European Society of Ophthalmology

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Project Abstract

Title of Project: Implementation of automated grading of diabetic retinopathy in a Swedish screening program

Purpose:

To evaluate the efficiency and safety of an automated grading software (EyeArt) for diabetic retinopathy in a Swedish screening programn on two different cameras. In Sweden, 90 % of diabetic retinopathy screening is performed in hospitals. The access to nurses in ophthalmology is scarce. Taskshifting has taken place, using photographers without medical training for taking retinal photos. Because of this, the vast majority of photos are being graded by doctors. This is proposed to be non cost beneficial, since grading is a rather easy task and the doctors should be used for more advanced patient care. In order to relieve the burden of doctors for grading of diabetic retinopathy we will evaluate the effeiciency and safety of an automated detection program (EyeArt) in a controlled local setting for nine months. The study also intends to evaluate the use of non-dilated wide angle photo by the Zeiss Clarus 500 retinal camera, compared to two traditional dilated 50° photos for grading of diabetic retinopathy.

Methods:
All subjects with diabetes (96 % coverage rate) in the city of Malmö, Skåne, Sweden, are referred to the university hospital for grading. Our photographer will take photographs from both cameras, with and without pre-dilating drops. The photos will be graded by the automated detections software, a senior consultant medical retina specialist and and a resident. Inter- and intravariability will be calculated.
In parallell with this, an IT-team will work on the compatiblity of the system with Region Skåne's digital and legislative safety requirements. The scientific background and cost-efficiency of automated grading for diabetic retinopathy will be analyzed by a an external health technology assessment (HTA) team.

Results:

Conclusion: