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# QUALITATIVE ASSESSMENT OF MECHANICAL FIXATION OF METATARSAL AFTER THE CHEVRON CORRECTIVE OSTEOTOMY IN HALLUX VALGUS

Hallux valgus is one of the most widespread diseases, which is still not clearly understood. Complications and recurrences occurring in the surgical treatment of *hallux valgus* call for a deeper insight into the postoperative state of tissues of the instep bone as a mechanical system. To resolve a problem, a geometric model of the first metatarsal has been built using the computer coronarography data. A number of finite-elements models have been built for the qualitative assessment of fixation of fragments of the first metatarsal after the chevron corrective osteotomy. The results obtained demonstrated the possibility of assessing based on the analysis of the maximal displacements of the head of the first metatarsal. They are validated by a medical post-surgical control of patients.

***Keywords:*** *metatarsal, Hallux Valgus, chevron osteotomy, bone tissue, stressed-strained state.*

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