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REPEATABILITY AND INTER-EXAMINER RELIABILITY OF NON-CORNEAL *TRANSPALPEBRAL SCLERAL TONOMETRY* USING DIATON

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The present study is concerned with the reproducibility and inter-examiner reliability of intraocular pressure measurement with Diaton tonometer as well as with the possibility to use the procedure while outpatient management. The NON-corneal trans-palpebral Diaton tonometry is indicated for corneal diseases (ulcers, keratitis, keratoconus) and postoperative conditions of the cornea. The handy, small "Diaton" tonometer is also used in bed rest patients. Results of Diaton tonometer measurements: [Median (1st quartile - 3rd quartile)]. For the tree examiner difference was not significant ($p = 0.645$, Kendall's W-test, power> 0.8). The inter- examiner variability coefficient was 7% (4% -9%). The intra-class correlation coefficient and associated 95% confidence interval were 0.935 (0.871-0.971) ($p < 0.001$). Moreover, for separately considered GAT control group no significant differences in Diaton tonometer measurement results was found: GAT values: 15.5 (14.0-17.0) mmHg. Diaton values - Examiner 1: 16.0 (15.0-19.0) mmHg; Examiner 2: 16.0 (14.8-19.3) mmHg; Examiner 3: 16.5 (13.0-19.0) mmHg ($p = 0.530$, Kendall's W-test, power> 0.8 Our results showed that NON-corneal Diaton tonometry is a reliable method of intraocular pressure measurement, which is not depended from the biomechanical parameters of the cornea. In particular, Diaton tonometer allows determine IOP pressure values in patients who have contraindications to standard tonometry methods (eg, ulcer). For correct Diaton tonometer handling participation in a special user course is recommended. It goes without saying that examiners must familiarize themselves with the measurement procedure: a learning phase is also

BIOGRAPHY

Margarita Rozhdestvenskaya has an expertise in regulatory strategies, medical device registration standards, quality management system compliance and in-country regulatory representation. From 2013 she is a director of the Tonom GmbH that is the European Authorized Representative for Diaton technology. Tonom GmbH fulfills the obligations of the Medical Device Directive MDD 93/42/EEC and acts as legal entity towards the European authorities as well as providing additional services regarding the technical information of the medical devices within the European Community. Her expertise and proficiency as well as interest to science, innovation and a culture of operational excellence contribute to offer technology, services and support in order to improve the quality of people's lives.

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