

Geographic Atrophy

A devastating and common eye disease due to AMD



Geographic atrophy is an advanced form of age-related macular degeneration (AMD). The gradual, continual and irreversible vision loss associated with geographic atrophy starts during late-stage AMD.¹



Geographic atrophy results from the deterioration of the outermost layer of the retina where the light-sensing photoreceptors (rods and cones) are located. It also affects the retinal pigment epithelium (RPE), which nourishes the photoreceptors responsible for vision, as well as the tiny capillaries (choriocapillaris) that supply blood to that region.²

Vision loss due to geographic atrophy is irreversible and often takes place in both eyes.³



Pictures of the retina typically resemble a map of the world, with oceans (healthy tissue) and solid yellowish land masses (dying tissue), which is why the disease is called “geographic” atrophy. Vision loss due to geographic atrophy is irreversible and often takes place in both eyes.



Images of the retina with progressive geographic atrophy

Symptoms⁴



Loss of central vision

- Dark spots or blurriness in the visual field
- Increased visual impairment under low-light conditions
- Less sharp or detailed vision – a result of focal cell loss in the retina

Risk Factors and Causes^{2,3,5}



Heart Disease



Smoking



Age



Genetics, family history of AMD



Race
Most common in Caucasians



Obesity

Prevalence



Approximately **5 million people globally** have geographic atrophy in at least one eye⁶



Risk increases with age: Globally, **one in 29 people over age 75** are affected^{7,8,9}, and increases to nearly **one in four people over age 90**¹⁰

What Can Be Done



Clinical trials: There are ongoing clinical trials underway for potential geographic atrophy treatments



Low vision aids: Patients can benefit from increased lighting, magnification and low vision devices that help with reading



Antioxidant vitamins¹¹: Patients may delay disease progression with antioxidant vitamins and mineral supplementation

1. Dry macular degeneration - Symptoms and causes. Mayo Clinic. Accessed October 7, 2020. <https://www.mayoclinic.org/diseases-conditions/dry-macular-degeneration/symptoms-causes/syc-20350375>
2. Geographic atrophy - EyeWiki. Accessed October 7, 2020. https://eyewiki.aao.org/Geographic_atrophy
3. Boyer DS, Schmidt-Erfurth U, van Lookeren Campagne M, Henry EC, Brittain C. THE PATHOPHYSIOLOGY OF GEOGRAPHIC ATROPY SECONDARY TO AGE-RELATED MACULAR DEGENERATION AND THE COMPLEMENT PATHWAY AS A THERAPEUTIC TARGET. Retina Phila Pa. 2017;37(5):819-835. doi:10.1097/IAE.0000000000001392
4. What is Geographic Atrophy? BrightFocus Foundation. Published March 27, 2017. Accessed October 7, 2020. <https://www.brightfocus.org/macular/article/what-geographic-atrophy>
5. Klaver CC, Wolfs RC, Assink JJ, van Duijn CM, Hofman A, de Jong PT. Genetic risk of age-related maculopathy. Population-based familial aggregation study. Arch Ophthalmol Chic Ill 1960. 1998;116(12):1646-1651. doi:10.1001/archophth.116.12.1646
6. Age-Related Macular Degeneration: Facts & Figures. BrightFocus Foundation. Published July 4, 2015. Accessed October 7, 2020. <https://www.brightfocus.org/macular/article/age-related-macular-facts-figures>
7. Sunness JS. The natural history of geographic atrophy, the advanced atrophic form of age-related macular degeneration. Mol Vis. 1999;5:25.
8. Klein R, Klein BE, Franke T. The relationship of cardiovascular disease and its risk factors to age-related maculopathy. The Beaver Dam Eye Study. Ophthalmology. 1993;100(3):406-414. doi:10.1016/s0161-6420(93)31634-9
9. Vingerling JR, Dielemans I, Hofman A, et al. The prevalence of age-related maculopathy in the Rotterdam Study. Ophthalmology. 1995;102(2):205-210. doi:10.1016/s0161-6420(95)31034-2
10. Hirvelä H, Luukinen H, Läärä E, Sc L, Laatikainen L. Risk factors of age-related maculopathy in a population 70 years of age or older. Ophthalmology. 1996;103(6):871-877. doi:10.1016/s0161-6420(96)30593-9
11. Evans JR, Lawrenson JG. Antioxidant vitamin and mineral supplements for slowing the progression of age-related macular degeneration. Cochrane Database Syst Rev. 2017;7:CD000254. doi:10.1002/14651858.CD000254.pub4

