Dry Age-Related Macular Degeneration (AMD)

What is dry macular degeneration?
Macular degeneration is a disease of the retina that affects people over the age of 50. The macula is the area of the retina responsible for our clear, central vision. Under the retina is a layer called the retinal pigment epithelial (RPE), which helps move waste material out of the retina. As we age, the retinal pigment epithelial can become damaged and less efficient, causing waste material to build up under the retina. This forms white spots called drusen, which are visible during exam (see picture). There are two forms of the disease; wet and dry. Around 85% of patients with macular degeneration have the dry form and most people never progress beyond this stage.

Dry macular degeneration is characterized by multiple, medium to larger sized soft drusens within the macula. There are three stages of dry AMD: early, intermediate and advanced.

The early stage of AMD is characterized by only a small number (less than 20) of moderate size drusen and patients may or may not notice any vision changes at this stage.

The intermediate stage of AMD is characterized either by numerous (over 20) moderate sized soft drusen or several large soft drusen. It is at the intermediate stage of AMD that most people notice changes in their vision. This change can be noticed on an Amsler Grid as either distortion.

The advanced stage of AMD is characterized by large areas of damaged tissue called geographic atrophy form, causing central blind spots, an inability to read or even legal blindness.
What are the risk factors?
Age-related Macular Degeneration is a disease that affects people over the age of 50, and the prevalence of the disease increases with age. In other words, as you get older, the risk of developing macular degeneration increases. Though what causes macular degeneration is not fully understood, studies have found several risk factors associated with the development of AMD, which include:
1. Confluent soft drusen
2. Having blue or light colored eyes
3. A family history of AMD (research has shown a genetic component).
4. Continuous unprotected exposure to the sun (ultraviolet radiation).

What are the symptoms?
As mentioned before, during the early stages of dry macular degeneration, some patients do not notice any symptoms. Once macular degeneration begins to affect vision, patients may notice one or more of the following symptoms:
1. Blurry vision
2. Decreasing vision, especially while reading, that is not correctable with glasses
3. Straight lines appear distorted or crooked
4. Progressively needing more light to read
5. Difficulty adjusting to low light levels
6. Blind spots, especially in the center field of vision

How can the doctor determine the extent of the dry macular degeneration?
The doctor will perform a dilated exam with a slit lamp to determine the stage of macular degeneration and how much of the macula has been affected. To check for degeneration of the outer retina, the doctor will use an indirect ophthalmoscope. Since the dry form of macular degeneration can progress to the wet form, the doctor may order several tests so that your condition can be closely monitored.

What tests are performed?
Testing is important because it helps the doctor to precisely document the stage and extent of macular degeneration, check for fluid within the retina and measure changes that occur. The three types of tests described below are performed in our clinic.

- **Optical Coherence Tomography (OCT)** is a high definition image of the retina taken by a scanning ophthalmoscope with a resolution of 5 microns. These images can determine the extent of degeneration and the presence of any fluid within or under the retina. The doctor will use OCT images to objectively document the progress of the disease throughout the course of your treatment.

- **Fundus Photography** is an image taken by a digital fundus camera to document the number and size of drusen within the retina.

- **Fluorescein Angiography** is a test that documents blood circulation in the retina using fluorescein dye which luminesces under blue light. Fluorescein is injected into a vein in your arm and digital fundus pictures are taken afterwards for 10 minutes. The pictures are used to determine whether leakage is present (indicating that the dry form has converted to the wet form) and how much damage has been done to the different layers of the retina. The doctor will explain the pictures to you in more detail.

What can I do about dry macular degeneration?
Unfortunately this is no cure or treatment for dry age-related macular degeneration, though there are things you can do to protect your vision. If you have intermediate or advanced dry AMD, your doctor will recommend that you take **AREDS eye vitamins**. The formula used in these vitamins has been shown in a large study to be the most effective in decreasing the risk.

Some studies have shown that certain diets and lifestyle modifications could possibly slow the progression of macular degeneration. **People who currently smoke should quit. Increase the amount of Omega-3 in your diet and limit the intake of both saturated and trans fat.**

Return visits with us are recommended so we can monitor the progress of the disease. It is important to detect changes in your condition and formulate treatment plans as needed.