

# Age-related Macular Degeneration

The retina is the layer of light-sensitive tissue that lines the back of the eye. It converts light into signals that are sent via the optic nerve to the brain, where they are recognized as images. The macula is the small, central area of the retina that allows sharp, detailed vision, that is necessary for reading. In age-related macular degeneration (AMD), the macula deteriorates. AMD is the leading cause of severe visual loss in people over 50 years of age. There are two main types of AMD, dry and wet.

## Dry macular degeneration

Most people with AMD have the dry form. It causes some visual loss, but the loss usually is not severe. Some people with dry AMD will develop the wet form, which is more likely to cause severe visual loss.

## Wet macular degeneration

About 10% to 20% of people with AMD have the wet, or neovascular, form. Although it is less common, the wet form accounts for 80% to 90% of cases of severe visual loss due to AMD. It is called wet because new, abnormal blood vessels grow beneath the macula and leak blood or fluid. Wet AMD usually does not affect peripheral, or side, vision.

## What causes AMD?

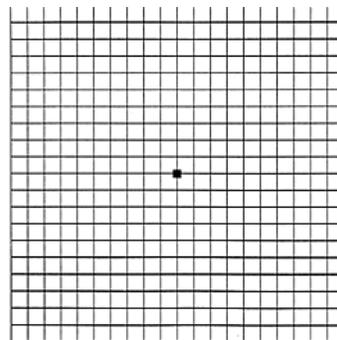
The cause of AMD is not completely understood. Factors that increase the risk of developing AMD include age, genetic factors, smoking, sunlight exposure, and diet. The risk of having AMD increases with age, from 10% at age 50 to about 30% at age 75.

## What are the symptoms?

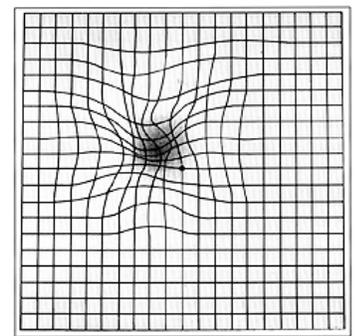
Especially with the dry form, symptoms may develop gradually. Also, if only one eye is affected, a person may not notice changes in vision until the disease gets worse or the other eye becomes affected.

Symptoms may include blurring of vision, a dark area or "blind spot," or a distorted appearance of straight lines or other objects. In wet AMD, symptoms may be sudden, with a severe and rapid loss of central vision.

Worsening of AMD can be indicated by a change in symptoms, and people with AMD to monitor their vision closely and to call their eye doctors when there is a change in vision. One way to monitor vision is with an Amsler grid, which may appear to have missing, dark, or distorted areas when AMD affects the macula.



Amsler grid as seen with normal eye



Amsler grid as seen with eye with wet AMD

## How is AMD detected?

A *visual acuity test* uses an eye chart to determine how well a person can see at various distances. The changes caused by AMD may be seen by examination of the retina with an instrument called an *ophthalmoscope*. *Optical*

*coherence tomography (OCT)* uses a thin beam of light and the reflection of that light off the retinal layers to show the anatomy of the retina. *Angiography* is a test that allows the physician to see the retinal vessels and identify abnormalities; a dye that is injected into an arm vein and travels to the retina helps in visualizing the vessels.

### How is AMD treated?

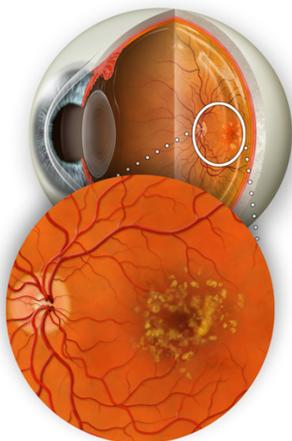
The risk of AMD progression may be reduced by maintaining a healthy life style: quitting smoking, eating more fruits and vegetables, avoiding processed foods, and exercising regularly. Retina Associates of Cleveland doctors were investigators in the NIH-sponsored Age-Related Eye Disease Study 2 (AREDS2), which showed that certain nutritional supplements can reduce the risk of progression of dry AMD in some patients.

Your doctor can tell you which vitamins, if any, are best for you. Many patients with wet AMD can be treated with “anti-VEGF” drugs, such as Lucentis, Avastin, or Eylea, that are injected directly into the eye to prevent the growth of new blood vessels. Some patients are treated with laser therapy, such as laser photocoagulation or photodynamic therapy (PDT). Your Retina Associates doctor can determine which, if any, treatment is appropriate for you.

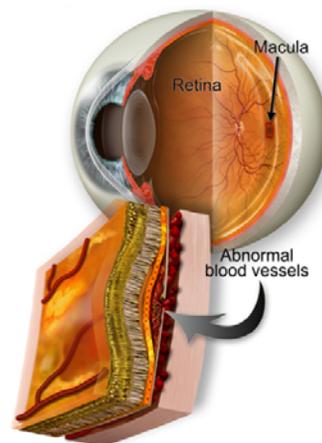
### Research is important to us!

Retina Associates of Cleveland has one of the most active programs for retinal clinical trials in the country. Our participation in new research studies allows our physicians to offer their patients the possibility of getting the most advanced drugs under clinical investigation.

**Dry Macular Degeneration**



**Wet Macular Degeneration**  
Abnormal leaking blood vessels



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