EYE-RISK

14 PARTNERS ACROSS EUROPE:
A collaborative research effort to find a cure for AMD

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Exploring the combined role of genetic and non-genetic factors for developing Age-Related Macular Degeneration:

A systems-level analysis of disease subgroups, risk factors and pathways

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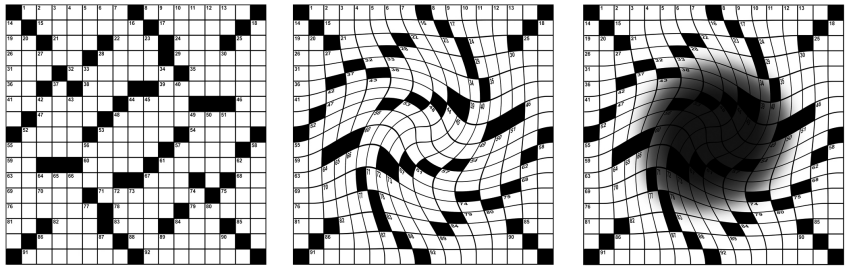
TOWARDS A MODEL THAT DESCRIBES MOLECULAR DRIVERS AND THE INTERACTION OF RISK FACTORS IN AGE-RELATED MACULAR DEGENERATION

People above 60 have an elevated risk to lose eyesight by Age-related macular degeneration.

Age-related macular degeneration (AMD) is a persistent, progressive and incurable disease leading to declining sight that progresses to complete loss of vision. Patients suffering from AMD lose vision in the central part of the retina that is critical for reading, driving a car and recognizing faces.



Normal vision.
No symptoms of AMD

Distorted vision.
First symptoms of AMD.

Lost of central vision.
Advanced symptoms of AMD.

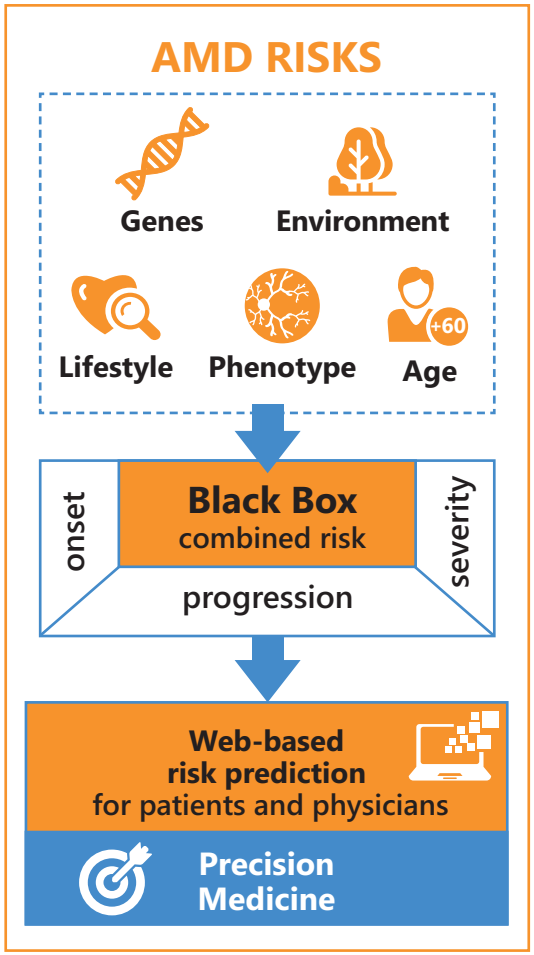
More than 17.7 million EU inhabitants are currently affected by AMD, with an expected rise to 21 million based on population growth and ageing in the next decades.*

People above 60 have an elevated risk for AMD. Susceptibility is determined by a combination of genes, environment, lifestyle and age (see figure). The interaction of these risk factors during disease onset and progression is not understood and the alterations of cell signalling in AMD are not known.

The EYE-RISK consortium addresses the challenges of risk prediction and pathway identification in AMD.

EYE-RISK research will specify who is at risk of developing AMD, who is at risk for progression, why and how risks combine to advance progression in specific patients and what we can do to lower their risk. The project will also identify molecular drivers for AMD. This will allow better diagnosis, better risk-based prevention strategies and better development of therapies.

* Colijn et al. Ophthalmology 2017



EYE-RISK implements a multi-disciplinary approach.

The approach integrates clinical phenotyping and diagnosis, genotyping, next-generation targeted re-sequencing, bioinformatics and statistics, clinical data analysis, computational biology, systems-biology oriented pathway analysis and modelling.

Find a cure for the AMD disease can save over 50 billion € in health care cost in 10 years.

5 majors goals of EYE-RISK

1. Robust algorithms to identify personalised risks of development of advanced AMD, and progression of dry AMD.
2. Novel biomarkers for further stratification of disease risk.
3. Molecular drivers/ biological pathways relevant for onset and progression of advanced AMD.
4. Clinical guidelines for individuals at risk of developing AMD.
5. Criteria of inclusion and stratification for patients entering clinical trials.