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**Citation:** Lawrenson, J., Fidalgo, B., Dabasia, P., Jindal, A., Edgar, D. F, Ctori, I. & Peto, T. (2019). Predictive value of screening tests for sight-threatening eye disease in a UK population. *Acta Ophthalmologica*, 99(3), doi: 10.1111/j.1755-3768.2019.5092 ISSN 1755-375X doi: 10.1111/j.1755-3768.2019.5092

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# Acta Ophthalmologica

Abstracts from the 2019 European Association for Vision and Eye Research Conference

## **Predictive value of screening tests for sight-threatening eye disease in a UK population**

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First published: 19 December 2019

<https://doi.org/10.1111/j.1755-3768.2019.5092>

### **Abstract**

#### **Background/Aims**

To determine the performance of combinations of structural and functional screening tests in detecting sight-threatening eye disease in a cohort of elderly subjects recruited from primary care

#### **Methods**

505 subjects  $\geq 60$  years underwent: Frequency Doubling Technology (FDT) perimetry; iVue OCT (iWellness<sup>®</sup> and peripapillary retinal nerve fibre layer (RNFL) scans); IOP with the Ocular Response Analyzer (ORA), all performed by an ophthalmic technician. The reference standard was a full ophthalmic examination by an experienced clinician who was masked to the index test results. Subjects were classified as presence or absence of sight-threatening eye disease (clinically significant cataract, primary open angle glaucoma, intermediate or advanced AMD and significant diabetic retinopathy). Univariate and multivariate logistic regression was used to determine the association between abnormal screening test results and the presence of sight-threatening eye disease.

#### **Results**

171 subjects (33.8%) had one or more sight-threatening eye disease(s). The multivariate analysis found significant associations with any of the target conditions for visual acuity  $< 6/12$ , an abnormal FDT and peripapillary RNFL thickness outside the 99% normal limit. The sensitivity of this optimised screening panel was 61.3% (95% CI 53.5-68.7); specificity 78.8% (CI 74.0-83.1), positive predictive value 59.5% (CI 53.7-65.2) and an overall diagnostic accuracy of 72.9% (CI 68.8-76.8).

#### **Conclusion**

A subset of screening tests may provide an accurate and efficient means of population screening for significant eye disease in the elderly. This study provides useful preliminary data to inform the development of further larger, multicentre screening studies to validate this screening panel.