

# Is mild lateral osteoarthritis a contraindication for high tibial osteotomy?

*Dries Van Leemput, Nathalie Van Beek, Jens Vanlommel, Steven Claes (AZ Herentals) 2023*

## INTRODUCTION

High tibial osteotomy (HTO) is a dependable treatment for isolated medial gonarthrosis in painful knees with varus deformity, relieving pain by redistributing knee load. Consequently, lateral compartment osteoarthritis (OA) has conventionally been deemed a contraindication. However, the recent ESSKA consensus statement has challenged this notion by suggesting that mild lateral OA may not be an absolute contraindication. Nevertheless, the evidence supporting this stance remains limited. A retrospective study was undertaken to determine the safety and efficacy of HTO in the presence of mild lateral OA, potentially reshaping treatment paradigms for this subset of patients.

## METHODS

We conducted a single center retrospective observational study on 133 patients undergoing a HTO between 2017 and 2020 in AZ Herentals. Patients were eligible if they completed a preoperative and 2-year postoperative questionnaire, and if they underwent MRI or SPECT-CT imaging before surgery. Patient reported outcomes questionnaires included the 'Knee injury and osteoarthritis outcome score' (KOOS-PS) and the 'numeric rating scale' (NRS) for pain preoperatively, 1/2/3/6 weeks, 3/6 months, ½ years postoperative. KOOS and NRS ratings were compared between patients with different degrees of lateral OA. Lateral osteoarthritis (OA) severity was assessed via various methods: plain radiographs were scored using the 'Kellgren-Lawrence' system, MRI utilized a modified version of the 'MRI Osteoarthritis knee score' (MOAKS) focusing on bone marrow lesions (BML), osteophytes, and cartilage loss, while SPECT-CT visually evaluated bone uptake in the lateral compartment.

## RESULTS

Our study comprised of 133 patients (95 men, 38 women; mean age:  $56 \pm 8.68$  years), with left knee surgeries performed in 70 patients. Complications included two patients requiring conversion to TKA due to persistent medial compartment pain, while three experienced postoperative DVT and two faced superficial wound infections. MRI findings revealed significant improvements in pain and KOOS scores across different grades of lateral compartment BML, cartilage defects, and osteophytes. SPECT-CT similarly demonstrated pain and KOOS scores improvement regardless of bone uptake grades. Radiographic analysis indicated substantial pain and KOOS ameliorations in patients with lateral arthrosis across various K&L grades. Notably, patients with severe lateral arthrosis (group 2) exhibited significantly superior KOOS scores at 1 and 2 years postoperatively compared to those with mild arthrosis (group 1).

## DISCUSSION

Our study highlights significant improvement in patients with mild lateral compartment gonarthrosis following HTO. Notably, no significant differences in pain or function were observed between patients with no lateral gonarthrosis and those with mild lateral gonarthrosis at 6 months, 1 year, or 2 years post HTO. Therefore, we do not consider mild asymptomatic lateral gonarthrosis as a contraindication for HTO. Nonetheless, studies with longer follow-up periods are imperative to draw definitive conclusions on the long-term outcomes. These findings

underscore the effectiveness of HTO in managing medial gonarthrosis, even in cases with concurrent lateral compartment pathology.