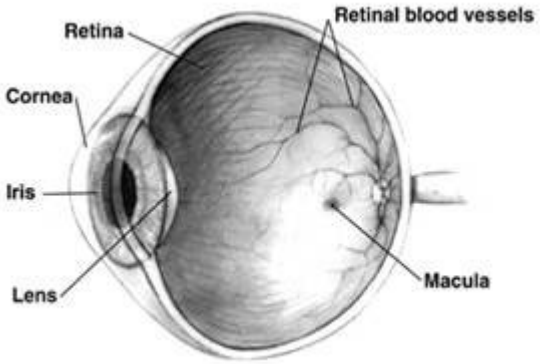
Macular Degeneration
(Age Related)

AMD (age related macular degeneration) is a common eye disease related to aging. AMD slowly destroys sharp, central vision. Central vision is needed for seeing objects clearly and for daily tasks such as reading and driving. In some people, AMD advances so slowly that it has little effect on their vision as they age. In others, the disease progresses quickly and may lead to a loss of vision in one or both eyes.



The retina is a paper-thin tissue that lines the back of the eye and sends visual signals to the brain. In the middle of the retina is a tiny area called the macula. The macula is made up of millions of light-sensing cells that help us to see detail and to read. The remainder of the retina helps us see side vision only. For this reason, macular degeneration does not cause total blindness, but can cause a blind spot in the center of vision, which makes it hard to see detail and read.

AMD happens in two forms:

- **Dry AMD**--90% of all people with AMD have this type. Scientists are still not sure what causes dry AMD. This leads to the slow breakdown of the light-sensing cells in the macula and a slow loss of central vision.
- **Wet AMD**--Although only 10% of all people with AMD have this type, it accounts for 90% of all blindness from the disease. As dry AMD worsens, new blood vessels may begin to grow causing "wet" AMD. Because these new blood vessels tend to be very fragile, they will often leak blood and fluid under the macula. This causes rapid damage to the macula that can lead to the loss of detailed central vision in a short period of time.

SYMPTOMS

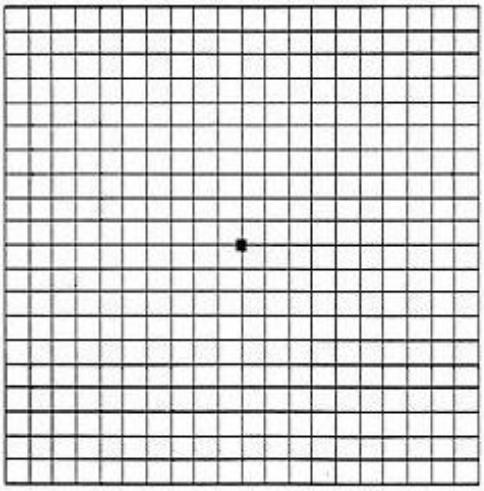
- The most common early sign of **dry** AMD is blurred vision. As fewer cells in the macula are able to function, people will see details less clearly in front of them such as faces or words in a book. This blurred vision will often go away in brighter light.
- If the loss of the macula's light-sensing cells becomes great, people may see a small, but growing-blind spot in the middle of their field of vision. Colors may seem less intense. One eye may seem to be worse than the other since macular degeneration can develop at different rates in each eye.
- The classic early symptom of **wet** AMD is that straight lines appear crooked. This results when fluid from the leaking blood vessels gathers and lifts the macula, distorting vision. A small blind spot may also appear in wet AMD, resulting in loss of one's central vision.

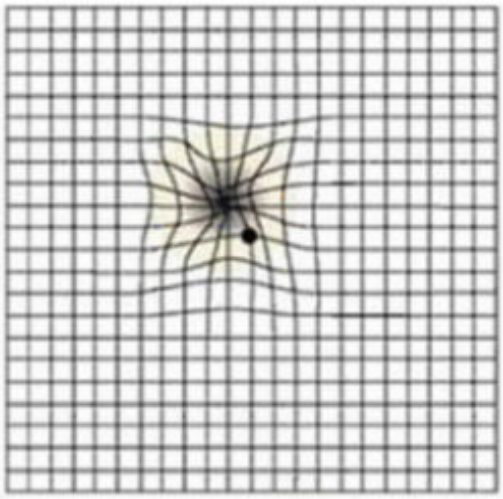
Normal vision

The same scene as it might be viewed by a person with AMD

DIAGNOSIS

- Your eye care professional may suspect AMD if you are over age 60 and have had recent changes in your central vision.
- To look for signs of the disease, he or she will use eye drops to enlarge (*dilate*) your pupils. Dilating the pupils allows your eye care professional to view the back of the eye better. The ophthalmologist may be able to see the changes in appearance of the macula that suggest macular degeneration.
- You may be given a test called a Fluoresein Angiogram. This test helps the doctors find out if you have dry or wet macular degeneration. This is a painless test that is safe for most people. The doctor will inject a small amount of dye into a vein in the arm. Seconds later, a special camera is used to take a picture of the dye as it travels through the blood vessels of the retina of one eye. In cases of wet macular degeneration, the doctor may be able to see where the blood vessels are leaking, and seal the leak with a laser beam. This procedure may slow down, but not cure, the progression of the disease. A very small percentage of people can be allergic to the injected dye used during this test.
- You may also be asked to view an Amsler grid, a pattern that looks like a checkerboard. Early changes in your central vision will cause the grid to appear distorted. This is a sign of AMD. DO NOT depend on the grid displayed below for any diagnoses.





While covering one eye, look at dot in center of grid. If the macula is normal, the lines around the dot should appear straight in your side vision. If the lines around dot are wavy or distorted, you should see your eye care professional

TREATMENT

- There is no treatment for **dry** macular degeneration. Certain vitamins, zinc and antioxidants may slow down the progression of the disease.
- **Wet** macular degeneration may also be slowed down if the source of leakage is found and treated with a laser. This does not cure the disease itself.
- Recently, patients have been treated with injections of new drugs. These drugs seem to slow down the progression of macular degeneration by slowing down the formation of abnormal blood vessels that might leak. These injections are given into the eyeball and should be done only by a trained retinal specialist. The injections do not cause pain.

SEEK MEDICAL CARE IF:

- You seem to need more light in order to read.
- Colors seem less intense.
- You have a hard time making out faces or details with one or both eyes.
- You have trouble seeing print when trying to read, even with reading glasses on.
- In rare cases, people have been known to have hallucinations from macular degeneration that are not related in any way to mental illness (*Charles Bonnet Syndrome*). A person who has no history of previous mental illness who begins to see hallucinations should also undergo a careful exam by an ophthalmologist.

Document Released: 03/26/2009 Document Re-Released: 05/06/2010
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