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## Presentation Abstract

Program#/Poster#: 5262/A123

Abstract Title: **Retinal Drusen Detection Using the Nidek F-10 SLO in Retro-Mode**

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Reviewing Code: 248 imaging, posterior segment - RE

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Keywords: 505 drusen, 550 imaging methods (CT, FA, ICG, MRI, OCT, RTA, SLO, ultrasound)

Abstract Body: **Purpose:** We conducted a small study to assess the novel, retro - mode imaging technique of the NIDEK F-10 scanning laser ophthalmoscope, for detecting and quantifying retinal drusen.

**Methods:** Fundus photographs of 4 eyes of 2 patients taken in retro-mode on the Nidek F-10 SLO were graded independently by 6, experienced, masked fundus graders for the presence of retinal drusen , and compared to stereo colour fundus photographs taken with a Topcon TRC-50DX camera.

**Results:** The mean number of retinal drusen detected in retro mode was 142.96+/- 60.8, range 63-265, and on colour fundus photography mean of 66.6+/-32.6, range 26-177. All observers independently detected approximately twice as many drusen on retro-mode than colour fundus photography (p<0.0001, Student's paired t-test) . The statistical significance of interobserver variation in drusen detection was p=0.07 on colour fundus photography , and p=0.02 on retro mode ( ANOVA) .

**Conclusions:** The retro-mode of the F-10 camera uses infrared laser and an aperture with a modified central stop, with the aperture deviated laterally from the confocal light path. This forms a pseudo -3D image which is a new means of detecting abnormalities in the deeper retinal layers. Retro-mode imaging of retinal drusen using the F-10 Nidek SLO is a highly sensitive technique for detecting and quantifying retinal drusen , and detected twice as many drusen than colour fundus photography. This small pilot study suggests that this novel type of imaging may have a role in the future detection and analysis of retinal drusen, a field that is likely to become increasingly important in future AMD prevention studies.

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