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1: [Ophthalmic Physiol Opt.](#) 2005 Sep;25(5):436-40.

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**Comparison of the ICare rebound tonometer with the Goldmann tonometer in a normal population.**

**Fernandes P, Diaz-Rey JA, Queiros A, Gonzalez-Meijome JM, Jorge J.**

Department of Physics (Optometry), School of Sciences, University of Minho, Braga, Portugal.  
pfernandes@fisica.uminho.pt

The aim of this study was to evaluate the accuracy of measurement of intraocular pressure (IOP) using a new induction/impact rebound tonometer (ICare) in comparison with the Goldmann applanation tonometer (AT). The left eyes of 46 university students were assessed with the two tonometers, with induction tonometry being performed first. The ICare was handled by an optometrist and the Goldmann tonometer by an ophthalmologist. In this study, statistically significant differences were found when comparing the ICare rebound tonometer with applanation tonometry (AT) ( $p < 0.05$ ). The mean difference between the two tonometers was  $1.34 \pm 2.03$  mmHg (mean  $\pm$  S.D.) and the 95% limits of agreement were  $\pm 3.98$  mmHg. A frequency distribution of the differences demonstrated that in more than 80% of cases the IOP readings differed by  $< 3$  mmHg between the ICare and the AT. In the present population the ICare overestimates the IOP value by 1.34 mmHg on average when compared with Goldmann tonometer. Nevertheless, the ICare tonometer may be helpful as a screening tool when Goldmann applanation tonometry is not applicable or not recommended, as it is able to estimate IOP within a range of  $\pm 3.00$  mmHg in more than 80% of the population.

PMID: 16101950 [PubMed - indexed for MEDLINE]

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