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EVALUATION OF ANTERIOR CHAMBER DEPTH MEASUREMENT METHODS IN PHAKIC EYES

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BACKGROUND: The exact measurement of the anterior chamber depth (ACD) is of major importance for determining the actual position of the lens.The assessment of accommodation-induced configuration changes of the phakic eye and with potentially accommodative intraocular lenses (IOL) based on the axial shift principle. Various devices which allow to measure the ACD have been developed and the ability of them has been evaluated according to the technique used. **PURPOSE:** To evaluate the variability in ACD measurements from the gold standard method (dependent operator) and two alternative methods (non-dependent operator). **METHODS:** A prospective study was carried out on the 27 volunteers (53 healthy eyes) aged between 18 to 26 years old. The ACD was obtained by three methods (Pentacam [Oculus, Germany], IOLMaster [Zeiss, Germany] and OcuScan RxP [Alcon, USA]). These tests were carried out by trained ophthalmic technologists for each device. **RESULTS:** The means obtained were by IOLMaster (3.66mm±0.30), Pentacam (3.22mm±030) and OcuScan RxP (3.67mm±0.27). The intraclass coefficients were r=0.28 (IOLMasterXPentacam), r=0.93 (IOLMasterXOcuScan RxP) and r=0.18 (PentacamXOcuScan RxP). **CONCLUSIONS:** The method dependent operator provided highly accurate ACD measurements and showed a strong correlation with one of the alternative methods according to the definition which is established to this condition where the corneal tickness was a decisive factor.