



PADEN EYE CARE CENTER
Setting the standard for innovative eye care since 1986

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What is Macular Degeneration?

Macular degeneration is a common age-related change in the retina which damages only the macula. The macula is a small part of the retina in the back of the eye that allows us to see fine details clearly. When the macula doesn't function correctly, we experience blurriness, distortion, or darkness in the center of our vision. Macular degeneration affects both distance and near vision, and can make some activities—like threading a needle, driving, or reading—difficult or impossible.

Although macular degeneration reduces vision in the central part of the retina, it does not usually affect the eye's side or peripheral vision. For example, you could see the outline of a clock but not be able to tell what time it is. Macular degeneration alone does not result in total blindness. People continue to have some useful side vision and are usually able to take care of themselves.

The two most common types of age-related macular degeneration are “dry” (atrophic) and “wet” (exudative):

“Dry” (atrophic) macular degeneration

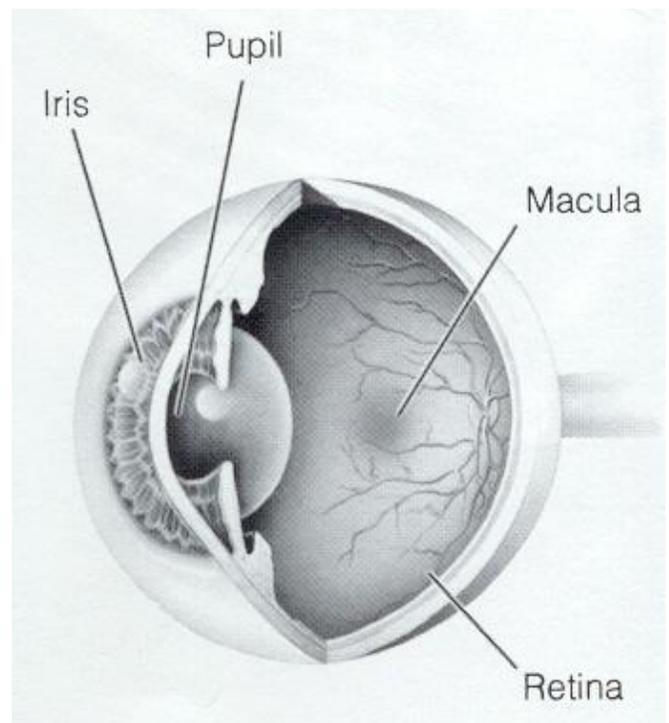
Most people with macular degeneration have the “dry” type. It is caused by gradual damage to the pigment layer which supports the rods and cones. Vision loss is usually slow.

“Wet” (exudative) macular degeneration

“Wet” macular degeneration accounts for about 10% of all cases. It results when abnormal blood vessels break through the damaged pigment layer leaking fluid and blood which damages the rods and cones. Vision loss is almost always rapid and severe.

What are the Symptoms of Macular Degeneration?

Macular degeneration can cause different symptoms in different people. The condition may be hardly noticeable in its early stages. Sometimes only one eye loses vision while the other eye continues to see well for many years.



But when both eyes are affected, the loss of central vision may be noticed more quickly.

The following are some common ways vision loss is detected.

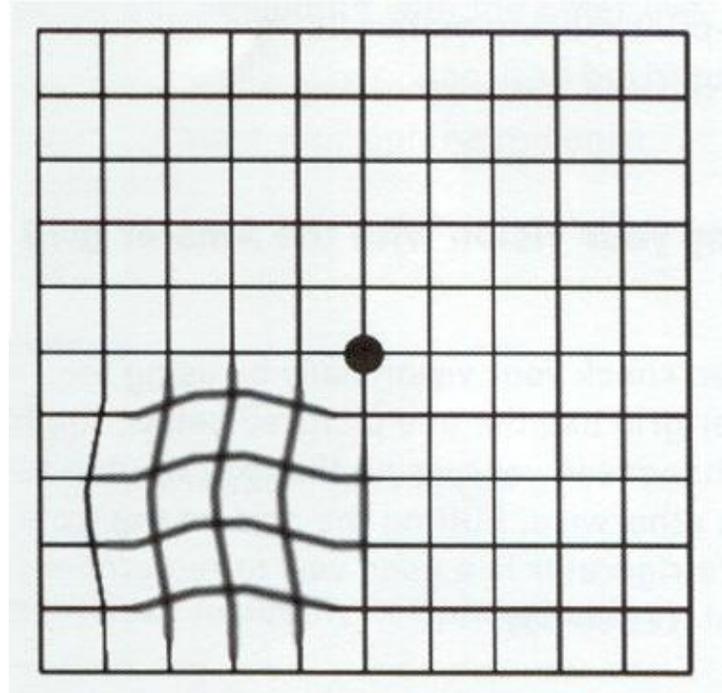
- Words on a page look blurred;
- A dark or empty area appears in the center of vision;
- Straight lines look distorted.

Always check vision in each eye separately, with the other eye covered. With both eyes open, a serious vision problem in your non-dominant eye may not be noticed for weeks or even months.

How is Macular Degeneration Diagnosed?

Many people do not realize that they have a macular problem until blurred vision becomes obvious. Your eye care professional can detect early stages of macular degeneration during a medical eye examination that includes the following:

- Viewing the macula with an ophthalmoscope, photograph, or retinal scan;
- A simple vision test in which you look at a grid resembling graph paper;
- Sometimes special photographs, called angiograms, are taken to find abnormal blood vessels under the retina. Fluorescent dye is injected into your arm and your eye is photographed as the dye passes through the blood vessels in the back of the eye.
- Spectralis OCT images can pinpoint the location and type of macular degeneration.



How is Macular Degeneration Treated?

Despite ongoing medical research, there is no cure yet for “dry” macular degeneration. Treatment of this condition focuses on prevention of the disease itself and helping a person find ways to cope with visual impairment.

“Wet” macular degeneration is now treatable with Avastin, an injectable medication which neutralizes the growth factor that causes the new vessels to grow. In the early stages of wet macular degeneration the vision loss can usually be stopped and many patients actually get back most of the lost vision. The best results from Avastin injections are seen in patients who have just started to lose vision, so check your fine print vision regularly, and one eye at a time.

Despite advanced medical treatment, many people with macular degeneration still experience vision loss.

What Causes Macular Degeneration?

Many retirement age people develop macular degeneration as part of the body's natural aging process. It can also be hereditary. Other contributing factors to the development of macular degeneration that you may want to consider are:

- **Smoking:** Good scientific studies have demonstrated the strong connection between smoking and the incidence of macular degeneration. This is hardly the only reason to stop smoking.
- **Blood Pressure:** The relationship between blood pressure and macular degeneration has been established in well-controlled population studies. Add macular degeneration prevention to the long list of reasons to maintain good blood pressure.
- **Weight:** Studies have proven a connection between being overweight and macular degeneration. Reduction in macular degeneration, again, is not the only benefit in maintaining good weight control.
- **Alcohol:** While early studies showed a benefit from the consumption of a glass of red wine a day, larger, more recent studies show that three or more drinks a day of any alcoholic beverage is associated with an increase in macular degeneration.
- **Sun Protection:** The connection between sunlight exposure and macular degeneration is sound theoretically, but has been very difficult to prove in patient populations. However, shielding the eyes from excessive sunlight exposure with sunglasses and hats does help to prevent skin cancer of the eyelids and delays cataract formation, and may slow down the development of macular degeneration.

Can Macular Degeneration Be Prevented?

Your diet and lifestyle are the most important factors which affect your risk of getting macular degeneration. Much theoretical research and on-going population studies do suggest a connection between certain nutrients (carotenoid pigments, lutein, zeaxanthin, omega 3 fatty acids, antioxidant vitamins and minerals) and the reduction or slowing down of macular degeneration progression.

Even if you do not have macular degeneration, the disease is a common cause of vision loss among retirement age people. Because of the widespread occurrence of macular degeneration, it is important for you to know what you can do to make it significantly less likely that you will have problems in the future.

We currently recommend the following for our patients:

Dietary:

- By far, the most important type of food is dark green, leafy vegetables like kale, chard, spinach and collard greens. Lettuce, even Romaine or leaf lettuce is very low in nutrients so you do need the “serious” greens listed above. Leafy greens reduce macular degeneration chances by 50% or more. Cooked, steamed, or raw, these super-foods are also good for your heart, brain and circulatory system. A solid serving each day contributes more to your good health than any other food can.

- Omega-3 fatty acids: 2000-3000mg of fish oil capsules a day plus 1000mg of flax-seed oil or a heaping tablespoon of ground flax seed. As with green-leafy vegetables, the health benefits of these supplements go far beyond the eyes, (like fewer strokes and heart attacks).
- “Eye vitamin” supplements (I-Caps, Ocuville, etc.): Our recommendations of these supplements to prevent or slow the progress of macular degeneration has just become more complex (and worrisome).

The above supplements were recommended without evidence until the AREDS study. This NEI/NIH study did show benefit to patients with extremely advanced macular degeneration (preservation of vision in the better eye) and failed to detect any risks to the formulation. We ophthalmologists recommended these products without reservation, but new data has appeared.

A close look at antioxidant supplements with beta-carotene in significant doses has shown medical risk. All-cause mortality increased due to increases in certain cancers for those people taking these supplements. The reason is now understood: significant doses of one carotenoid nutrient prevents the absorption and utilization of the other 25 important carotenoid nutrients from food, resulting in significant health problems and increased chance of death. Vitamin E in large doses is also a worry based on many recent studies.

The value of these “magic bullet” supplements is also in grave doubt. All studies of high-dose “antioxidant” supplements for prevention of dementia, stroke and heart attack showed no benefit with respect to the target condition and did show the increased mortality. Also, as we were getting most of our eye patients on I-caps and Ocuville (by the hundreds of thousands), macular degeneration, (mild to severe) increased 20% over the last decade. These well-meaning formulations do not seem to offer protection from any adverse medical outcomes and offer some increased risk of serious disease and death. Please do not take any formulation with beta-carotene, vitamin A or vitamin E.

These profitable products are being quickly re-formulated, but you are better off avoiding them all and getting thousands of antioxidant nutrients from fruits and vegetables. Here, the risks are zero and the health benefits are easy to demonstrate in published studies. This anti-supplement bias does not mean that vitamin D, vitamin B-12 and omega-3 supplements should not be considered, where appropriate.

- Multivitamins: No study has ever demonstrated a clear benefit from these well-marketed preparations but many people take one a day “just in case.” Far better than a multivitamin is to make colorful, non-starchy vegetables a significant part of your diet.

Having reviewed considerable literature on the subject, these recommendations represent our opinion as to the best plan for prevention of macular degeneration.

If you have any further questions or concerns, please feel free to contact our office at 541-776-9026.