

Study Spotlight: Stability of CT LUCIA 611PY



Seeing beyond

Demonstration of LEC¹ inhibition and positional stability in a capsular bag model

Source



Title

Assessment of intraocular lens/capsular bag biomechanical interactions following cataract surgery in a human in vitro graded culture capsular bag model



Authors

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Publication

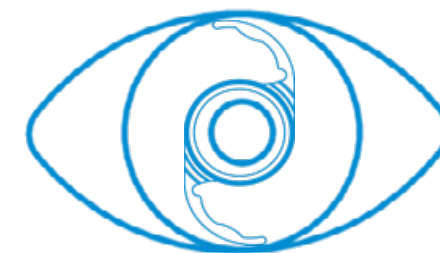
Experimental Eye Research:
December 11, 2020
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Methodology

CT LUCIA 611PY

- CT LUCIA® 611PY was implanted in human cultured capsular bags and assessed for up to 84 days
- Amongst other things, a fusion footprint associated with the connection between the anterior and posterior capsules was measured
- Cell coverage was quantified at end-point

Sample Size

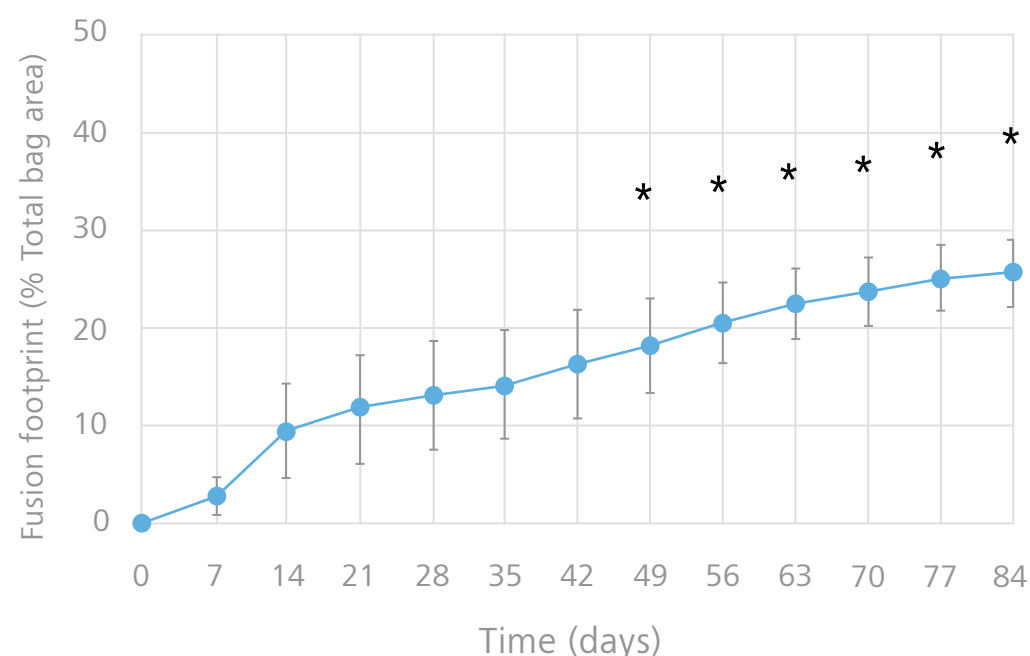


- 5 mm capsulorhexis on four eyes and
- 4.5 mm capsulorhexis on six eyes

5 donors (10 eyes)

Results

Progression of the fusion footprint



Fusion footprint over an 84-day period. The footprint leads to a sealing between the front and back side of the capsule. Once sealed, this then limits PCO proliferation.

- The step-vaulted haptic design of CT LUCIA 611PY IOL **interacted with the posterior capsule and formed a 360° effective barrier**
- The restriction in cell movement resulting from the strong interactions of the CT LUCIA 611PY optic edge and the capsule is likely to **limit lens epithelial cell populations and, therefore, PCO progression within the visual axis**
- Mean light scatter score was 0.042 ± 0.014
- The angle of contact **increased within a week by $\geq 100\%$** and continued to increase over time, as is typical for postoperative capsular bag contraction
- This suggest a stable IOL position over time

¹ LEC lens epithelial cells * Indicates a significant difference from day 0