



EYE HEALTH > MACULAR DEGENERATION

Macular Degeneration: Timeline of Vision Loss Progression

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Table of Contents

[Pathology of AMD](#)[Vision Loss Timeline](#)[Early-Stage AMD](#)[Intermediate-Stage AMD](#)[Late-Stage AMD](#)

Macular degeneration, also known as [age-related macular degeneration \(AMD\)](#), is the name for a condition involving a group of long-term (chronic), degenerative eye diseases. AMD is the leading cause of legal blindness in the U.S. and in many other countries around the globe.^[1]


The condition involves several stages, from the early stage, to the intermediate, and finally, to the late-stage (which often involves vision loss). But not everyone with AMD goes through all of the stages, and many people do not lose their vision; those who do reach the late-stage of the disorder are often able to maintain normal vision for most of their lifetime.

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Mylan v. Regeneron,
IPR2021-00881
U.S. Pat. 9,254,338,
Exhibit 2264

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What does clinical r

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 vitamins and supplements for macular degeneration

The Pathology of AMD

AMD impacts part of the [retina](#) called the [macula](#), causing irreversible deterioration, which can result in visual distortions and may eventually cause vision loss. The macula is an oval yellowish area near the center of the retina in the eye; it's the region responsible for clear, straight forward vision.

The retina is a layer of cells that are light sensitive. These cells trigger nerve impulses that pass through the optic nerve to the brain, where visual images are formed.

Macular degeneration is diagnosed by a comprehensive eye exam and other tests such as scans of the retina. Small yellow deposits—called [drusen](#)—are often detected. They are a normal part of aging.

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But when drusen begin to grow larger in size and number, they can lend themselves to the deterioration of the macula and put a person at risk for macular degeneration.^[2] Once a certain number and size of drusen are detectable by the ophthalmologist, the macular degeneration timeline of vision loss progression may begin.

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Two Forms of AMD

There are two forms of age-related macular degeneration (AMD) including the wet form and the dry form. [Dry AMD](#) involves the presence of drusen, as well as pigment changes that can impact a person's vision over time; usually, dry AMD progresses very slowly.

[Wet AMD](#) involves the abnormal growth of blood vessels under the retina that leak or burst, causing visual distortion, blank spots, and rapid decline in vision. Some people experience severe visual impairment within days or weeks of the onset of wet AMD. ^[3]

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Related: [Wet and Dry Forms of Macular Degeneration](#)

Vision Loss Timeline

You may find conflicting resources regarding the average timeline involved from initial diagnosis of AMD to the point of vision loss. But, according to ophthalmologist Joshua Dunaief, MD, “Fortunately, most patients with AMD can keep good vision for their entire lives, and even those who lose their central vision almost always maintain their side, or peripheral vision.”^[4]

There are three stages/phases of macular degeneration that are generally recognized—early, intermediate, and late.^[5]

Early-Stage AMD

Early-stage AMD involves medium-sized drusen deposits seen upon eye examination. No pigment changes are present, and there is usually no vision loss at this stage of the disease.^[6] Early-stage AMD is usually detected upon a routine eye examination by an [ophthalmologist](#) (eye medical professional) or other healthcare provider.

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