

PeriVision, Inselspital and the University of Bern receive CHF 1.1M grant to develop new fixation-independent perimetry for retinal diseases

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[PeriVision](#), an innovative spin-off from the University of Bern and the University Hospital Bern / Inselspital, announces that it has partnered with the two institutions under a CHF 1.1M research grant to develop and validate novel functional eye tests for retinal diseases.

The prevalence of conditions such as age-related macular degeneration / AMD (196M) and its late-stage form geographic atrophy / GA or diabetic retinopathy / DR (146M) will dramatically increase in the coming decades due to our [ageing populations](#) and modern lifestyles according to reports by the [WHO](#) or [the Lancet Global Health Commission](#). For instance, AMD / GA patients often perform poorly in functional eye tests due to central vision loss, fixation difficulty, or subjectivity in patient responses. This means eye doctors have a limited understanding of functional ability.



Picture (courtesy of www.aao.org): retina with abnormal, leaking blood vessels due to wet AMD.

However, functional assessment is crucial in treatment decisions and demonstrating quality-of-life improvements to patients and other healthcare stakeholders such as payers. Visual acuity testing (VA), a currently used standard method, can often not be performed properly, because these patients' central vision is affected by the disease, limiting their ability to fixate on a stimulus. Microperimetry, another standard procedure, is very resource-intensive: it takes 20-30 minutes per test, is performed by trained staff, and requires a separate room.

Therefore, this project aims to create novel eye tests for patients suffering from AMD / GA to address the large unmet need for functional eye assessments in these patient populations. It will leverage the partners unparalleled clinical expertise and technical understanding of combining cutting-edge technologies such as artificial intelligence, virtual reality, eye tracking and cloud software.



Picture: PeriVision's VisionOne platform offers AI-optimized eye tests on portable VR headsets.

Prof. Dr. Raphael Sznitman, a professor for AI in Medicine at the University of Bern, highlighted the close relationship between the ARTORG Center for Biomedical Engineering Research and the eye clinic of the university hospital which led to the on the joint research project:

“We are very happy to build this expansion of functional eye tests into retinal diseases on the successful research project in visual field testing for glaucoma. Our teams have been working side-by-side for many years and this long-standing relationship between the largest eye clinic in Switzerland and the research institute is a very fertile ground for novel technical solutions to actual clinical problems.”

Prof. Dr. Martin Zinkernagel, the Head of the Department of Ophthalmology at the University Hospital Bern / Inselspital, commented on the advantages of a novel approach to testing visual function in these patient populations:

“We look forward to this research partnership. For many years, we have been looking for better ways to understand the visual function of these patients. With the new technologies available today, we are confident we can address and complement shortcomings in the current methods.”

For more information about retinal diseases please visit the following websites providing expert information about AMD, GA and DR:

- AMD: [information page on age-related macular degeneration](#) / [explanatory video](#).
- GA: [information page on geographic atrophy](#).
- DR: [information page on diabetic retinopathy](#).

For more information about PeriVision, please visit www.perivision.com or contact info@perivision.com.