

Age-Related Macular Degeneration

The Macula

The macula makes up only a small part of the retina, yet it is much more sensitive to detail than the rest of the retina (called the peripheral retina). The macula is what allows you to thread a needle, read small print, and read street signs. The peripheral retina gives you side (or peripheral) vision. If someone is standing off to one side of your vision, your peripheral retina helps you know that person is there by allowing you to see their general shape.

Understanding who is at risk for Age related macular degeneration:

AMD is a predominantly an inherited disease and the leading cause of severe vision loss in people over the age of 50. It is a progressive disease that can destroy central vision impairing the ability to perform everyday task such as reading, driving, or watching television.

There are ways to prevent your macular degeneration from progression.

Risk factors and symptoms of AMD

- **Age...** is a major risk factor for AMD. The disease is most likely to occur after age 60, but it can occur earlier. Other risk factors for AMD include.
- **Smoking...** Research shows that smoking doubles the risk of AMD.
- **UV and Blue light exposure...**much like the damage caused to the skin by cumulative exposure to UV light, the eye can also age prematurely. Blue light emitted from digital devices can also adversely affect the structures of the eye. Every 8 hours spent exposed to blue light is similar to an hour of exposure to UV light.
- **Nutrition and exercise...**anything that contributes to premature aging such as poor nutrition, lack of rest, stress and alcohol abuse can precipitate the development of AMD even if you have no family history.
- **Race...** AMD is more common among Caucasians than among African-Americans or Hispanics.
- **Family history** ...puts patients at higher risk.
In its early stages, age related macular degeneration may not have any symptoms and may be unrecognized until it progresses or affects both eyes. The first sign of macular degeneration is distortion of straight lines. This may progress to a gradual loss of central vision.

Prevention

- **Ocular Vitamins:** studies have found that nutritional supplements can be beneficial for eyesight and can slow or reverse the damage causing macular degeneration. MacuHealth[®] is among the most effective of these vitamins.
- **Sun protection:** Sunglasses on your eyes are the equivalent of putting sunscreen on your skin. Wrapped sunglasses are the best fit for full protection. Hats are also helpful for blocking sunlight that might sneak through from above.
- **Blue Light Protection:** Because digital light emissions can be a significant factor, Blue light filters on eyewear and on screens can prevent a lifetime of damage to the eyes.
- **Reduced salt intake:** Ingesting 700mg or less of sodium has also been found to be beneficial.

- **Green leafy vegetables:** Eating foods that are high in carotenoids, beta carotene and anti-oxidants such as Kale, Broccoli, spinach, etc. Can help slow the progression of macular degeneration.
- **Exercise:** Healthy circulation is invaluable for improving the retinal health of the eye.
- **Genetic Testing and Follow-up:** If you have a genetic pre-disposition to developing macular degeneration, we can determine the severity of that risk and adjust our follow-up schedule so that dry macular degeneration does not transition to wet macular degeneration without your knowledge. Receiving treatment before wet macular degeneration causes irreversible damage to the retina is the best way to preserve vision in someone with high genetic risk. Knowing your risk could save your vision.

Testing

Optical coherence tomography (OCT)

With OCT, each of the retina's distinctive layers can be seen, allowing your optometrist to map and measure their thickness. These measurements help with early detection, diagnosis and treatment guidance for retinal diseases and conditions, including age-related macular degeneration and, diabetic eye disease, among others.

Macual Risk PGx and Vita Risk

The Prognostic component of the Macula Risk PGx test will calculate your individual risk of progression to advance disease with vision loss within 2, 5, and 10 years by analyzing the complete combination of your AMD genes and important non genetic risk factors; age, smoking history, body mass index, and AMD status. The test is a simple cheek swab taken in your eye doctor's office.

ERG

This test has been designed to provide objective measurements of macular and retinal ganglion cell function. Electrical signals that are a measure of the electrophysiological activity at the retina, to provide information to help improve sensitivity and specificity in diagnosing diseases affecting the macula and ganglion cells. The information is intended to be used to aid in the diagnosis of disease the affect the retina in the specific topographic patterns. Age related macular degeneration, Diabetes macular edema, and Toxic Maculopathy.

Treatment

Anti-VEGF injections: This is an injection into the vitreous, which is the jelly-like substance inside the eye. It is performed to place medicines inside the eye, near the retina. The medicines may help stop growth of new blood vessels by blocking the effects of growth signals the body sends to generate new blood vessels. These drugs are considered the first-line treatment for all stages of wet macular degeneration.