Outcomes after Lengthening Calcaneal Osteotomy for Flexible Flatfoot Deformity– Evans versus Hintermann Osteotomy

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Introduction/Purpose: Evans and Hintermann calcaneal osteotomies are commonly used to correct flexible pes planovalgus deformity. Both methods are well accepted with good clinical results. The aim of this study was to compare the outcomes after Evans or Hintermann osteotomy.

Methods: We retrospectively examined 49 patients who were operated for the treatment of flexible flatfoot deformity between October 2007 and March 2014. Sixteen Evans and 33 Hintermann osteotomies were performed. The data was collected using clinical and radiological examination as well as clinical scores (FAOS, SF-36) during regular follow-up. A paired t-test was used for statistical analysis. A one-way anova with the Holm-Sidak’s multiple comparisons test was used to compare non-parametric data.

Results: The mean age was 39.6 ± 18.69 years in the Hintermann (H) group and 32.8 ± 17.86 years in the Evans (E) group. The mean follow up was 67.67 ± 20.57 months in the E- and 39.71 ± 12.77 months in the H-group. In both groups FAOS and SF-36 improved significantly (p<0.05). The hindfoot alignment improved significantly in both groups (p<0.05). The mean time to return to work and sports was 14.25 ± 8.92 and 19.0 ± 18.62 weeks in the E-group, 19.36 ± 16.71 and 28.25 ± 20.07 weeks in the H-group. Seven patients of each group needed an implant removal; one patient underwent an arthrodesis of the subtalar joint in the E-group. There were no significant differences between the outcomes of both groups.

Conclusion: Both surgical techniques lead to good correction of the flatfoot deformity and show a significant improvement of the clinical outcome scores. Neither of these two surgical techniques can be identified as being superior.

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