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Medial Opening Wedge High Tibial Osteotomy: A Retrospective Review Of Patient Outcomes Over 10 Years

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Objectives: High tibial osteotomy (HTO) has become a well-established treatment for unicompartmental osteoarthritis of the knee. Over the last 30 years, various techniques have been introduced to advance this procedure. The purpose of this study is to review the outcomes of patients who received medial opening wedge HTO over the last ten years (2002-2012) using a modern, low profile, medially based fixation device. In addition, we sought to determine if obese patients had a less favorable outcome than their non-obese counterparts.

Methods: Ninety-three patients were identified from a surgical database as having undergone a HTO for medial compartment osteoarthritis of the knee with varus mal-alignment. All procedures were performed by one of two fellowship trained orthopedic surgeons from 2002-2012 utilizing a low profile fixation device and identical surgical technique. Minimum follow-up was one year for inclusion in the study. Outcomes were measured using Lysholm and WOMAC scores. Radiographs were evaluated to determine delayed union or non-union at the osteotomy site and surveillance was undertaken to evaluate post operative complications.

Results: 93 patients were identified from the database, 63 (70%) were available for follow-up and are included in this analysis. Average follow-up time was 48 months (range 17 to 137). There were 44 males and 19 females. The average age was 45 years old. The average final Lysholm and WOMAC scores were 66.4 (range: 13-100) and 18.6 (range: 0-86) respectively. There was no significant difference in reported Lysholm or WOMAC scores between obese (BMI >30) and non-obese patients ($p=.31$; $p=.69$).

Complications were as follows: 3 patients required a surgical lysis of adhesions, 2 patients developed an infection, and 1 patient experienced a delayed union. At final follow-up, 18 patients received additional treatment on the affected knee: 11 required removal of symptomatic hardware, 5 received viscosupplementation, 2 underwent a total knee replacement.

Conclusion: Low profile, medial based devices used in the setting of HTO is an accepted treatment for unicompartmental osteoarthritis of the knee. At final follow-up, a majority of patients reported positive outcomes and few complications. 18 patients required additional treatment for osteoarthritis. In our analysis, obese patients fared equally as well as their non-obese counterparts, with no significant difference in outcomes scores or complication rate. Survivorship of high tibial osteotomy was excellent in this series, with only 2 patients having undergone total knee replacement at last follow-up.

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