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Flexible versus rigid orthosis in postoperative Hallux valgus rehabilitation

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Introduction: Operative correction of Hallux Valgus deformity is one of the most frequent performed orthopaedic procedures, but little information is found in literature concerning the postoperative management. At our clinic treatment after surgical correction of bunions with a retention brace is considered to be of great importance. We compared a flexible versus a rigid orthosis in our study.

Material and methods: Between 12/08 and 07/09 26 patients (30 feet) with symptomatic hallux valgus deformity were treated with soft tissue release and osteotomy of the first metatarsus. We performed a prospective randomized study. Postoperatively patients were randomized in two groups. Group A (n = 16) was treated with the rigid orthosis (Uriel®) and a stiff shoe. The patients of group B (n = 14) received a flexible orthosis (Hallufix®) which allowed dorsoplantar movement of the first tarsometatarsal joint. Clinical and radiological follow-up was performed at six weeks, three and six months. Clinical outcome was assessed by the AOFAS clinical rating system and the VAS.

Results: Preoperatively both groups were comparable in demographic data (age (42 ± 15 vs. 45 ± 15), AOFAS and degree of the Hallux valgus deformity. Overall the postoperative AOFAS score showed a significant improvement in both groups during the study period (group A: 62 ± 18 vs. 88 ± 13 ; $p = 0.003$ / group B: 55 ± 11 vs. 87 ± 12 ; $p = 0.002$). However at 6 weeks follow up the group with the flexible splint showed a better active range of motion ($27^\circ \pm 19$ group A vs. $35^\circ \pm 24$ group B). At six months postoperatively this difference was levelled out ($53^\circ \pm 20$ group A vs. $52^\circ \pm 13$ group B). No significant difference in loss of correction was observed radiologically. A deep wound infection occurred in one patient in group B.

Conclusion: Within the first six weeks of rehabilitation after a surgically corrected Hallux valgus deformity the flexible orthosis (Hallufix®) seems to be in favour regarding active range of motion. We concluded that the flexible orthosis (Hallufix®) is a safe and promising option in postoperative treatment of a surgically corrected Hallux valgus deformity.