



CFEH Facebook Case #139

A 45 year old female has been regularly attending the Centre to monitor her endothelial cell count, having had bilateral anterior chamber IOLs implanted in 2007 for surgical correction of myopia. She mentions that the right eye has been sore and uncomfortable since the surgery and pinhole acuities were 6/12 OD and 6/9.5 OS at the most recent visit in 2019. Corneal confocal microscopy results for the right eye are below.



Right eye
2012
Cell count
2537 cells/mm²

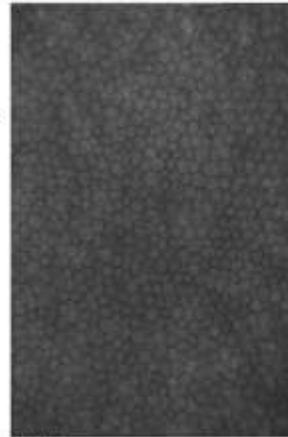
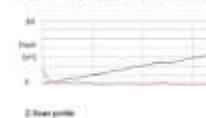


Image 3 Eye Right - Depth 151.041012 201-4.P519



Diagnosis: None
Date: 20K - Automatic Protocol - Right eye - Time: 21/06/2012 - 4:20:09 PM

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Right eye
2019
Cell count
1367 cells/mm²

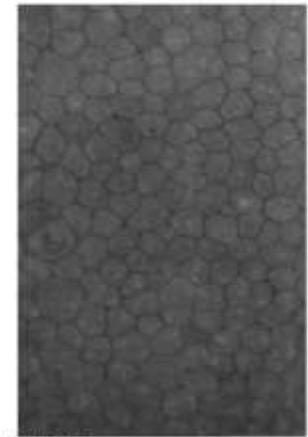


Image 7 Eye Right - Depth 421.1193 209-4.P579



Diagnosis: None
Date: 20K - Automatic Protocol - Right eye - Time: 30/04/2019 - 2:40:58 PM

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Answer

Endothelial cell profiles of the right eye show substantial polymegathism and associated reduction in endothelial cell density over a period of 7 years. Endothelial cell density does decrease naturally with age, however several studies show that both posterior chamber phakic IOLs and iris-fixated IOLs, as per this case, can also contribute to reduced endothelial cell density. While the studies vary significantly in terms of the extent of this reduction in cell density, it has been reported to be as high as 10.5% 22 months post-surgery compared to pre-surgical measurements (Koss and Kohner, 2009).