

**SURGICAL TREATMENT OF HALLUX VALGUS WITH NEW THREEDIMENSIONAL METHOD****I Lucijanic - G Bicanic - T Cicvara Pecina - M Mirkovic - Marko Pecina***General Hospital Karlovac, Clinical Hospital Center Zagreb, Croatia - Clinical Hospital Dubrava, Outpatients Orthopaedics Clinic Kinematika, School of Medicine University of Zagreb, Croatia***PURPOSE:**

The aim of this study is to present operative technique and results of treatment for new threedimensional method for hallux valgus correction.

**MATERIALS AND METHODS:**

The first author of this presentation modified the original Mitchell's method to address pronation and plantar displacement of the first metatarsal. Modifications includes formation of lateral and plantar spur with metatarsal displacement and derotation of distal metatarsal fragment in the frontal and horizontal planes with stable screw fixation. The technique described eliminated many of the disadvantage of Mitchell's osteotomy.

In this study the authors present midterm results of the 100 patients operated on with this new threedimensional method. The patients involved in this study were treated from November 2001 to May 2008. in Department of Orthopaedic Surgery, General Hospital Karlovac, Croatia. Clinical and radiological evaluation was performed with a mean follow up of 4.58 years. Average patient age at the time of surgical treatment was 45.8 years.

**RESULTS:**

The mean American Orthopaedic Foot and Ankle Society score, based on pain appearance, and function of the feet, improved from 48.56 preoperatively to 92.34 points postoperatively. Median convalescence and return to work was 7.7 weeks. The result was excellent or good in 93 %, fair in 6% and poor in 1% of the feet. The mean hallux valgus angle was 29.7 degrees preoperatively and 9.3 degrees postoperatively ( mean correction, 20.4 degrees) and the mean intermetatarsal angle was 12.5 degrees preoperatively and 5.2 degrees postoperatively ( mean correction, 7.3 degrees). The first metatarsal declination angle was increased mean 5.3 degrees (from 22.9 to 28.2 degrees). The first metatarsal distal articular surface angle was reduced. The first metatarsophalangeal joint congruence and tibial sesamoid position were corrected.

**CONCLUSIONS:**

Successful outcome and low complication rate of this study confirmed that three dimensional method is a very useful surgical technique for correction of moderate to sever hallux valgus deformity. The authors believe that the 3-D method will be useful for orthopaedic surgeons who are willing to take into account all components of hallux valgus - shortening and pronation of the first metatarsal, plantar displacement of the distal fragment, and necessity of distal metatarsal articular angle correction-and for those who are searching to decrease postoperative complications and long-term failures.