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PIBIC Last Name - Miranda First Name - Danielle Middle - B

Service (sector) Refractive Surgery N° CEP

**FLAP THICKNESS RATE AND REPRODUCIBILITY OF THE B&L HANSATOME, MORIA CB, MORIA M2 AND ALCON SKBM MICROKERATOMES**

Miranda D, Smith, S, Krueger, R.

ABSTRACT

**Purpose:** To compare flap thickness and the reproducibility of four different types of microkeratomes during laser in situ keratomileusis (LASIK).

**Methods:** A series of 490 consecutive eyes underwent LASIK and were evaluated for the depth of flaps measured via subtractive pachymetry. All flaps were created using the B&L Hansatome 180 head, the Moria CB 130 head, the Moria M2 110 head or the Alcon SKBM 160 head. **Results:** The flap thickness measurement differed according to the microkeratome used, and was  $131 \pm 27.84$ mm in 42 eyes (8.57%) with the B&L Hansatome 180 head;  $157 \pm 40.0$ mm in 65 eyes (13.26 %) with the Moria CB 130 head;  $134 \pm 23.45$ mm in 256 eyes (52.24%) with Moria M2 110 head; and  $162 \pm 21.17$ mm in 127 eyes (25.91%) with the Alcon SKBM 160 head. The flap thickness with the SKBM and Moria M2 was statistically significantly more reproducible than with Moria CB ( $p < 0.0005$ ). There was no correlation between flap thickness reproducibility and the age, corneal thickness, and corneal keratometric values. However, considering all the microkeratomes, female gender had statistically significantly more variability than male gender ( $p < 0.02$ ). **Conclusion:** Based on these results, the greatest predictability of flap thickness was seen with the SKBM and Moria M2, which both use a second motor for advancement. The greatest variability noted with the Moria CB was probably due to the manual translation feature and places further importance on the second motor and automation.