



FIGHTING BLINDNESS

AGE-RELATED MACULAR DEGENERATION (AMD) IS A MEDICAL PROBLEM THAT CAUSES THE LOSS OF CENTRAL vision. The condition is a major cause of blindness in those over 50 years old. AMD can make it difficult to read, recognise faces and do other tasks that require clear central vision, even if one's peripheral vision – vision outside the central area of the patient's gaze – remains good.

AMD occurs in 'dry' and 'wet' forms. In 'dry' AMD – the more common of the two – the light-sensitive cells (the cells that allow us to see) in the macula (central part of the retina) slowly break down, blurring central vision in the affected eye. The exact cause of dry AMD is unknown, but the condition develops as the eye ages. In the 'wet' form, abnormal blood vessel growth in the eye leads to the leaking of blood and proteins into the sensitive cells (called photoreceptors) in the macula, damaging them and causing vision loss. The 'wet' form is the condition in its advanced stage.

One symptom of AMD is a gradual or rapid onset of blurred vision, especially in your central vision. Other signs include: shadows or missing areas of vision, distorted vision, e.g. a grid of straight lines appears wavy and parts of the grid may appear blank, problems discerning colours, specifically dark colours from other dark colours and light colours from other light colours and the slow recovery of visual function after exposure to bright light.

Those who smoke, are obese, have elevated cholesterol and eat unhealthily are more susceptible to developing AMD. Women are more likely to get it than men, and more Caucasians suffer from it compared to other races. In Asians, a subtype called idiopathic polypoidal choroidal vasculopathy is more common.

AMD is diagnosed in several ways:

Dilated eye exam: In this test, the doctor will administer eye drops that dilate, or widen, the pupil. This provides a larger "window" to the back of the eye. The doctor will then look for the presence of drusen – tiny yellow or white fatty deposits in a layer of the retina called the Bruchs membrane – as they are the most common early sign of 'dry' AMD.

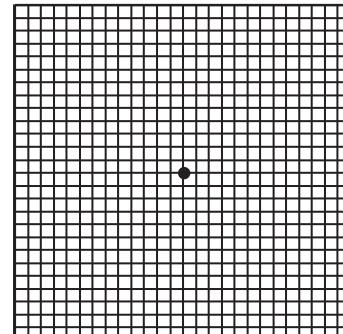
Fluorescein angiography: If the 'wet' form of AMD is suspected, this test may be done to detect leaking blood vessels. A dye is injected into the arm of the patient, and is traced as it courses through the blood vessels in the retina, where it can reveal leakage.

Autofluorescence: The retinal pigment epithelium (RPE) is the deepest layer of the retina. RPE cells are responsible for maintaining the function of the light-sensitive cells in the retina. In 'dry' AMD, the RPE layer of the retina thins, eventually causing the death of light-sensitive cells, leading to visual impairment. An autofluorescence photo will determine the extent and/or increase in the area of geographic atrophy in patients with advanced 'dry' AMD.

Optical coherence tomography (OCT): OCT acquires cross-sectional images with semihistologic resolution. The technology precisely defines the location and nature of the changes in the retina and adjacent structures and objectively evaluates the thickness of the retina and surrounding structures, allowing for the detection of fluid, tissue, detachments, haemorrhages and subretinal neovascular membranes that are components of exudative macular degeneration.

There is no cure for AMD, but treatments may prevent severe vision loss or slow the progression of the disease considerably. Treatment options range from vitamin supplementation and the use of anti-angiogenic drugs to photodynamic laser therapy (a two-step treatment in which a light-sensitive drug is used to damage the abnormal blood vessels) and low vision aids (devices that have special lenses or electronic systems that produce enlarged images of nearby objects). In severe cases, surgery may be required to remove the abnormal blood vessels or blood located directly under the centre of the macula.

Prevention is better than cure, and the best way to prevent vision loss is to get a prompt eye examination and diagnosis by your eye doctor. Early diagnosis improves the success of treatment. Using a screening tool called the Amsler grid may help detect subtle changes in your vision. Monitor your vision daily by looking at an Amsler grid. You should also stop smoking, eat a balanced diet that includes leafy green vegetables, and protect your eyes from UV light by wearing protective sunglasses or headgear with brims. ■



Amsler Grid Chart

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