially with a rapid rehabilitation approach.

## Materials & Methods

This single-centre consecutive case series study reviewed patients undergoing HTO surgery from April 2016, to June 2022. Patient Reported Outcome Measures (PROMs) (NRS, Knee Injury and Osteoarthritis Outcome Score-Physical function short form (KOOS-PS), UCLA activity score) were used to track functional outcomes. Radiological assessments (Kellgren-Lawrence, mechanical femorotibial angle (mFTA), postoperative weight bearing line (WBL), medial proximal tibial angle (MPTA), lateral distal femoral angle (LDFA), joint line congruency angle (JLCA) and joint line obliquity (JLO)) were performed on full leg standing radiographs preoperatively and at 3 months postoperatively. Standardized surgical techniques were employed with the goal of achieving a postoperative weight-bearing line alignment through the lateral tibial spine. A fast-rehabilitation protocol was uniformly implemented for all patients.

## Results

The study enrolled 104 patients aged 35 to 75 years, with 24 patients over 60 years old. There were no significant differences in preoperative and postoperative radiographic measurements between the two age groups. While the median preoperative Kellgren-Lawrence score indicated baseline degeneration variance between younger and older patients, there were no notable differences in outcomes such as Takeuchi fractures occurrence or other complications. Patient-reported outcomes showed significant improvements in both age groups from baseline to 24 months postoperatively in KOOS-PS, NRS rest, NRS activity, and UCLA scores, with no significant differences between the age groups at any time point.

## Discussion

This study highlights that MOWHTO is a viable treatment for patients over 60 years, with outcomes comparable to younger cohorts. Significant improvements in functional and pain scores were observed across both age groups, challenging the traditional age constraints in HTO surgery. The findings support the reconsideration of age in surgical decision-making for medial compartment knee osteoarthritis. However, recognizing the retrospective nature and sample size as constraints, further investigations are warranted to validate these results and delve into the enduring efficacy of HTO among diverse age groups.