

## Reverdin-Isham modified vs MICA for moderate hallux valgus: A comparative study

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**Introduction:** Minimally invasive surgery has emerged as a promising alternative in the treatment of hallux valgus (HV); however, the literature lacks direct comparisons between percutaneous techniques. The purpose of this study is to compare the clinical, functional, and radiographic outcomes of the Modified Reverdin-Isham (RImod) and minimally invasive Chevron-Akin (MICA) techniques in the treatment of moderate VH.

**Methods:** Retrospective comparative study of 81 feet (38 MICA, 43 RImod) with moderate hallux valgus ( $\text{IMA} \leq 18^\circ$ ,  $\text{HVA} \leq 40^\circ$ ). Pre- and postoperative evaluations (6 months) included the AOFAS score, intermetatarsal angles (IMA) and hallux valgus angle (HVA), and fibular sesamoid subluxation. Statistical analysis used Student's t-test and Wilcoxon's t-test, with adjustment for bilateral testing.

**Results:** Both groups demonstrated significant improvement ( $p < 0.001$ ) in AOFAS (MICA:  $37.9 \pm 12.6 \rightarrow 90.95 \pm 8.1$ ; RImod:  $40.47 \pm 13.1 \rightarrow 93.4 \pm 6.5$ ), IMA (MICA:  $14.9 \pm 2.1^\circ \rightarrow 10.0 \pm 3.0^\circ$ ; RImod:  $14.4 \pm 2.1^\circ \rightarrow 10.0 \pm 2.8^\circ$ ), HVA (MICA:  $31.3 \pm 6.1^\circ \rightarrow 11.8 \pm 5.7^\circ$ ; RImod:  $29.0 \pm 5.8^\circ \rightarrow 11.0 \pm 4.4^\circ$ ) and fibular sesamoid recentralization (MICA: 89%  $\rightarrow$  53%; RImod: 82%  $\rightarrow$  51%). There was no statistically significant difference between the techniques for functional gain ( $p = 0.98$ ), IMA correction ( $p = 0.43$ ), HVA ( $p = 0.30$ ), or sesamoid recentralization ( $p = 0.41$ ). The complication rate was 21.1% for MICA and 9.3% for RImod ( $p = 0.149$ ), with a distinct profile: MICA was associated with implant complications and recurrence, while RImod was associated with nerve injury and malunion.

**Conclusion:** RImod and MICA are effective for the correction of moderate hallux valgus, with comparable clinical and radiographic results. MICA allows greater angular correction of the IMA but carries a risk of complications related to the synthesis material; RImod eliminates this risk and has a lower complication rate. The surgical decision must be individualized.

**Keywords:** Hálux valgus; Minimally invasive surgical procedures; Osteotomy.

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