DIFFERENT USES OF AN ELECTRONIC GOLDMANN

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Introduction
Two years ago, we received at our institute, a new device laboratory, a MonCowen perimeter, manufactured by the company. Thad been asked to test the new equipment.

After learning the how the system worked, we realized that we could get better in the visual exploration than the machine was expected to, because of its simplicity of use (interactivity with the computer mouse) and its low-definition camera allowing, on demand, a stereoscopic video recording of both eyes during the exam.

Purpose
Our purpose was to evaluate different ways of using the electronic Goldmann according to what doctors and orthoptists would like to have in the future clinical records and what could help them for decision making.

We focused our research on 3 main purposes:
- The examination of visual fields for the evaluation of young children (children aged 3 years of age or hard to examine with conventionalGoldmann),
- The analysis of eyes deviation for the cardinal positions of gaze,
- The analysis of ptosis for surgical review.

Methods
Patients are instilled for a classical visual field test and are examined during the examination:
- For visual field test, as soon as the patient localizes the smallest dot in his visual field (contraction eye movement involved in the four sides), the operator validates the position on the map. The tested eye can be stimulated with a red light.
- For eyes deviation and ptosis, examination, patient needs to look at different spot positions, as defined in our protocol. Video and images are analyzed afterwards.

These examinations have been performed over the last few years in our laboratory, on a daily basis.

Conclusion
Attentional Visual field:
Computational methods, in our experience, can improve the evaluation of the visual field in young children by providing an overview of the visual field at a glance.

Eyes deviation analysis:
These evaluations allow us to evaluate deviations of the eyes before and after surgery. One remark: the visual field is not on the main visual axis.

Ptosis analyses:
Objective data are obtained, before and after surgery, by calculating the gain of the visual field.

The computerized Goldmann MonCowen is a major asset in our practice for screening and monitoring young patients or hardly conscious patients. And we have developed several new applications, improvements that we use everyday as a 'Swiss Army knife' for visual exploration.