

IOP, CCT and Refractive Surgery

C. Feinbaum

Vision4You, Lund, Sweden

Background: To propose consensus working recommendations for the role of central corneal thickness in the management of IOP and Refractive Surgery. Goldmann Applanation Tonometry is likely to underestimate the IOP with thin corneas and overestimate the IOP on eyes with thick, more rigid corneas.

Setting: Vision4You, Lund, Sweden

Methods: This work is based on evidence from a review of the glaucoma literature, and personal clinical experience. Evidence in the literature continues to mount leading experts to question whether the Goldmann tonometer is sensitive and specific enough to be used for the critical purpose of measuring IOP in the diagnosis and management of Glaucoma. Refractive surgery, perhaps more than anything else, has exposed how seriously the Goldmann Tonometer is compromised by corneal properties.

Discussion and Results: From measurements on IOP comparing unaenesthized and aenesthezied eyes it is quite evident that IOP measurements will be lower in the aenesthezied eye compared to the unaesthezied eye by as much as 2 to 5mm of Hg. Further, taking into account the Central Corneal Thickness (CCT), the IOP measurement will be even more faulty since a thin cornea i.e. after myopic refractive surgery, will show to low a reading and the corneal thickness must be taken into account.

Conclusions: 1. Always measure the CCT! 2. With the newer tonometers it is not necessary to compensate for the corneal radius.3. Hyperopia or Myopia? 4. Corneal Hysteresis-still unsolved 5. Topical anaesthetics – try to avoid 6. Baseline Optic Nerve and/or Nerve Fiber Layer Imaging 7. Visual Field Studies 8. Which method should we use to measure the IOP?