

Macular Degeneration

Also known as: Age Related Macular Degeneration or AMD

Macular degeneration is an eye disease that occurs when the small central portion of the retina, known as the macula, is damaged. The retina is the light-sensing nerve tissue in the back of the eye. Because the disease usually develops as a person ages, it is often referred to as age-related macular degeneration (AMD).

There are two types of age-related AMD, the "dry" form and the "wet" form.

- “Dry” AMD: The "dry" form of AMD is characterized by the presence of yellow deposits, called drusen, in the macula. Generally, drusen do not cause visual changes; however, as they grow in size and number, they may cause a dimming or distortion of vision that is most often noticed when reading. In more advanced stages of dry AMD, there is also a thinning of the light-sensitive layer of cells in the macula leading to atrophy, or tissue death. In this atrophic form of AMD, patients may have blind spots in their central vision. In the more advanced stages, patients may lose central vision.
- “Wet” AMD: The "wet" form, or exudative neovascular form of AMD is characterized by the growth of abnormal blood vessels into the macula from the choroid, which lies underneath the macula. This is called choroidal neovascularization. These blood vessels leak blood and fluid into the eye, causing distortion of vision. Straight lines may look wavy, and patients experience blind spots and loss of central vision. These abnormal blood vessels eventually scar, leading to permanent loss of central vision.

Most patients with AMD have the dry form of the disease and will not lose central vision. However, the dry form of AMD can lead to the wet form. Although only about 10% of people with AMD develop the wet form, they make up the majority of those who experience serious vision loss from the disease.

Because the dry form can change into the wet form, it is very important for people with AMD to monitor their eyesight carefully, with the help of an Amsler grid, and see their ophthalmologist on a regular basis.

Who gets AMD?

As the name suggests, AMD is more common in older adults. It is the leading cause of severe vision loss in adults over age 60.

AMD may be hereditary, meaning it can be passed on from parents to children. If someone in your family has AMD you may be at higher risk for developing the disease. It is also more common in smokers. Talk to your eye doctor about your individual risk.

What are the symptoms?

AMD often does not have symptoms and goes unrecognized until it affects both eyes. The first sign of AMD is usually distortion of straight lines, which may progress to a gradual loss of central vision. Symptoms include:

- Straight lines start to appear distorted, or the center of vision becomes distorted
- Dark, blurry areas or white out appears in the center of vision
- Diminished or changed color perception

If you experience any of these symptoms, see your ophthalmologist as soon as possible.

How is AMD diagnosed?

The most common early sign of AMD is the presence of drusen -- tiny yellow deposits under the retina. Your ophthalmologist can see these during a dilated eye exam. Your doctor may also ask you to look at an Amsler grid -- a pattern of straight lines that resembles a checkerboard. Some of the straight lines may appear wavy to you, or you may notice that some of the lines are missing. These can be signs of AMD.

If your doctor suspects you might have the less common "wet" form, or neovascular form, of AMD, you may need a procedure called fluorescein angiography. In this procedure, a dye, called fluorescein, is injected into the arm. Photographs are taken to show the dye as it reaches the eye and passes through the blood vessels of the retina. If there are new vessels leaking fluid, or blood in the macula, the photographs will show their location and their type.

Early detection of AMD is very important because there are treatments that can delay or reduce the severity of the disease.

What treatments are available?

There is currently no cure for AMD, but various treatments may slow the progression of the disease considerably and prevent severe vision loss. Several options are available:

- **Anti-angiogenesis drugs:** Ranibizumab (Lucentis®) is the first drug in this class to be approved by the FDA for the treatment of the 'wet' form of macular degeneration. The goal of this and the other anti-angiogenesis drugs being tested is to slow down and even prevent the growth of the abnormal blood vessels.
- **Vitamins:** Vitamins C, E, beta carotene, zinc and copper have been shown to decrease the risk of vision loss in patients with intermediate to advanced dry AMD. Ask your eye doctor if these vitamin supplements are right for you before you take them.
- **Laser therapy:** High-energy lights are used to destroy actively growing abnormal blood vessels.

Researchers are currently studying new treatments for AMD.

What is the outlook or prognosis for people with AMD?

Unfortunately, AMD can recur even after successful treatment. The procedures mentioned above, however, can slow the rate of vision loss and hopefully preserve some useful vision.