



## Treating Dry AMD

There is no cure for Dry AMD, but lifestyle changes can help improve your overall eye health.

### ▶ DIETARY SUPPLEMENTS

In 2013, a second study by the National Eye Institute Age-Related Eye Disease (AREDS2) reported that certain supplements could help slow the progression of AMD (see table, right). Complete AREDS1 and AREDS2 formulations are available over-the-counter from your pharmacy or eye doctor's office. If you take a multivitamin, try to choose one that contains lutein.

### ▶ HEALTHY LIFESTYLE

Maintaining a healthy weight and eating a balanced diet naturally rich in the vitamins and minerals recommended by AREDS2 contribute to eye health. Dark greens such as kale, spinach, broccoli and squash have high levels of antioxidants (lutein and zeaxanthin). High-protein foods such as beef, pork, lamb, milk, cheese, yogurt and whole-grain cereals/bread contain high levels of zinc.

### ▶ CLINICAL TREATMENT

For Wet AMD the powerful medications **Avastin, Lucentis** and **Eylea** can benefit over 90% of patients. They work by targeting **vascular endothelial growth factor (VEGF)**—a molecule responsible for the growth of abnormal blood vessels. The drugs are injected into the eye to suppress growth and leakage, and improve vision. To work well, they must be administered regularly (often monthly). Before the injection, we numb the eye so that the procedure is virtually painless.

**ONE OF THE MOST EFFECTIVE THINGS YOU CAN DO TO SLOW THE PROGRESS OF AMD IS TO QUIT SMOKING, WHICH WE URGE PATIENTS TO DO AS SOON AS POSSIBLE.**

### AREDS2 Dietary Supplement Recommendations

The AREDS2 study recommends this formulation for patients with Dry AMD:

**VITAMIN C:**  
500 mg

**VITAMIN E:**  
400 IU

**ZINC** (as zinc oxide):  
80 mg

**LUTEIN:**  
10 mg

**ZEAXANTHIN:**  
2 mg

**COPPER** (as cupric oxide):  
2 mg

### If you have AMD, you should:

- See your ophthalmologist regularly
- Check your Amsler grid daily
- Eat a healthy diet
- Maintain a healthy body weight and blood pressure
- Exercise regularly
- Consider dietary supplements as recommended



# AGE-RELATED MACULAR DEGENERATION

## What is age-related macular degeneration (AMD)?

**Age-related macular degeneration (AMD)** is a disease that affects the central vision and ability to see fine detail. It doesn't typically cause blindness, but it is the leading cause of severe central vision loss for people over 60.

## How AMD affects vision

Light enters your eye and is detected by the **retina**, light-sensing nerve tissue lining the back of your eye. The information it receives is transmitted through the **optic nerve** to the brain, where it is interpreted as the images you see. The **macula** is the part of the retina responsible for sharp, central vision.

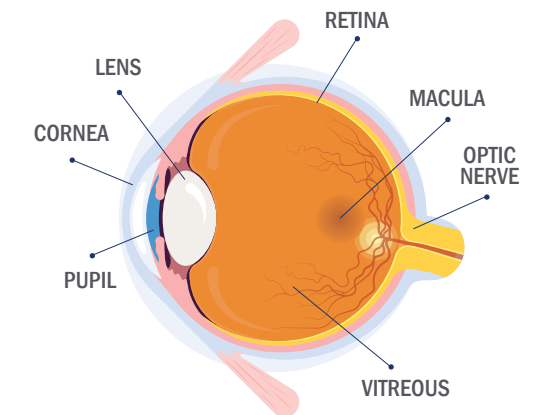
As we age, the macula may deteriorate, causing blurry or distorted vision. Because it affects central vision, people with macular degeneration maintain peripheral vision, but may lose the ability to see central vision details. In advanced stages, people can lose their ability to see faces, drive, and read smaller print.

## Risk factors for AMD

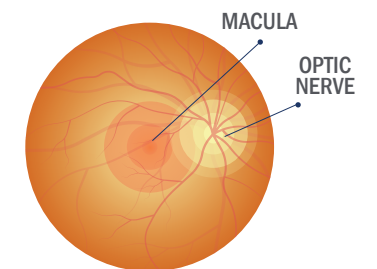
The major risk factor for AMD is age; those 50 and over are at most risk. Other risk factors include:

- Smoking
- High blood pressure
- High cholesterol
- Obesity
- Diet high in saturated fat
- Light skinned
- Light eye color
- Female
- Genetics

### HEALTHY EYE



### ANGLED VIEW



## Types of AMD

There are two types of AMD: dry and wet. About 20% of patients with dry AMD may progress to wet.

### ► DRY AMD

**Dry AMD** occurs slowly, over many years. As the light-sensitive cells in the macula break down, they leave small yellow deposits called **drusen**. The drusen may not affect vision or cause problems at first. However, as they get bigger and multiply, the drusen can cause changes, ultimately affect reading and ability to see contrast. In late stages, the retinal tissue may thin and wear away (**atrophy**), which can cause blind spots in the center of your vision. The dry form can lead to the wet form.

### ► WET AMD

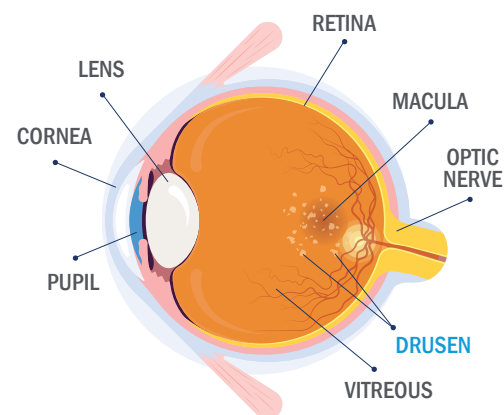
With **Wet AMD**, abnormal blood vessels grow from underneath the retina. These blood vessels leak blood and fluid into your retina causing swelling (**edema**). Vision may become distorted, and you may notice that straight lines look wavy. You may also have blind spots and decreased central vision. Scar tissue may develop (**fibrosis**), leading to permanent loss of central vision. Wet AMD typically affects vision quicker, with vision loss occurring over days to weeks.

## Symptoms of AMD

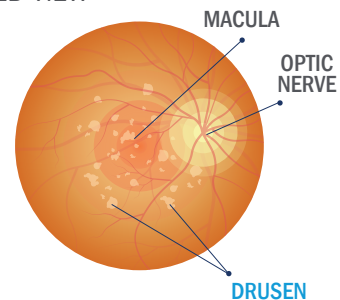
Depending on the type of AMD you have, you may experience any of the following symptoms:

- Visual distortion, such as straight lines seeming bent
- Reduced central vision in one or both eyes
- The need for brighter light when reading or doing close-up work
- Increased difficulty adapting to low light levels
- Increased blurriness of printed words

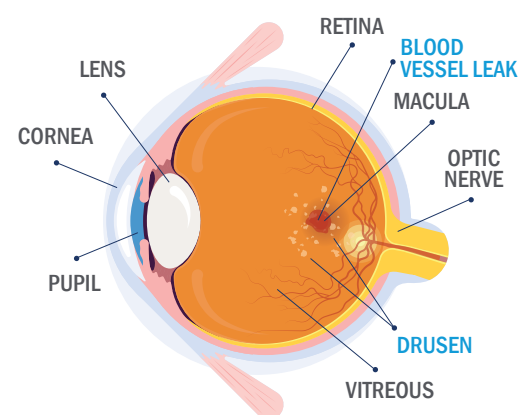
### EYE WITH DRY AMD



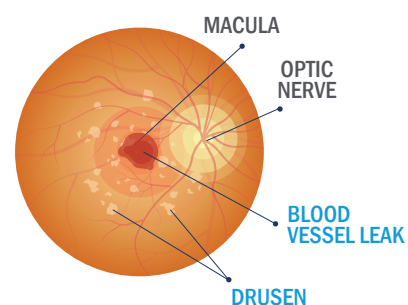
#### ANGLED VIEW



### EYE WITH WET AMD



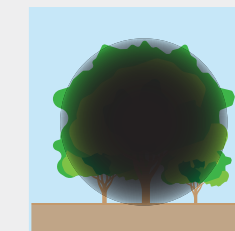
#### ANGLED VIEW



The most important thing to do is establish a baseline and then be very aware of changes, as this can indicate the progression from dry to wet AMD. To help, your doctor will give you an **Amsler Grid**, an important tool for gauging vision changes and the need for early treatment.

### Progression of AMD

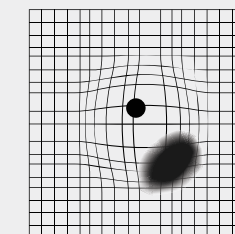
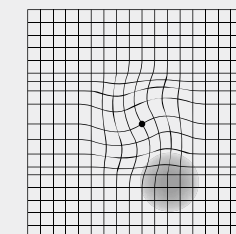
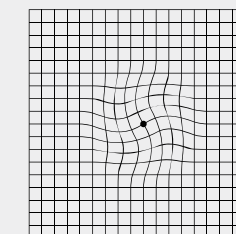
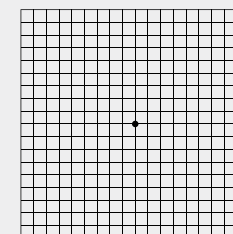
You may begin to notice blurriness or spots in your central vision



#### Normal vision

#### Advanced AMD

What you might see on the Amsler Grid

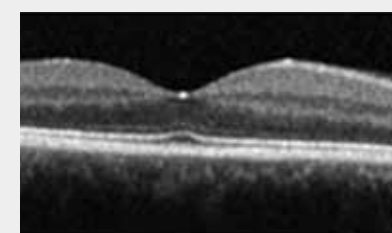


## Examination and diagnostic testing

In its early stages there may be no signs or symptoms, so regular eye exams are important. If your doctor suspects AMD, they will use different diagnostic imaging tools, including **optical coherence tomography (OCT)**, which uses light waves to take cross section pictures of your retina, and **fluorescein angiography (FA)**, which uses dye injected into the peripheral veins to highlight blood vessels so they can be photographed.

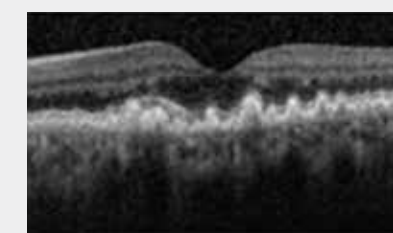
### WHAT YOUR DOCTOR SEES ON OCT

#### Healthy Eye



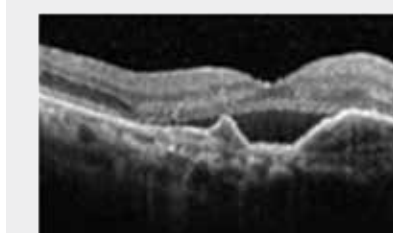
Normal macula

#### Eye with Dry AMD



Macula with drusen

#### Eye with Wet AMD



Macula with fluid under the retina



Scan here to watch a video featuring our own Dr. Charles Wykoff sharing helpful video in which he discusses AMD