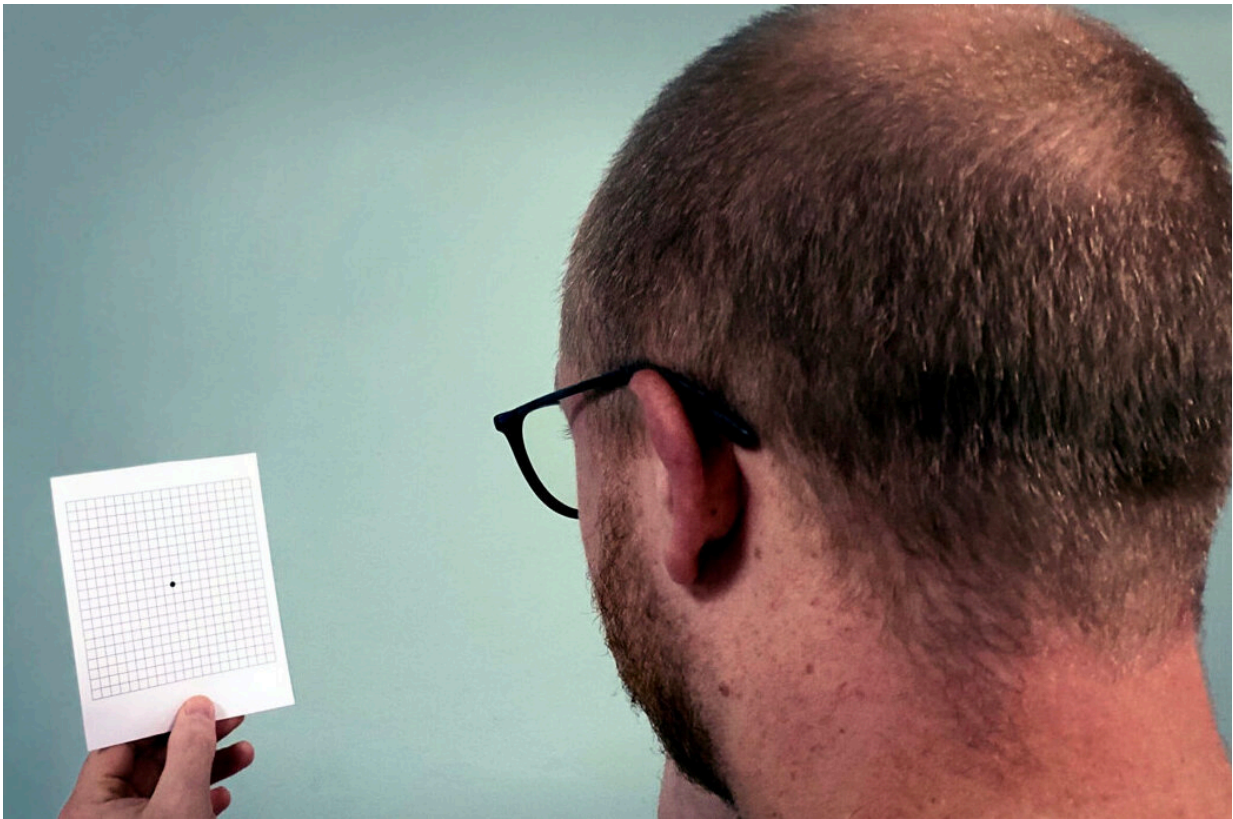


Commonly used self-test for age-related macular degeneration found to be inaccurate

February 27 2023, by Yousif Subhi



The Amsler grid test is a small piece of paper with horizontal and vertical lines held at a reading distance with the observer looking with each eye separately and focusing on the dot in the center. Credit: Yousif Subhi

Age-related macular degeneration (AMD) is one the most prevalent eye diseases. In the late stage of the disease, newly formed vessels in the

retina alter its structure, which leads to blurry and distorted vision. This condition is called wet AMD and if left untreated, it can lead to severe and irreversible vision loss. Among the elderly, wet AMD is a leading cause of vision loss.

How do we detect wet AMD?

The change in vision can be subtle in the beginning with slow, gradual worsening of symptoms. Realizing that one needs an eye examination is not always easy. But timely diagnosis and treatment of wet AMD is crucial to saving vision.

Eyes at risk of wet AMD have features characterized as early AMD or dry AMD. These can progress to wet AMD, but many patients live their lives without ever experiencing a progression to wet AMD.

Health professionals widely recommend the use of the Amsler grid test as a method of self-test for wet AMD.

The Amsler grid test in theory

The Amsler grid was developed by Swiss ophthalmologist Marc Amsler in 1940s. This is a grid with vertical and horizontal lines and a dot in the center. The observer looks at the grid with each eye separately, and focuses on the dot in the center. This method allows detection of a distorted visual experience in one eye, which otherwise can be difficult to observe.

The Amsler grid is, at least in theory, a great test. It is easy to use and has an extremely low cost, as it only requires a piece of paper. Therefore, it is widely recommended as a self-test for early detection of wet AMD.

But that is theory. In practice, individuals at risk of wet AMD already have certain changes in their retina. Although they may not experience it themselves, there may already be blurry and distorted vision because of these so-called early AMD features.

The Amsler grid test in practice

In a recent meta-analysis study published in *JAMA Ophthalmology*, we evaluated how well the Amsler grid test actually detected wet AMD.

We collected data from 10 studies with data from a total of 425 eyes with wet AMD and 1,262 eyes at risk of wet AMD (early/dry AMD).

When performed under supervision and in the best possible conditions, the Amsler grid was positive in 2 of 3 cases with wet AMD. In patients at risk of wet AMD (early/dry AMD), the Amsler grid was positive in 1 of 3.

In other words, this was far from being a perfect tool as it misses some cases of wet AMD and wrongly suggests wet AMD in others.

We recommend to [health care professionals](#) that if they prescribe the Amsler grid for patients, they should also allocate 5–10 minutes to ensure that it is used correctly. Patients should also be made aware of [vision](#) irregularities and seek an [eye examination](#) upon any visual decline regardless of the Amsler grid.

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More information: Jakob Bjerager et al, Diagnostic Accuracy of the Amsler Grid Test for Detecting Neovascular Age-Related Macular

Degeneration, *JAMA Ophthalmology* (2023). DOI: [10.1001/jamaophthalmol.2022.6396](https://doi.org/10.1001/jamaophthalmol.2022.6396)

Yousif Subhi is an MD PhD, senior resident, and associate professor in ophthalmology based in Copenhagen and Odense, Denmark.

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