

Outcome of High Tibial Osteotomy for Medial Compartment Osteoarthritis of the Knee: A minimum 5 year follow-up.

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PURPOSE

The aim of this study was to evaluate the medium term outcome of high tibial osteotomy for medial compartment osteoarthritis of the knee.

TYPE OF STUDY

Prospective case series with minimum 5 year clinical and radiological follow-up evaluation.

METHODS:

101 patients undergoing lateral closing-wedge high tibial osteotomy, by a single surgeon, were prospectively followed for a minimum of 5 years. The average age at the time of surgery was 50 years (26-69). The mean BMI was 28.5. Subjects were assessed with the International Knee Society Score, Knee Injury and Osteoarthritis Outcome Score (KOOS), Tegner activity score, the British Orthopaedic Association Patient Satisfaction Scale and full-length lower extremity weight-bearing radiographs.

RESULTS:

At a minimum of 5 years following surgery, 9 patients had proceeded to joint replacement surgery (9%). Of the remaining 92 patients, 91 (99%) were assessed at 5 years.

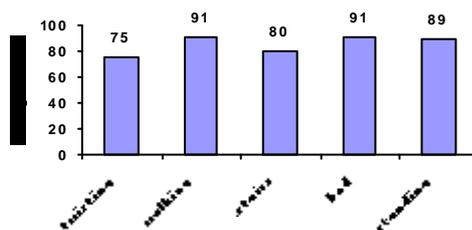
At 5 years after surgery 95% of subjects were satisfied or enthusiastic with the result of their surgery, and 93% would undergo the surgery again if in the same situation.

The mean Knee Society score improved from 141 preoperatively to 176 at 5 years ($p < 0.001$). The KOOS ADL score improved from 67 preoperatively to 87 at 5 years ($p < 0.001$).

Patients who proceeded to joint replacement surgery had a significantly higher body mass index ($p = 0.006$), lower KOOS ADL score ($p = 0.001$), and lower Knee Society score preoperatively ($p = 0.001$). There was no correlation between preoperative biomechanical axis of the lower limb and KOOS scores at 5 years.

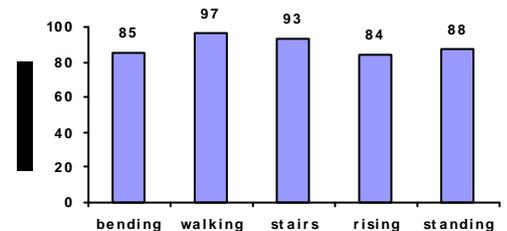
The incidence of failure within 5 years was 27% in patients reporting severe pain with walking preoperatively compared to 7% with mild to moderate pain with walking ($p = 0.01$).

Figure 1: Percentage of patients reporting no or mild pain with various activities at 5 years



No of patients	92
Patient satisfaction	
Enthusiastic or satisfied (%)	95
Undergo same surgery again (%)	93
Knee Society score	
Mean /200	176
KOOS score	
Mean pain score /100	82
Mean symptoms score /100	76
Mean activities of daily living /100	87
Range of Motion	
Flexion mean	0
Extension mean	128

Figure 2: Percentage of patients reporting no or mild difficulty with various activities at 5 years



CONCLUSION:

High tibial osteotomy for treatment of osteoarthritis of the middle aged patient is steadily increasing in popularity. In this prospective study HTO yielded excellent results in selected patients over the medium term. Higher rates of failure are seen in those with high body mass index, and severe pain preoperatively with weight-bearing.