**2007 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM**

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): Review the Scientific section Descriptions. Select and enter the two -letter Code for the one (1) Section best sullied to review your abstract

(RS) REFRACTIVE SURGERY

3. PRESENTATION PREFERENCE (REQUIRED) Check one (1)
(a) Paper
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4. The signature of the First (Presenting) Author, (REQUIRED) acting as the authorized agent for all authors, hereby certifies.
That any research reported was conducted in compliance with the Declaration of Heisinki and the 'UNIFESP Ethical Committee"

*Bruno M. Fontes*
Signature of First

Scientific Section Descriptions

(OR) ORBIT
(PL) OCULAR PLASTIC SURGERY
(RE) RETINA / VITREOUS
(RX) REFRACTION-CONTACT LENSES
(NO) NEURO-OPHTHALMOLOGY
(TU) TUMORS AND PATHOLOGY
(ST) STRABISMUS
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(CO) CORNEA / EXTERNAL DISEASE
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(CA) CATARACT
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(TR) TRAUMA
(LA) LABORATORY
(BE) OCULAR BIOENGINEERING
(EP) EPIDEMIOLOGY
(EF) ELECTROPHYSIOLOGY

Deadline: 29/10/2007

FORMAT:
Abstract should contain:
**Title, Name of Authors, Name of other authors (maximum 6), Purpose, Methods, Results, Conclusions.**
Example: ARVO (1.10 x 1.70)
Abstract Book

1. FIRST (PRESENTING) AUTHOR (REQUIRED)
Must be author listed first in body of abstract

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REFRACTIVE SURGERY 0123/06
Service (sector) Nº CEP

## Corneal biomechanics metrics assessment in healthy Brazilian subjects

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**PURPOSE:** To evaluate corneal biomechanical metrics (corneal hysteresis – CH; and corneal resistance factor – CRF), given by the Ocular Response Analyzer ([ORA], Reichert Ophthalmic Instruments, Depew, New York, USA) and to correlate these new metrics with tomographic parameters given by the Pentacam (Oculus Inc, Wetzlar, Germany), and refractive data in a population of healthy Brazilian subjects.

**METHODS:** Observational, cross-sectional study. Age, gender, central keratometric readings (central K), central corneal thickness (CCT), anterior chamber depth (AC depth), spherical equivalent (SE), CH and CRF were assessed and analyzed. Exclusion criteria were: less than 18 years old, any previous corneal or ocular surgery, any eye disease other than cataract, chronic and/or continuous use of topical medications, corneal scars and/or opacities, corneal irregular astigmatism, systemic collagen diseases and refuse to participate.

**RESULTS:** One hundred and fifty consecutive patients (53 male, 97 female; total of 260 eyes) were enrolled. Mean age was 46.5±21.04 (range from 18 to 90 years old), average central K 43.59±1.54D (range from 38.1 to 46.75D), CCT 545.05±35.41µ (range from 454 to 640µ), AC depth 2.96±0.52mm (range from 1.34 to 4.69mm), SE –1.16±3.48D (range from –19.75 to +9.5D), CH 10.17±1.82 (range from 3.23 to 14.58) and CRF 10.14±1.8 (range from 5.45 to 15.1). Mean CRF and CH were distinct among gender: CRF 10.326 in women and 9.810 in men (p=0.0266); CH 10.421 in women and 9.727 in men (p=0.0031). We found a negative correlation between both CRF and CH with age (r= -0.1255; p=0.0434 and r= -0.2445; p=0.0001, respectively). There was no association between CRF and average central K (r=0.0633 ; p=0.3086), AC depth (r= -0.0474 ; p=0.4498) or SE (r=0.1028 ; p=0.1061). CH was not associated with age average central K (r=0.0572 ; p=0.3573), AC depth (r=0.0 060 ; p= 0.9236), or SE (r=0.0975 ; p=0.1253) as well. CRF and CH were positively associated with CCT (r=0.5760, p=0 and r=0.4655, p=0, respectively).

**CONCLUSIONS:** Corneal biomechanical metrics were determined in Brazilian healthy patients. The values were associated with CCT, gender and age. Corneal steepness, AC depth and SE did not affect CH and CRF values in the studied population.