OMICS Group Conferences
Accelerating Scientific Discovery
3rd International Conference on
Clinical & Experimental Ophthalmology
April 15-17, 2013 Hilton Chicago/Northbrook, USA

A quantitative retina test grid

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Abstract

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The paper Amsler grid has been in use consistently by retina patients since 1945. With the advent of computers and other personal electronic devices it is possible to capture all of the benefits of an Amsler grid while adding many more features useful to the patient and to the physician. Our team, in consult with the National Eye Institute, has developed a computerized replacement for the Amsler grid for use by patients with personal computers, at home. The Quantitative Retina Test Grid (QRTG), has the advantage of allowing distortions in the gridlines to be corrected for using mouse operations. Also, scotoma are drawn using the mouse. Metrics are computed for both of these parameters and are stored in a database and displayed in trend charts.

In the new healthcare environment where access to clinical resources will be more competitive, we expect an increased need for a retina health monitoring tool that collects and tracks meaningful data accurately. The use of a tool such as the QRTG for large scale clinical research could hold significant benefits in terms of diversity in metrics and order of magnitude increases in sample size. We expect more patients to self-exam with a tool that has the increased capabilities that have been included with the QRTG. Regular use of the tool would allow physicians to develop prognoses that would have otherwise taken multiple visits to a clinic over the course of many months.

Presentation of this paper would be accompanied by a demonstration of the QRTG.

Biography

Christopher Hekimian holds a Doctor of Science degree in Systems Engineering and a Masters Degree in Electrical Engineering. He holds two patents in the medical field. He was diagnosed with late-onset Stargardt's Disease in 2010 and developed the Quantitative Retina Test Grid in 2011-2012.