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Service (sector) Cornea and External Disease N° CEP

### **Comparison of Central Corneal Thickness by Non-Contact Specular Microscopy and Ultrasound Pachymetry.**

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Purpose: To compare central corneal thickness (CCT) obtained by ultrasound pachymeter and specular microscopy in normal human subjects. Methods: Central corneal thickness was measured in 80 right eyes of 80 healthy subjects with a non-contact specular microscope (Pocket II Quantel medical) and ultrasound pachymeter (SP2000 P Topcon). Patients with ocular or systemic disease or contact lens wearers were excluded. Paired Student t-test was used to determine significance of CCT between the two instruments. Results: Mean central corneal thickness was 524.60 m (SD  $\pm$  29.98) when using the ultrasound pachymeter, and 507.25 m (SD  $\pm$  29.82) with the non-contact specular microscope. The difference between the instruments was 17.35 m (SD  $\pm$  6.069). The non-contact specular microscope measurements were significantly smaller ( $p < 0,0001$ ) than the ultrasound measurements. Conclusion: The measurement of central corneal thickness with the ultrasonic pachymeter in normal subject eyes was, on average, 17.35 m greater than non-contact specular microscope measurement. The degree of variability within both instruments indicates that these techniques are somewhat clinically comparable. Future studies should evaluate interchangeable use of their data in planning or assessing corneal surgery.