

BSc/MSc-project

Title:

What causes worsening of a retinal detachment? Head or eye movement?

Description:

In a retinal detachment positioning plays a major role in the treatment regimen. A retinal detachment is a disorder of the eye where the light-sensitive retina separates from the cell layer lining the wall of the eye. It often involves permanent vision loss in the affected area. Positioning is prescribed preoperatively (0-72 hours) to prevent further detachment of the retina and worsening of vision loss prior to surgery.

The risk of poor visual outcome after retinal detachment is highly dependent on the status of the central retina (fovea) prior to surgery. If the retinal detachment progresses to include the fovea, the likelihood of a good visual outcome is reduced. During the delay to surgery relevant preoperative care of patients with a retinal detachment is crucial. Currently the causative factors of progression are not well understood. The goals of this study are to determine the relative role of eye and head movements by using electrooculography (EOG) and a positioning device (inertial measurement unit). From these electronic and wearable devices it is possible to determine the effect of positioning and eye movements on retinal detachment.

From understanding these measurements, we believe we can provide better patient care and prevent unnecessary vision loss.

Required qualifications: Understanding of signal processing

Responsible institution: Rigshospitalet, Technical University of Denmark

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Allowed no of students per report: 1-2

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